Long Island Sound Futures Fund 2012
Project Descriptions

New York

Habitat Restoration and Species Conservation Grants

Project Title: Rodman's Neck Coastal Forest Restoration, Phase II (NY), #33072
Recipient: New York City Department of Parks and Recreation
Grant Amount: $100,000
Recipient Match: $216,000
Total Project Cost: $316,000

Project Area: Rodman's Neck, Eastchester Bay, Pelham Bay Park, Bronx, NY 40.856815 and -73.801907

The New York City Department of Parks and Recreation will restore or enhance approximately 42 acres replacing invasive plants with native coastal forest, and create a corps of 15 volunteers to steward the newly restored site.

The project will restore 42 acres of coastal forest, adding to the 65 acres already restored under a prior grant, both projects aimed at enhancing ecological function and connectivity in the region, improving habitat for migratory birds on the coastal flyway, and reducing hydrological problems such as non-point source pollution, erosion, and sedimentation into Long Island Sound. The project will remove invasive plants such as porcelainberry and multiflora rose and create a 15-member volunteer corps to restore and steward the area long-term. It will use various chemical control (cut stump, and where necessary, foliar spray applications) techniques aimed at the invasive plants. All applications will be performed by NYS Department of Environmental Conservation certified commercial pesticide control specialists and be scheduled to minimize disturbance during breeding bird season. Other areas will be cleared mechanically. An estimated 10,000 tree and shrub seedlings, and 5,000 herbaceous plugs will be planted throughout the site by volunteers. Native plantings will include red, pin and black oak, tulip poplar, sweetgum trees; and spicebush, silky dogwood, and elderberry shrubs. Interpretive signage will be posted to make these park visitors aware of the project and its benefits.

More than three times the size of Central Park, Pelham Bay Park is New York City's largest park, including within its boundaries a saltwater shoreline that hugs Long Island Sound. Most of Pelham Bay Park is a Forever Wild Nature Preserve. The Park is comprised of mature oak forest, meadows, salt marsh and rocky shoreline. More than 400 species of wildlife make the Park home and migratory birds use it as an important stopover point along the Atlantic Flyway. Surrounded by some of the city's poorest neighborhoods the Park is a natural oasis for urban residents.

Project Title: Alley Pond Park Restoration and Stewardship (NY), #33206
Recipient: New York City Department of Parks and Recreation
Grant Amount: $100,000
Recipient Match: $200,000

Total Project Cost: $300,000

Project Area: Alley Pond Park, Douglaston, Queens, NY 40.761041 and -73.747752

The New York City Department of Parks and Recreation will restore or enhance approximately 49 acres replacing invasive plants with native coastal forest, and create a corps of 200 volunteers to steward the newly restored area.

The project will restore 49 acres of coastal forest aimed at enhancing ecological function and connectivity in the region, improving habitat for migratory birds on the coastal flyway, and reducing hydrological problems such as non-point source pollution, erosion, and sedimentation into the Long Island Sound. The project will remove invasive plants such as porcelainberry and multiflora rose and create a 200-member volunteer corps to restore and steward the area long-term. It will use various chemical control (cut stump, and where necessary, foliar spray applications) techniques aimed at the invasive plants. All applications will be performed by NYS Department of Environmental Conservation certified commercial pesticide control specialists and be scheduled to minimize disturbance during breeding bird season. Other areas will be cleared mechanically. An estimated 6,000 tree and shrub seedlings will be planted throughout the site by volunteers. Native plantings will include red, pin and black oak, tulip poplar, sweetgum trees; and spicebush, silky dogwood, and elderberry shrubs. Interpretive signage will be posted to make these park visitors aware of the project and its benefits. The Alley Pond Environmental Center will also provide information about restoration efforts in the park.

Alley Pond Park offers glimpses into New York's geologic past, its colonial history, and its current conservation efforts. Because of its glacier-formed moraine, the park has numerous unique natural features, like its freshwater and saltwater wetlands, tidal flats, meadows, and forests, which create a diverse ecosystem and support abundant bird life.

Project Title: The "Marine Meadows" Eelgrass Restoration Program (NY/CT), #33008
Recipient: Cornell Cooperative Extension Association of Suffolk County
Grant Amount: $95,341
Recipient Match: $97,651
Total Project Cost: $192,992

Project Area: CT: Little Narragansett Bay, N 41° 19.838' and W71° 53.228', Clinton Harbor, Deep N 41° 15.791' and W 72° 31.760', Clinton Harbor, Shallow N 41° 15.826' and W72° 31.775', St. Thomas Point, NY, N 41° 08.410' and W72° 20.248'

Cornell Cooperative Extension Association of Suffolk County will restore 1 acre of eelgrass and engage 400 volunteers in preparing materials for eelgrass transplant at 4 sites in CT and NY.

This project will restore 1 acre of eelgrass and engage 400 volunteers in eelgrass transplant at 4 sites with the aim of ensuring survival of this important marine habitat in the face of climate change, sea-level rise and other threats. The proposed project combats loss of marine meadows (eelgrass beds) through on-the ground/in-the-water restoration, while fostering stewardship and conservation of this natural resource among students and community members throughout New

York and Connecticut. The project will prepare 20,000 eelgrass shoots for transplant at 4 sites. A "Marine Meadows Volunteer Crew" consisting of 200 volunteers will help produce thousands of specially designed burlap planting units. This crew includes volunteers from: from SUNY Stony Brook; Boy Scouts, Peconic Dunes Summer Camp, and East End Disability Associates Day Habilitation Program. Five workshops will train 150 land-based volunteers to weave eelgrass harvested from donor meadows into the burlap planting units, which are then deployed by divers at the restoration sites. Once planted in the bottom of the Sound, the root systems of the eelgrass shoots establish and the burlap biodegrades. Information about the project will be posted regularly to a Facebook page and the official website of the Eelgrass Program, www.seagrassli.org, will serve as a clearinghouse of scientific information. Four signs will be displayed at public events and two permanent signs will be installed in high foot traffic public areas in both states.

Project Title: Great Gull Island Management & Invasives Control Project (NY), #32632
Recipient: University of Connecticut
Grant Amount: $39,865.65
Recipient Match: $33,023
Total Project Cost: $72,888.65

Project Area: Great Gull Island is located between Long Island and Block Island Sound, in Suffolk County, NY. It lies between Plum Island and Fishers Island 41° 12′ 08.79″ N and 72° 07′ 06.93″ W

University of Connecticut will develop a management plan and engage volunteers to remove invasive, nuisance plants from 7 acres of the island to improve and increase Common and Roseate tern nesting habitat.

This project will create a management plan for and remove invasive plants from 7 acres to increase nesting habitat for Common and Roseate tern at Great Gull Island. The Island is owned by the American Museum of Natural History. It is a Long Island Sound Study Stewardship Site. Currently population estimates for Roseate terns on the Island is 1,300 pairs (one of the largest nesting concentration in the Western Hemisphere), and 9,500 pairs of Common terns (one of the largest concentrations in the world). Seven acres of the nesting and open-ground habitat of these graceful threatened and endangered native seabirds are being overtaken by invasive, nuisance plants. The invaders include: Asiatic bittersweet, common reed, honeysuckles, black swallow-wort, and Japanese knotweed. Through a combination of herbicide application, ground landscape fabric, hand pulling and other early intervention activities, existing tern nesting habitat will be improved and new sites for nesting opened up. Herbicide application and type will used based upon when the birds return and depart off the island to avoid any negative impacts. Handouts with photographs of invasive/nuisance plant seedlings will be developed for museum staff and volunteers such that early intervention (hand pulling of seedlings) will be easy and efficient. Monitoring of the management efforts will also occur to learn if there is an increase in numbers for either tern species after management.

Clean Water Grants

Project Title: Conscience Bay Stormwater Treatment & Wetland Enhancement (NY), #32789
Recipient: Village of Old Field
Grant Amount: $200,000
Recipient Match: $274,000
Total Project Cost: $474,000

Project Area: Village of Old Field, NY 40'57'20"N and 73'07'38"W

The Village of Old Field will install 35 subsurface infiltration units connected to 4 curbside catch basins, and 4 bioswales to treat 194 million gallons of polluted stormwater runoff. Vegetating the area with 17,075 upland and wetland native plants will add further buffering capacity to the project and provide a wetland migration corridor to constrain sea level rise.

The project will concentrate on 4 drainage areas along Old Field Road that currently discharge polluted stormwater into Conscience Bay. Thirty-five subsurface infiltration units will be installed and connected to 4 curbside catch basins, and 4 bioswales to receive overflows of water during storms. Based upon National Weather Service information, Long Island experienced approximately 40-50 inches of rainfall in 2011. At an average of 45 inches of rainfall, approximately 194 million gallons of stormwater runoff will be subject to infiltration and treatment by this project. A total of 17,075 upland and wetland plants will add to the buffering capacity of the area. Removal of invasive plants and replacement with coastal natives will provide a buffer between the road and Bay and create a wetland migration corridor to constrain sea level rise. The area directly restored as part of this project is .9 acres. An informational sign will installed at site describing the project. The Village will also organize a public post-construction walkthrough and outreach event with a focus on what a homeowner can do to reduce their nonpoint source pollution footprint. This project will reduce stormwater velocity and volume through detention and infiltration, and improve water quality through filtration of floatables, total suspended solids, nutrients, metals, and oils; and contribute the recovery of a healthy and functional aquatic habitat within the entire Conscience Bay system which encompasses more than 300 acres.

Conscience Bay is recognized as a vital ecological and heritage location within the major bays system along Long Island's North Shore. It is part of one of the inaugural Long Island Sound Study stewardship areas located between Stony Brook Harbor and Port Jefferson Harbor. The New York Department of State lists Conscience Bay as a Significant Coastal Fish & Wildlife Habitat. However, Conscience Bay has one of the most restricted tidal flow exchanges of any of the North Shore's major bays. The Bay's entrance channel is less than 100 yards wide which decreases tidal flow, impacting nutrient exchange and oxygen circulation. Over the past years the ecological quality of Conscience Bay has declined and it is currently listed as an Impaired Waterway by New York State Department of Environmental Conservation with shellfishing, public bathing, and other recreational uses limited due to poor water quality.

Project Title: Engaging Vineyards to Implement Water Quality Improvement (NY), #33028
Recipient: Cornell Cooperative Extension of Suffolk County

Grant Amount: **$128,000**
Recipient Match: **$200,224**
Total Project Cost: **$328,224**

Project Area: The project will take place on vineyards located on the North Fork of Long Island in the LI Sound Study Coastal Boundary 40 degree 58 min 10 sec N and 72 degree 37 min 29 sec W

The Cornell Cooperative Extension of Suffolk County will develop a state-of-the-art pest and nutrient management program to be piloted at 6 wineries aimed at reducing pesticide use and improving ground and surface water quality.

The project will engage the viticulture industry at 6 pilot sites to adopt an Integrated Pest Management (IPM) Program with a goal of reducing leaching of pesticides into ground and runoff into surface waters of Long Island Sound. This first-ever industry specific IPM program will use an integrated set of strategies including: outreach and education, pest identification, scouting, economic thresholds, forecasting and demonstration projects. It is expected that >50% of pesticides used by the 6 participating vineyards will be "Low-input." Low input pesticides are defined as: US Environmental Protection Agency (EPA) Reduced Risk, EPA Minimum Risk, or EPA Bio-pesticide. The impact of the on-site vineyard projects will be magnified through a program of education and outreach to generate broader interest among growers in using IPM strategy; and become part of a third-party certification program being developed byLong Island's viticulture industry.

Nonpoint source agricultural pollution into ground and surface waters is a significant environmental issue in Suffolk County. According to the NY State, Department of Environmental Conservation, Long Island Pesticide Use Management Plan (LIPUMP) Draft Report shallow private wells in agricultural areas are found to be most vulnerable to pesticide contamination, with more than 50 percent of the samples from these wells containing detectable pesticide residues. Long Islands' agricultural industry is a highly visible economic engine, with over $300 million in farm products sold in 2010, more than any other county in NY. The project aims to help growers remain economically viable while also making necessary changes in nutrient and pesticide management to become environmentally sustainable. This project aligns with the LIPUMP focus on protecting the aquifer from pesticide exposure with a multipronged approach, which includes: education, outreach, compliance assistance, and practices etc.

Project Title: Onsite Septic Training and Certification Program (NY), #32758
Recipient: Town of Oyster Bay
Grant Amount: **$30,000**
Recipient Match: **$41,988**
Total Project Cost: **$71,988**

Project Area: The north shore of Nassau and Suffolk counties of Long Island which border the Manhasset Bay, Oyster Bay / Cold Spring Harbor and Hempstead Harbor watersheds 40 52' 31.6"N and 73 31' 56.62"W

The Town of Oyster Bay will engage 34 municipalities in a partnership to deliver a conference to local government about tools to improve oversight of Onsite Wastewater Treatment Systems (OWTS); and provide two, 16 hour, classroom and field training sessions and a certification examination for 50 public / private employees involved in OWTS inspection.

This project will engage a partnership amongst the Town of Oyster Bay and three watershed protection committees representing 34 municipalities along the north shore of Long Island focused on reducing OWTS discharges to ground water which are causing nitrogen and pathogen water quality problems in Long Island Sound. The project will conduct a two pronged education /training and certification campaign for municipal officials and public and private OWTS professionals with the aim of raising awareness and increasing the capacity to care for and manage OWTS. A conference will be held where participants will be exposed to tools and resources that will enable local government to improve oversight and management of OWTS through policies and regulations and advancing inter-jurisdictional agreements and strategies. Two 16 hour OWTS inspection classroom and field training sessions will be held involving a certification examination for approximately 50 public / private employees in the OWTS inspection field. Participants will go out in the field to learn and apply OWTS inspection techniques, and techniques for recognizing substandard systems. Participants who pass the examinations may be listed in a New York State conventional onsite wastewater system inspectors' registration.

Project Title: Plan for Decentralized Wastewater Treatment, North Fork (NY), #33406
Recipient: Peconic Green Growth
Grant Amount: $60,000
Recipient Match: $85,150
Total Project Cost: $145,150

Project Area: Towns of Southold and Riverhead, NY. LIS boundary on Route 25A in Wading River at approximately 40°56'38.31" and N72°50'48.62" W to the eastern edge of Route 25 in Orient, NY at 41°09'20.81" and N 72°14'30.79"W

Peconic Green Growth will prepare 3 schematic designs and management information about advanced decentralized wastewater treatment in clustered formations as an alternative to traditional onsite wastewater treatment which contributes to pollution into Long Island Sound ground and surface waters. It will conduct 16 outreach workshops with 500 residents of watershed communities and public officials to assess receptivity and concerns to the new treatment approach.

The project will address the problems associated with onsite wastewater treatment systems (OWTS) by designing and vetting with interested communities advanced options to treat wastewater in decentralized clustered formations. OWTS (e.g., cesspools and septic systems) are major sources of non-point source nutrients and other pollutants migrating into the ground and surface waters of the Sound affecting shellfish and fisheries and the quality of drinking water. The project will consider all options to deal with wastewater failure and nutrient loading, but focus design efforts on clustered systems in established neighborhoods. The project will collect existing data regarding site characteristics that impact septic vulnerability; map relevant data;

conduct 16 outreach workshops including meetings with watershed communities; survey property owners to assess receptivity and concerns; hold 1 symposium of experts; produce 3 designs for targeted neighborhoods; identify the process for approvals; identify ownership, management and maintenance models; and develop information on a website for other communities. Products include planning documents, information sheets, schematic designs, and proposals for policy or regulation changes. The project hopes to offer up decentralized wastewater clustered systems with enhanced treatment as tools to reduce the impact of OWTS on nitrogen and pathogen loading on Long Island Sound and its creeks.

Education Grants

Project Title: Randall's Island Wetlands Stewardship Program (NY), #32960
Recipient: Randall's Island Park Alliance
Grant Amount: $35,000
Recipient Match: $115,000
Total Project Cost: $150,000

Project Area: Randall's Island Park, New York, NY 40^{0}47'49.64‖ N, 73 ^{0}54'56.35‖ W

The Randall's Island Park Alliance will engage 2400 students from 35 schools and 800 volunteers in enhancement and monitoring of and education about a 9 acre salt marsh and freshwater wetland. 800 volunteers will plant 500 trees on 2 acres and remove invasive plants.

The project will engage 2,400 students from 35 schools and 800 volunteers in enhancement and monitoring of and education about a 9 acre salt marsh and freshwater wetland. 800 volunteers will plant 500 trees on 2 acres and remove invasive plants. The project twill conduct on-site courses and 360 wetland tours about salt marsh and freshwater marsh exploration, oyster gardening, water quality, and plant, bird and insect studies. The recently restored salt marsh and freshwater wetland offer a unique opportunity for residents of New York City to explore and learn from the natural world. The project is only a short walk across a footbridge or bus ride from under-resourced and densely populated communities in Harlem and the Bronx. Randall's Island Park is a 480-acre island located in New York City's East River between East Harlem, the South Bronx, and Astoria Queens.

Project Title: Student Watershed Initiative- Smithtown Bay thru Mt Sinai (NY), #32786
Recipient: Friends of Flax Pond, Inc.
Grant Amount: $35,000
Recipient Match: $70,002
Total Project Cost: $105,002

Project Area: Smithtown Bay to Mt Sinai (NY) Westerly direction W 73o 17' 6" (Commack/Kings Park) and W 73o 01' 7.68" (Mount Sinai) and Northerly direction N 40o 51' 48.96" and N 40o 58'17.76" (Long Island Sound shore line)

The Friends of Flax Pond will conduct an education and social marketing program for 120 high school students, 6 teachers and 18 adult volunteers from 6 communities to build knowledge and increase stewardship of Long Island Sound.

The project will engage 120 high school students, 6 teachers and 18 adult volunteers from 6 communities in research and hands-on projects to build their understanding of the ecological concepts and issues affecting Long Island Sound. The project will conduct program surveys to assess community's awareness, attitudes and behaviors. Using information collected in the surveys, the students will conduct community service environmental stewardship projects aimed at building awareness. Information will be provided to the communities at 6 informational demonstration sites such as 1.75 acres of planned raingardens and through 80+ events. These activities are expected to reach a minimum of 400 community members and deploy a social marketing campaign to build community awareness, understanding and stewardship behaviors to support reduction of non-point source pollution entering Long Island Sound in the Smithtown Bay through Mt. Sinai Harbor Areas. The project will involve active social media outreach in blogs.

Water Quality Monitoring Grants

Project Title: Hempstead Harbor 2012 Water Quality Monitoring Program (NY), #32774
Recipient: Incorporated Village of Sea Cliff, New York
Grant Amount: $40,000
Recipient Match: $57,677
Total Project Cost: $97,677

Project Area: Hempstead Harbor and Glen Cove Creek, NY Northern-most coordinates 40 degrees 51.647 minutes / 73 degrees 40.428 minutes; and Southern-most coordinates 40 degrees 48.474 minutes / 73 degrees 38.923 minutes

The Incorporated Village of Sea Cliff will conduct water quality monitoring at 18 locations and track 13 different sources of pollution for 9 local governments and other public agencies to allow them to gauge progress and pinpoint deteriorating water quality trends.

The project will collect water quality data to help monitor 13 different sources of pollution at 18 locations to track improving and declining water quality in inner and outer Hempstead Harbor. Data will be collected about bacteria, dissolved oxygen, salinity, water temperature, pH, nitrite, nitrate, ammonia, clarity, turbidity, physical observations, and precipitation. The project will publish an annual report, posting results on a website for use by communities and public agencies. The project will collect, analyze and distribute data about the effects of watershed improvements at Scudder's Pond. The data are also used by 9 local governments to design watershed management programs, detect illicit discharges, identify water quality trends and in the development and implementation of pathogen TMDL retrofit plans. It is used by state and public health agencies to inform shellfish and beach closures. Past results from the monitoring in the outer portion of Hempstead Harbor has demonstrated sufficient improvements in water quality to the point where the New York State re-opened about 2,500 acres to shellfish harvesting for the first time in over forty years. Water quality monitoring has been used in the inner harbor to document that this area continues to suffer from elevated levels of pathogen

contamination, preventing the opening of shellfish harvesting areas, resulting in occasional beach closures, and limiting other recreational uses of the harbor.

Project Title: Friends of the Bay Water Quality Monitoring 2012 (NY), #32958
Recipient: Friends of the Bay, Inc.
Grant Amount: $25,996
Recipient Match: $79,965
Total Project Cost: $105,961

Project Area: Oyster Bay/Cold Spring Harbor Estuary and surrounding watershed 40°53'52" and 73°32'11"

Friends of the Bay will conduct water quality monitoring with 30 volunteers for 18 municipalities, the county health department and state government to pinpoint hotspots and then provide information to inform management of shellfish harvesting, swimming and other water-based activities and to document water quality trends.

The project will compile and present water quality monitoring data in an annual report and on a website available to 50 public officials and state and local agencies and the community. The monitoring will help municipalities develop Watershed Improvement Strategies to achieve pathogen load reductions and to determine the effectiveness of remedial strategies. Friends of the Bay provides data to Nassau County Department of Health, New York State Department of Environmental Conservation, Village of Laurel Hollow, Village of Bayville etc. – a total of eighteen municipalities within the watershed to help to inform collective actions to be taken under the Watershed Action Plan, and by the Oyster Bay/Cold Spring Harbor Protection Committee. Eighteen students from Locust Valley High School will assist with the monitoring.

Minigrants

Project Title: Long Island Sound Component, 2012 NY Beach Cleanup (NY), #32422
Recipient: American Littoral Society
Grant Amount: $6,000
Recipient Match: $150,000
Total Project Cost: $156,000

Project Area: Beaches of Queens, Bronx, Westchester, Nassau, Suffolk and New York Counties, NY 40.9371 and -73.4914

The American Littoral Society will coordinate 2012 International Coastal Cleanup at 87 miles of beaches on Long Island Sound involving 2,900 volunteers with data compiled at 64 sites to develop strategies to combat marine pollution.

The project will coordinate 2012 International Coastal Cleanup at 87 miles of beaches on Long Island Sound involving 2,900 volunteers with data collected at 64 sites. The project will have a site captain at each site usually from a local group, school, or civic association. The beach cleanup allows people to see first-hand what litter is doing to the marine and coastal

environment. Participants learn what they can do on a daily basis to solve the problem of floatable debris: recycling, advocating for less packaging, adopting a beach, stenciling messages next to storm drains, etc. The cleanup itself improves the habitat by removing debris and in the case of wetlands, of restoring productivity. Beaches are cleaner, safer, and more aesthetically pleasing to the general public. The annual beach cleanup is not about debris; it is about people: enhancing their knowledge and appreciation of the environment and helping them find ways to protect and improve it. The event puts a face on issues such as "non-point source pollution," storm drains, sewage, etc. Children learn that cities have an "environment" and "habitat" worth protecting.

Project Title: Festival of Little Neck Bay and Long Island Sound On National Estuaries Day (NY), #32529
Recipient: Alley Pond Environmental Center, Inc.
Grant Amount: $8,000
Recipient Match: $8,000
Total Project Cost: $16,000

Project Area: Alley Pond Park, Douglaston, Queens, NY 40.761041 and -73.747752

Alley Pond Environmental Center will conduct a National Estuaries Day and Little Neck Bay/Long Island Sound Festival for 1,500 participants, featuring boat tours, exhibits and activities designed to educate the public about the value of estuaries.

The project will conduct a festival to celebrate National Estuaries Day emphasizing the estuaries of Little Neck Bay and Long Island Sound. The purpose of this event is to educate the 1,500 members of the public about the resources and benefits of estuaries as well as the human impacts affecting them and what can be done to protect them. To do this the festival will have many activities for schools, children, teachers, and the general public. Interpretive canoe and boat rides on the Bay, governmental agencies related to water will exhibit and share information and other exhibitors, speakers, walk and clean up leaders, will emphasize the importance of these estuaries. The outcomes for this educational event include learning more about the estuarine ecosystems and their resources, benefits and problems and to help people understand how they can help these bountiful ecosystems. Follow-up presentations will be made to three elementary schools to allow children to learn and become responsible about estuaries. The children will be asked to write a poem or essay or draw a picture to show what they learned about this topic.

Project Title: Water Access, Invasive Control & Environmental Signs (NY) #32824
Recipient: Committee to Save the Bird Homestead, Inc.
Grant Amount: $10,000
Recipient Match: $11,980
Total Project Cost: $21,980

Project Area: Bird Homestead-Meeting House as Blind Brook meets Milton Harbor, Rye, NY 40.9607 and -73.6892

The Committee to Save the Bird Homestead will remove invasive plants, construct a public kayak access, and install educational signage about Long Island Sound at the Bird Homestead attracting 1,000 visitors. The project will initiate a Blue Trail in Westchester County.

The project will design and construct a kayak access point for free public use behind the Bird Homestead-Meeting House historic enclave, which borders Blind Brook as it enters Long Island Sound at Milton Harbor. The project will start with clearing the access path of poison ivy and other woody and herbaceous invasive vegetation identified by the project's naturalist, as well as removing a storm-damaged, semi-uprooted trees and manmade debris. No herbicides will be used. A weatherproof sign explaining the ecosystem will be mounted for self-guided education by the access path. It will include information about the salt-marsh and mud-flat habitat bordering the Blind Brook estuary, including marsh grasses and marsh elder, wildlife, such as fiddler crabs, ribbed mussels, salt marsh snail, wading birds, such as egrets and herons, coastal migrants, such as yellow legs, sandpipers, and plovers, wintering ducks, and anadromous fish. The access path will be constructed of granite stepping stones. The launch will be primarily constructed of salvaged lumber. No chemically treated lumber will be used. Floatation devices underneath will accommodate the rise and fall of the tide. Kayakers will be able to launch or tie-up. The sign will be read by kayakers and by those using the site for passive recreation, attendees of cultural events at the historic buildings, and by students from K-5 on field trips. The first leg of a county blue trail, the enhanced access is expected to attract 1,000 visitors

Connecticut

Habitat Restoration and Species Conservation Grants

Project Title: Fish Passage on the Farmington River (CT), #33338
Recipient: Farmington River Watershed Association, Inc.,
Grant Amount: $65,800
Recipient Match: $560,000
Total Project Cost: $625,000

Project Area: Farmington and Pequabuck Rivers, and the east and west branches of Salmon Brook, CT 54 min. 4.3 sec, longitude -72 deg. 45 min. 24.4 sec.

The Farmington River Watershed Association will remove a breached dam and its fragments to eliminate a barrier to fish passage and restore access to approximately 50 miles of historic spawning habitat for American shad, American eel and river herring.

The project will eliminate a physical/hydraulic barrier to fish passage & restore access to about 50 miles of historic spawning habitat for American Shad, American eel and river herring. Spoonville Dam, breached in 1955, causes a bottleneck in the Farmington River where the remainder of the dam and the high water velocities in the breach block upstream passage of fish to historic spawning grounds. An engineering design study in 2010 showed that passage for shad, and ultimately for river herring and American eel can be restored by full dam removal. This removal will: a) eliminate the impassable concrete wall across most of the channel, b) distribute the river's flow over a wider channel area, reducing typical spring flow velocities at

the site now below the sustained swimming speeds of American shad, and alewife and blueback herring, and c) replace the smooth channel bottom with a substrate of bedrock, boulders, and large cobbles that provide low-flow rest spots for fish moving upstream. Removal of three large dam fragments immediately downstream will restore the channel to its historic state and eliminate a serious hazard to swimmers and boaters. Spawning habitat for shad will be restored in the mainstem and tributaries of the Farmington River. The project will enhance the potential for increases in the breeding population of the fishery. The removal will also contribute to upstream migration of river herring, after planned for replacement of the Rainbow Dam fish ladder with a fish lift.

Project Title: Roger's Lake Fish Passage: Last Barrier to Alewives Run (CT), #32819
Recipient: Connecticut River Watershed Council, Inc.
Grant Amount: $85,777.50
Recipient Match: $85,528.00
Total Project Cost: $171,305.50

Project Area: Roger's Lake, Mill Brook, Old Lyme, CT 41°21'01.51" N and 72°18'09.45" W

The Connecticut River Watershed Council, Inc. will install a fish ladder at Roger's Lake opening up 260 acres of spawning and rearing habitat for alewife migrating up the Mill Brook from Long Island Sound.

This project will remove the third and last barrier to reestablishing an alewife run on the Mill Brook by opening up 260 acres of spawning and rearing habitat. Rogers Lake a natural glacial coastal pond historically supported a native alewife fish run. Early in the last century, dams were built both at the lake and downstream to support mills blocking passage of this native fishery. To date, two fishways have been installed at the two lower dams and the run is slowly expanding passing approximately 9,000 fish annually. The CT DEEP estimates that the opening of Roger's Lake as spawning and rearing habitat could increase the size of the alewife run by six figures in the Mill Brook once fish passage is re-established. The grantee will work with the Town of Old Lyme to install the steeppass style fishway at Roger's Lake which is similar in design and construction to the two downstream fishways already successfully passing fish on Mill Brook. CT DEEP will monitor the success of the run. A public kiosk will also be built at the site.

Project Title: Calf Island Forest Restoration & Invasive Plant Control (CT), #32610
Recipient: Calf Island Conservancy, Inc.
Grant Amount: $22,000
Recipient Match: $27,771
Total Project Cost: $49,771

Project Area: Calf Island Unit of the Stewart B. McKinney National Wildlife Refuge, Greenwich, CT 40 degrees, 59' 35" North and 73 degrees 38' 22" West

The Calf Island Conservancy will restore .05 acres of beach and 5 acres of coastal forest removing non-native invasive plants; and plant 100 native trees and shrubs to improve habitat for American oystercatchers, killdeer, egrets, and other birds.

The project will restore .05 acres of sand and bolder beach by removing invasive plants such as Japanese knotweed and mile-a-minute to improve habitat for American oystercatcher, killdeer, migrating songbirds' birds and roosting egrets. Volunteers and US Fish and Wildlife Service will work together to restore 5 acres of coastal forest by manually pulling invasive plants and with selective application of herbicides to nuisance species; and by planting 100 native trees and shrubs afterwards keeping the area weed free by mowing, cutting and pulling at regular intervals. Calf Island, part of the Stewart B McKinney National Wildlife Refuge has an area of 31.5 acres, located about 3,000 feet off Greenwich, CT. Biologists have identified 28 nuisance plant species invading 50% of the Island. This project targets three of the most pernicious invaders for control. On Calf Island destruction of the native plants by invasives does permanent damage to signature habitat used by native birds including the American oystercatcher, ospreys, egrets and migrating song birds that stop off to rest and feed during migration along the Atlantic Flyway.

Planting native species of trees and shrubs on the island will increase diversity and provide nesting opportunities, rest areas and food for native birds.

Project Title: Restoring Coastal Forest & New England Cottontail (NEC) Habitat (CT), #33460
Recipient: Avalonia Land Conservancy Inc.
Grant Amount: $25,670
Recipient Match: $35,950
Total Project Cost: $61,620

Project Area: Stonington, CT, 41.3949 N and -71.9408 W

The Avalonia Land Conservancy will restore 20 acres of early successional and coastal forest habitat to contribute to the recovery of New England cottontail (NEC) and other early successional wildlife species.

The project will restore 20 acres of coastal mixed hardwood forest located within a large block of contiguous forested habitat. The site is within the Ledyard Coastal focus area identified as a priority area for conservation actions in the 'NEC Conservation Strategy.' The New England cottontail is the only rabbit native to Connecticut. In the mid-1930s, the rabbits were still considered abundant. However, as agricultural areas reverted to forest and these forests matured, the number of rabbits declined. There are several confirmed cottontails known to persist on the landscape w/in 2.6 -5 miles of site, making it an ideal location for habitat restoration. There are also existing rock walls, shrub dominated wetlands, stream corridors, and a powerline right of way (ROW) that could serve as dispersal corridors in surrounding landscape. As a candidate for federal endangered species status listing, the NEC is a high priority for conservation action in the region. The project will remove overstory trees on either side of the existing power line ROW to create approximately 20 acres of suitable habitat. The crowns and branches of trees will be left on site to create immediate cover in brush piles and deter deer browsing that could inhibit re-

generation of trees and shrubs. Avalonia Land Conservancy is working w/CT DEEP, Natural Resources Conservation Service and US Fish and Wildlife Service to identify best practices for management of the site to achieve high quality habitat. A licensed professional forester will develop a forest management plan and a contractor will implement the plan. Volunteers will provide a base line inventory, oversight, and conduct invasive species monitoring and treatment as needed.

Clean Water Grants

Project Title: Nutrient Bioextraction by Seaweed in the Long Island Sound (CT/NY), #33050
Recipient: University of Connecticut, Departments of Ecology. & Evolutionary Biology & Marine Sciences
Grant Amount: $157,447.67
Recipient Match: $286,143.00
Total Project Cost: $443,590.67

Project Area: In coastal waters of NY at mouth of Bronx River, 40˚.830 N / 073˚.870 W, & CT off the coast of Fairfield, 41º06.882" N / 73º15.277 " W; and Thimble Islands, Branford, 41º12.772" N / 73º 57.070 " W

The University of Connecticut will demonstrate the use of kelp, a native seaweed, to bioextract 53 pounds of nitrogen and 343 pounds of carbon pollution at a small-scale; and then model the potential large-scale nutrient removal capacity of kelp engaging 18 students in the project.

This project will demonstrate the potential to use kelp, native seaweed, to naturally bioextract pollution from Long Island Sound resulting in improvements in water quality. The aim is to deploy a small-scale project to remove 53 lbs. of nitrogen and 343 lbs. of carbon and then model the potential large-scale nutrient removal capacity of seaweed. The overall objective of this innovative project is to show that seaweed aquaculture is a feasible and effective tool to remove nitrogen pollution from and restore ecosystem services in North American coastal waters. The project will involve growing and cultivation of kelp with nutrient bioextractive capabilities at the three demonstration sites, determining the optimum conditions for growing kelp, evaluating the nutrient removal capacity of kelp, and developing a manual and workshop to teach resource managers about how to deploy this tool. The project will engage 18 middle and high school and college students, scientists and commercial fisherman from the Bridgeport Regional Aquaculture Science and Technology Education Center, Rocking the Boat, SUNY Purchase College, UCONN, and the Thimble Island Oyster Company. The project ultimately hopes to develop robust information to increase the use of "green infrastructure," that is using natural biological communities like seaweed that already are found in our waterways, to reduce water pollution from waste water treatment plants and from homes, businesses and communities surrounding Long Island Sound.

Project Title: Manure Digestion on a Dairy Farm to Reduce N and Pollution (CT), #33772
Recipient: Connecticut Farm Bureau Association
Grant Amount: $91,000

Recipient Match: **$45,000**
Total Project Cost: **$136,000**

Project Area: East Canaan, Blackberry River, CT 42.01144 and -73.27171

The Connecticut Farm Bureau Association will upgrade a manure digester to incorporate new technologies that reduce the equivalent of 5,928 pounds of Nitrogen and 2,282 pounds of Phosphorus solids from operations of a dairy farm in the Blackberry River sub-basin of the Housatonic River.

The project will upgrade a manure digester to incorporate new technologies that reduce equivalent of 5,928 pounds of Nitrogen and 2,282 pounds of Phosphorus from operations of a dairy farm near the Blackberry River. Innovative management of runoff from agricultural operations is an important part of maintaining and improving water quality in Long Island Sound, especially in the Blackberry River sub-basin where dairy farms located in the northwestern corner of Connecticut are one of the many sources of phosphorus causing cultural eutrophication and consequent low dissolved oxygen levels downstream along the Housatonic River. Freund Farm a 270-cow dairy farm now digests dairy manure in a plug flow digester, separates the liquid and solid manure and then composts the solid manure. While the farm has an NRCS Comprehensive Nutrient Management Plan and is in full compliance with a Connecticut Department of Energy and Environmental Protection's Agricultural Waste Management Plan, this project proposes to upgrade their existing manure digester to further reduce nitrogen and phosphorus runoff into waterways by using manure liquids left after the digestion process on crops which results in more efficient uptake of nutrients in plants and lower usage of commercial fertilizers; and by repurposing manure solids from the digester to make "cowpots" an organic pot for planting thereby getting the nutrients "off the farm."

Education Grants

Project Title: **Urban Schoolyard Habitat Partnership (CT), #33041**
Recipient: **Audubon Connecticut**
Grant Amount: **$34,757.16**
Recipient Match: **$104,837.00**
Total Project Cost: **$139,574.16**

Project Area: 5 Schoolyards and Cove Island Park, Stamford and Lighthouse Point Park, New Haven, 41.1276 and -73.2610

Audubon Connecticut will develop a model initiative for 5 urban schools and with 950 students and 42 teachers to create 4.5 acres of habitat for birds in schoolyards and local parks that can be used as a basis for classroom instruction about the natural world and Long Island Sound. 1,200 people from Stamford and New Haven, including families from the target schools, will attend migratory bird festivals and learn how they can make a difference to improve Sound health.

This project will help 5 schools restore 4.5 acres of forest, meadow and wetland for birds in urban schoolyards and local parks involving 950 students and 42 teachers. This project will also

improve stop-over habitat for migratory songbirds at key migratory stop-over locations at such as Cove Island and Lighthouse Point Park near the schools. The habitat will benefit neotropical songbirds (flycatchers, warblers, hummingbirds, wood thrush, orioles etc.) and wintering birds (hawks, finches, swallows). The partnership was developed by Audubon in concert with the US Fish and Wildlife Service, Connecticut Department of Education, and the Stamford School District. Audubon provides the expertise in place-based nature education, teacher training, and strong relationships with schools in urban communities; US Fish and Wildlife Service offers the technical expertise of agency staff in restoration, and provides their publication, "USFWS Schoolyard Habitat Guide" to guide the restoration; and the Connecticut Department of Education and Stamford School District will help ensure that curricular materials are aligned with state standards and reflect best practices in environmental education, and disseminate the program to additional schools beyond the pilot phase. Each school will be provided with guidance, training, and resources to restore habitat for wildlife on the school grounds, integrate place-based nature education into the curriculum, and provide hands-on opportunities for students to take environmentally-friendly actions at home and in their communities. The project aims to have a positive impact on student achievement, physical activity and health, and attitudes toward nature and the outdoors. 1,200 people from Stamford and New Haven, including families from the target schools, will attend migratory bird festivals and learn how they can make a difference to improve Sound health.

Project Title: Establishing an Organic Lawn Care Certificate Program (CT), #33063
Recipient: Northeast Organic Farming Association of Connecticut
Grant Amount: $32,000.81
Recipient Match: $32,633.00
Total Project Cost: $62,633.81

Project Area: CT Statewide. Courses at Manchester Community College, Manchester, CT and Three Rivers Community College, Norwich, CT 41.3835 and -73.1828

The Northeast Organic Farming Association of Connecticut will educate 100 lawn care practitioners and expand alternative, non-chemical lawn care services for consumers all aimed at reducing fertilizer pollutants into Long Island Sound.

The project will educate 100 lawn care practitioners and expand alternative, non-chemical lawn care services for consumers. The course is designed for small lawn care technicians, small business owners, sole proprietors and municipal workers who maintain lawns and landscapes. This project seeks to meet the unique needs of these professionals and to offer a lower cost, one or two-day educational course which provides a focus on lawn care. By providing this certificate course, the program will expand the numbers of organic lawn care providers and the reduction of non-point source pollution in the Long Island Sound. The project has two goals. The first is to provide an affordable, accessible, short course which offers a marketable credential – the NOFA Organic Lawn Care Certificate- upon course completion. The second is to gather information from both attending and prospective students to identify both the barriers and catalysts for change regarding the adoption and implementation of organic lawn care practices. Survey results will be used to improve the effectiveness of this course for future productions and to guide course marketing strategies.

Project Title: Project Limulus-A Community Outreach & Education Program (CT), #33343
Recipient: Sacred Heart University
Grant Amount: $24,730
Recipient Match: $63,148
Total Project Cost: $87,878

Project Area: CT, RI, and NY coasts of Long Island Sound 40°50'41.34"N, 73°46'15.41"W to 41°18'12.58"N, 71°51'37.56"W

Sacred Heart University will conduct an outreach, education and data collection program in12 communities involving 600 volunteers and 20 K-12 schools about American horseshoe crabs.

The project will conduct an outreach, education and data collection program in 12 communities involving 600 volunteers and 20 K-12 schools about American horseshoe crabs. It will recruit and train new "Citizen Scientists" to collect data about adult movement patterns, site fidelity, sex ratio, spawning behavior, and effective dispersal distances of the species. Children and adults will learn about the importance of horseshoe crabs -- an amazing resource of Long Island Sound. The Citizen Scientists will work directly with university scientists and collect data for studies that inform species management by public agencies. Annual data collection is imperative in order to follow changes in the numbers of spawning adults particularly since harvest pressures and the quality of salt marsh, beach and offshore habitats in the Sound are changing and causing a decline in the crabs. The project provides tagging kits and trains teachers and students about how to tag horseshoe crabs. It also provides lesson plans developed for grades K-12 that use data collected to teach and to meet mathematics and science standards. These plans are freely available on a website. Project partners include: CT Audubon Society, Maritime Aquarium, SoundWaters, The Nature Conservancy, Denison Pequotsepos Nature Center, Bruce Museum, Edith Read Wildlife Sanctuary and the CT Department of Energy and Environmental Protection.

Project Title: Long Island Sound Curricula Outreach (CT), #32788
Recipient: Sea Research Foundation, Inc.
Grant Amount: $30,603.20
Recipient Match: $31,743.00
Total Project Cost: $62,346.20

Project Area: Norwich, New London, and New Haven, CT schools 41.3734 and -71.9527

The Sea Research Foundation will engage 700 students from 3 at-risk urban school districts aiming to increase students' knowledge and protection of Long Island Sound.

The project will engage 700 youth from 3 at-risk urban school districts in educational, hands-on explorations focusing on the topic of human impact on the environment. This multidisciplinary program has 4 components: an educator workshop, a classroom visit, a coastal field study, and a trip to Mystic Aquarium. Together, these components provide for a year-long science curriculum for students. Students build core academic skills and discover how coastal regions are

increasingly threatened by natural and manmade factors. The overarching goal of this program is to inspire young people to become environmentally-responsible citizens who will act to protect and conserve the Sound and its watershed, through direct, hands-on experiences with its environment and inhabitants. The program is based on state and national science standards, and turns the Sound into a living laboratory for learning core scientific concepts and gaining respect for this invaluable natural resource. Students will also visit Hammonasset and Bluff Point Parks, and the Tributary Mill Conservancy.

Planning Grants

Project Title: Barn Island Wildlife Management Area Management Plan (CT), #32692
Recipient: State of Connecticut
Grant Amount: $23,999
Recipient Match: $15,851
Total Project Cost: $39,850

Project Area: Barn Island Wildlife Management Area, Stonington, CT 71~~o~~. 52" ~~—~~1~~.~~6" W; 41 ~~o~~. 20. 36.2" N

The State of Connecticut will prepare a comprehensive management plan for the Barn Island Wildlife Management Area that addresses important natural resource and outdoor recreation management issues.

The project will prepare a management plan for Connecticut's premier coastal wildlife management area that addresses the highest priority resource management issues facing the future management of this 1,024-acre property. Critical information need to make informed resource management decisions will be assembled. General policy guidelines will be developed based upon information gathered to address identified issues. The project will prepare a plan that addresses management of: 1) species and habitat, 2) forest resources, 3) threats to habitat such as invasive plant species and sea-level-rise, 4) scientific research, 5) different types of recreational use, 6) property expansion/acquisitions, 7) cultural resources, 8) facilities improvement and public access, and 9) fire break barrier areas etc. The management issues will be addressed in consultation with other resource managers and presented at public forums. A final prioritized list of planning issues to be addressed will be adopted after the public forums. Specific recommendations to address priority resource management issues will be provided in varying levels of detail based on available resources.

The Barn Island Wildlife Management Area is the State's largest, most diverse, and ecologically significant coastal wildlife management area (WMA). Among its many distinctions, Barn Island is recognized by the US Fish and Wildlife Service as providing, regionally significant fish and wildlife habitat," a Long Island Sound Study Stewardship site, a National Audubon Society Globally Significant Important Bird Area, and a CT DEEP critical habitat area. Together with adjacent waters of Little Narragansett Bay, the Barn Island WMA and abutting protected open space provide habitat for 20 federal or state-listed endangered, threatened, or special-concern species. It also supports a variety of recreational uses.

Project Title: Pond Lily Fish Passage Design and Planning Project (CT), #32919

Recipient: Connecticut Fund for the Environment, Inc.
Grant Amount: $60,000
Recipient Match: $57,037
Total Project Cost: $117,037

Project Area: West River, City of New Haven, 41d 20'07.67" N and 72d 58'31.48" W

Connecticut Fund for the Environment will complete the 100% design and permitting to remove a failing dam and open 2.6 miles of fish passage for alewife, blueback herring and American eel.

The project will complete a 100% engineered design and finalize permitting for the Pond Lily Dam Fish Passage project. The Dam, which impounds the West River, is in poor condition and a barrier to fish migration. The design aims to increase stream flow and decrease water temperature, thereby increasing oxygen levels. It will restore the river to a more natural condition, improve upstream water quality, enhance a riparian habitat, and allow passage of river herring, specifically alewife and blueback herring, and American eels. After design, permitting and removal approximately 2.6 miles of the West River and 76 acres of upstream habitat at Konold's Pond will be re-opened to fish passage. The project complements and expands the results of another project on the West River involving replacement of 3 of 12 flapper gates with self-regulating tide gates. This major renovation of the tide gates greatly improved fish passage in the lower reaches of the River located approximately 3.8 miles downstream from Pond Lily Dam. Together, these two projects will expand the range of migratory fish a total of 10 river miles within the West River system.

Project Title: Norton Paper Mill Dam Fish Passage Assessment (CT), #32735
Recipient: The Nature Conservancy
Grant Amount: $40,000.45
Recipient Match: $21,044.00
Total Project Cost: $61,044.45

Project Area: Jeremy River, Salmon River watershed, Colchester, CT 41 34' 49", 287 35' 54"

The Nature Conservancy will develop a suite of alternatives and then a fully engineered plan for the preferred alternative with the aim of restoring 17 miles of fish passage for Atlantic salmon, blueback herring, American eel and brook trout.

The project will develop alternatives and then a fully engineered design of the best alternative to restore 17 miles of fish passage for diadromous and native fish. The 20' high Norton Paper Mill dam is a complete barrier for migratory fish in the Jeremy River with the mill building in a state of serious disrepair and the river flowing through part of the foundation. The project will contract with an engineer to develop a suite of alternatives for restoring fish passage by breaching or removing the dam. The preferred alternative will be developed into a fully-engineered plan ready for permitting and construction. Funds will also be used to test stream sediments for contamination. The Salmon River, formed by the Jeremy River and the Blackledge River, is a high-quality Connecticut River tributary targeted for restoration of

diadromous fish. The State stocks nearly a quarter of a million salmon fry in the river each year and the river is one of the most heavily stocked trout streams in the state. Much of the watershed is in State Forest and protected open space.

Water Quality Monitoring Grants

Project Title: Water Quality Monitoring to Manage Pollution Problems (CT), #32857
Recipient: Clean up Stonington Harbors, Inc.
Grant Amount: $24,659.90
Recipient Match: $22,675
Total Project Cost: $47,334

Project Area: Stonington Harbor, CT Fisher's Island Sound, from mouth of Pawcatuck River, Stonington, CT, 71º51'30.62 ºW, 41º19'07.96"N to mouth of Thames River, New London, CT 72º04'52.27"W, 41º18'36.77"N

Clean up Stonington Harbors, Inc. will conduct water quality monitoring to identify sources of pollution and provide data to 2 towns, a state agency and an NGO to help them remediate problems.

The project will use a team of volunteers to collect water quality data and integrate the data into a database to identify sources of pollution that allows the Town of Stonington, Town of Groton, state agencies and other organizations to respond to problems. It will conduct monitoring of: nutrients, isotope testing, metals, salinity, oxygen, pesticides, human fecal coliform, and polycyclic aromatic hydrocarbons. The data will help inform green-space/watershed purchases for the Groton Open Space Association, and be provided to the State Department of Agriculture/Bureau of Aquaculture to inform opening/closure of fishing and crabbing areas. Project partners include: Grasso Technical High School Bio-Environmental Department and University of Connecticut's Avery Point Campus, Department of Marine Sciences.

Minigrants

Project Title: Estuary Health Program (CT), #32799
Recipient: Sea Research Foundation, Inc.
Grant Amount: $7,110.50
Recipient Match: $6,678.00
Total Project Cost: $13,788.50

Project Area: Mystic Aquarium, Bluff Point State Park, and be available to communities throughout Connecticut 41.3734 and -71.9527

The Sea Research Foundation, Inc. will host National Estuary Day and Long Island Sound Day celebration weekends with its beach clean-ups and horseshoe crab walks to increase public awareness about threats facing Long Island Sound. A projected 500 participants will join the two celebrations at the Aquarium; 150 participants will join in the coastal cleanup; 50 people will engage in crab monitoring; 300 educators will attend an open house; and 3,000 visiting

students will use self-guided materials of the Aquarium focused on understanding the importance of estuaries and specifically Long Island Sound.

The project will host 2,000 people at National Estuary and Long Island Sound Day, for beach clean-ups, horseshoe crab monitoring, 300 educators will attend a forum, and 3,000 students from 50 schools will use self-guided materials to learn about Sound resources. The project aims to promote year-round conservation and education about Long Island Sound, including to people who may not live along the coast but whose actions still impact estuaries. The project will develop estuary education materials for online and social media distribution to further reach individuals who may not be able to participate in Aquarium programming. Last year, nearly 9,000 individuals were directly reached by the project through their participation in the Estuary Health Program, a number that is expected to grow with a direct effort in promoting estuary health via online tools.

Project Title: Connecticut River Museum Environmental Education (CT), #32746
Recipient: Connecticut River Museum
Grant Amount: $7,226
Recipient Match: $15,750
Total Project Cost: $ 22,976

Project Area: Connecticut River Museum, Connecticut River, Essex, CT 41.3534° N and 72.3906° W

The Connecticut River Museum will present 200 Environmental Education Programs to connect 2,650 youth to the Connecticut River ecosystem with hands-on programs on vessels and island in school workshops, summer camps and vacation programs.

The project will offer 200 educational workshops and summer adventure camp to 2,650 children at the Connecticut River Museum to get them out on the water, interacting directly with the Connecticut River to become citizen scientists. Each program emphasizes the connection between people and the environment– past, present and future, through study of the River. Activities are also conducted in the museum galleries and through lab projects in the boathouse education center. The programs travel across the state, bringing education about the River to classrooms that cannot travel to the Museum. The Museum offers vacation workshops and Summer Adventure Camp. Children from throughout the lower Connecticut River Valley and towns along the Long Island shore attend camp there. Each of these programs gives children a chance to explore the River's shoreline, visit Nott and Seldon Islands, and take trips on partner vessels up the River. Children learn about the River flora and fauna, geologic history, social history, and the ecosystem of the lower tidal River. The Environmental Education Programs aims to provide children from communities across Connecticut with an opportunity to discover New England's largest river through a wide range of activities in the Museum, off the Museum docks, along the shoreline, on vessels and at their schools; and to develop skills in place-based learning by encouraging students to explore their natural environment.

Project Title: Connecticut River Coastal Estuary Cleanup & Education (CT), #33066
Recipient: Connecticut River Watershed Council, Inc.

Grant Amount: **$4,485**
Recipient Match: **$5,220**
Total Project Cost: **$9,705**

Project Area: Connecticut River towns between the mouth of the river and East Haddam, CT 41.3808 and -72.3805

The Connecticut River Watershed Council will conduct its 'Annual Source to Sea Cleanup' mobilizing 100 volunteers in the Connecticut River's coastal estuary to remove 3,000 lbs. of garbage from shorelines and educate the public about clean water.

The project will mobilize and coordinate 100 adults and children as volunteers to remove trash from the water and shore in the coastal estuary as part of the our 16th Annual Source to Sea Cleanup. This will immediately reduce threats to wildlife and natural habitats from garbage and refuse. The event will be publicized through social media, traditional print and on-line media, email, and announcements on web site. The project will partner with regional groups such as the Connecticut River Museum and Save the Sound and link the event to National Estuaries Day 2012.

Project Title: **Mianus River Streambank Restoration (CT), #33014**
Recipient: **Friends of Mianus River Park**
Grant Amount: **$3,000**
Recipient Match: **$3,000**
Total Project Cost: **$6,000**

Project Area: Mianus River Park, Stamford, CT 41.0807 and -73.5812

The Friends of Mianus River Park will remove invasive plants and restore .5 acres of riverbank using "Live stakes" and native wetland plants to stem silt flow into Mianus River which flows into Long Island Sound.

This project will restore .5 acres of riverbank by removing invasive plants and vegetating with "Live stakes" and native wetland plants. Invasive plants to be removed include: Winged euonymusm, oriental bittersweet, Japanese knotweed and garlic mustard. The native species being planted include: Sweet Flag, Fringed Sedge, Hop Sedge etc. "Live stakes" planted in spring 2012 are willows and dogwoods. If the existing live stakes flourish, more will be planted at the site. The project will also involve fencing the restoration site as Mianus River Park is an urban forest heavily used for fishing, walking, cycling and education. The stream-bank is eroded and compacted for this reason.

Project Title: **Norwich Harbor Canoe and Kayak Trail (CT), #33240**
Recipient: **City of Norwich Harbor Management Commission**
Grant Amount: **$8,130.00**
Recipient Match: **$4,530.00**
Total Project Cost: **$12,660**

Project Area: Yantic and Shetucket Rivers and Downtown Norwich, CT 41.5220, and -72.0777

The City of Norwich Harbor Management Commission will identify a network of mapped water trails for canoeing and kayaking, distribute 2,500 interpretive trail maps, and install 1 exhibit panel about the resources of Long Island Sound.

The project will establish a network of water trails for canoeing and kayaking in the Yantic, Shetucket, and Thames rivers at Norwich, Connecticut for use and enjoyment of City residents and visitors. This water trail network will be linked with and complement the existing and planned elements of the Norwich Heritage Riverfront Walkway along the Yantic and Shetucket Rivers and Downtown Norwich waterfront. The project will include the preparation and printing of 2,500 two-sided color copies of an 11-inch by 17-inch laminated and folded Water Trail Map and Guide concerning the water and waterfront trails and the natural history and environment of Norwich Harbor and the City's coastal waterways in the Thames River watershed; distribution of the Water Trail Map and Guide free of charge to a wide audience; design, fabrication, and placement of an attractive wayside exhibit sign at the principal point of access to the water trail at Howard T. Brown Memorial Park; and placement of an aluminum 10-inch by 14-inch water trail access sign at each of four different waterfront sites providing access to the Water Trail.

Project Title: Sheffield Island Park Interpretive Signage Project (CT), #33490
Recipient: Norwalk Seaport Association, Inc.
Grant Amount: $9,525
Recipient Match: $5,365
Total Project Cost: $14,890

Project Area: Sheffield Island Lighthouse Park adjoining the Sheffield Island Unit of the Stewart B. McKinney National Wildlife Refuge, Norwalk, CT 41.0989 and -73.4158

Norwalk Seaport Association will design, fabricate and install four, 30 inch by 36 inch wayside signs providing information about the natural environment of Long Island Sound and the Norwalk Islands.

The project will create and install four, 30-inch by 36-inch wayside panels at Sheffield Island Lighthouse Park near the site of the historic Sheffield Island Lighthouse and the Sheffield Island Unit of the Stewart B. McKinney National Wildlife Refuge. The panels will provide environmental information concerning Long Island Sound and the Norwalk Islands for enjoyment by the thousands of annual visitors to the park and lighthouse. Each sign will be unique in terms of the information and images presented, but all 4foursigns will be linked by a common design motif related to Long Island Sound and the Norwalk Islands. The panels will enhance public use and enjoyment of Long Island Sound and the Norwalk Islands; provide educational displays concerning coastal resources and their natural values for the benefit of visitors to Sheffield Island Lighthouse Park; encourage personal environmental stewardship initiatives; and otherwise advance the environmental education mission of the Norwalk Seaport Association.

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