NATIONAL ESTUARY PROGRAM SUMMARY WORK PLAN

FOR

FEDERAL FISCAL YEAR 2013 FUNDING

FOR

COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN

IMPLEMENTATION ACTIVITIES

DURING THE PERIOD

October 1, 2013-September 30, 2014 or beyond
[FY2014]

WITH PRIOR YEAR GOALS/ACCOMPLISHMENTS/HIGHLIGHTS
FOR THE PERIOD

October 1, 2011- September 30, 2012
[FY2012]

June 1, 2013

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A. GENERAL INFORMATION REPORTING REQUIREMENTS

1. CCMP 2013 GOAL FOCUS

The Long Island Sound Study (LISS) Comprehensive Conservation and Management Plan (CCMP) approved in 1994 by the States of New York (NY) and Connecticut (CT) and by the U.S. Environmental Protection Agency (EPA), identified the following primary action areas that continue to require coordinated and sustained action by the Management Conference:

1) hypoxia, or the lack of dissolved oxygen in the water column;
2) toxic substances pollution;
3) pathogen contamination;
4) floatable debris pollution;
5) management and conservation of living resources and their habitats;
6) land use and development; and
7) public involvement and education.

In addition, the need to continue the Management Conference was identified as an important, unifying component to support implementation. With the enactment of the Long Island Sound Improvement Act of 1990 (P.L. 101-596), the LISS Management Conference was made permanent – "The Administrator *shall* continue the Management Conference of the Long Island Sound Study…" This FY2013 Work Plan, prepared under EPA's draft National Estuary Program (NEP) guidance, dated February 14, 2012, directly supports these goal areas with NEP and LISS funding as described herein.

Under the Management Conference structure, the CCMP established a broad-based and integrated approach to addressing the primary environmental and management problem areas identified. This approach required significant and sustained Management Conference coordination, involvement and funding – at all levels. Further, the CCMP identified a number of existing and ongoing environmental management programs of the Management Conference that would serve as the foundation for addressing the Sound's priority problems. New or separate programs or efforts to implement the CCMP were only to be created to fill gaps or better integrate efforts, such as the LIS Futures Fund (LISFF), LIS Research Fund, and CCMP Enhancements program.

Ongoing core environmental programs that contribute to or support CCMP implementation include other Federal programs and funds directed to land use and watershed management, water quality, living resource conservation, management and regulation, as well as state and local programs aimed at regulating human and environmental impacts on the Sound. Many of these programs are delegated to the states, which have the responsibility, authority and accountability for implementing them.

The CCMP anticipated many funding streams and a variety of funding sources for successful implementation of its recommendations -- over time, by the LISS partners. The CCMP also envisioned an educated public and informed constituency for the sustained effort to restore, enhance, and preserve the Sound as a national treasure and a 'green' engine of economic activity.

Designated as an Estuary of National Significance in 1985, the LISS is an inherent part of EPA's NEP program and subsequent Large Aquatic Ecosystem (LAE) program.

Because of its importance to the region, Long Island Sound had been included as a separate line item and has received funding under EPA's President's Budget request since FY1999. In 2005, Long Island Sound was included as a goal area in EPA's then newly developed Strategic Plan. LIS is one of EPA's LAE's, along with Chesapeake Bay, the Great Lakes, Puget Sound and others. The Long Island Sound program is included in EPA's Strategic Plan for FY2011-2015 under Goal 2, *Protecting America's Waters,* Objective 2.2, *Protect and Restore Watersheds and Aquatic Ecosystems,* Subobjective 2.2.7, *Restore and Protect Long Island Sound.* One of the LISS's four major environmental goals has been included with a goal target in the Strategic Plan: reducing the area of the maximum hypoxic event occurring in the summer months by 15 percent from baseline by 2015. There are four principal environmental and ecological outcomes for these measures stated in EPA's 2013 *National Water Program Guidance*:

- Marine and tributary waters that meet prescribed state water quality standards – waters that are fishable, swimmable, and that support --
- diverse habitats of healthy, abundant and sustainable populations of aquatic and marine-dependent species in --
- an ambient environment that is free of substances that are potentially harmful to human health or that otherwise may adversely affect the food chain, supported by --
- an educated and informed citizenry that actively participates in the restoration and protection of this invaluable resource.

a. NEP Implementation Review. The LISS underwent its last (FY2006-2008) CCMP Implementation Review from June 1-3, 2009 that focused on primary CCMP implementation areas and determined that sufficient progress was being made and funding was being directed to highest priority areas. A final findings letter was provided to the LISS by EPA NEP HQ on December 29, 2009, citing two challenges – development of nonpoint source Total Maximum Daily Loads (TMDLs) and use of ecosystem-based management (EBM). The LISS partners indicated that they continue to address EBM in their organizations and will report any progress in subsequent annual LISS NEP Work Plans; and secondly, that the LISS is a non-regulatory program with TMDL development delegated to the states for implementation at their discretion. The LISS is scheduled for its next Implementation Review in 2014 with data packages due to HQ by February 28, 2014.

2. FY2013 LISS BUDGET BREAKDOWN

This work plan summarizes tasks and deliverables contained in EPA FY2013 assistance awards to Management Conference partners that account for the FY2013 EPA Environmental Programs and Management (EPM) appropriation for the LISS NEP, and for EPM funding provided by EPA for LIS under the annual President's Budget Request. These funds include $512,000 in NEP allocations under Clean Water Act (CWA) §320, and $3,745,000 under CWA §119 as enacted. Grants are awarded by EPA Region 1 and 2 as delegated under EPA Delegations of Authority 2-42 and 2-94 under the authority of §119 per NEP funding guidance.

The work activities and the budget amounts contained in this NEP Summary Work Plan were approved by EPA and the LISS Management Committee at its Thursday, April 18, 2013 meeting. The record of the Management Committee meeting is documented in Mark Tedesco's May 2, 2013 memorandum entitled, *FY2013 Grant and Work Plan Technical Guidance.*

The LISS budget is organized into the four Program Elements outlined below; the FY2012 LISS budget breakdown by Program Element is:

Program Element	Amount
Coordination and Reporting of Environmental Actions/Results	$446,177 (10%)
Public Outreach, Information and Education	$446,091 (10%)
Monitoring, Modeling and Research	$1,431,276 (34%)
CCMP Implementation, Technical Assistance/Regulatory Support	$1,908,920 (46%)
Fiduciary Reserve	$24,536

To implement this summary Work Plan, as of this writing, EPA will issue seven new assistance awards to partners and amend six current assistance awards or Interagency Agreements (IA) to include the FY2013 funding under this Work Plan. In addition, EPA will continue work under an IA executed in FY2010 for implementation efforts with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). LISS partners receiving FY2013 funds have been directed to submit their formal Federal assistance award applications (SF424s) to EPA Regional grants management offices on or before June 1, 2013. **Attachment 1** is a detailed breakdown of the FY2013 approved budget by LISS Program Element, Products and/or Services, Implementing Agency, and Environmental Outcome(s). The Environmental Outcomes are derived from the individual partner grant work plans based on EPA Order 5120.

3. LISS STAFF AND THEIR OFFICIAL RESPONSIBILITIES

The LISS provides funding to certain of its partners to support staff resources to carry out key elements of implementing the CCMP. **Attachment 2** lists the FY2013 LISS-funded staff by name, title and description of their major roles and responsibilities. Each LISS partner's federal assistance award work plan provides details on the deliverables, outputs and expected environmental outcomes for LISS-funded staff functions as required by EPA Order 5120. In addition to the staff listed in Attachment 2, the Connecticut Department of Energy and Environmental Protection (CTDEEP) employs seasonal staff to assist with conducting the LIS summer water quality monitoring program as necessary; these, and overtime costs for water quality monitoring staff are included in that award, but are not shown in Attachment 2 because of the seasonal nature of the positions that may be filled by different incumbents during the period of employment. Each EPA grantee is responsible for managing its personnel under its own organization's human resource management policies and procedures.

The EPA employs two full-time equivalent (FTEs) federal employees that staff the EPA Long Island Sound Office (LISO). A director, appointed by the Administrator under §119, and a senior program analyst who plan, organize, coordinate and manage program operations in order to

assist the Management Conference partners in CCMP implementation. These FTEs are not funded from the LISS, but from other EPA EPM resources. EPA Region 1 provides approximately 75 percent of an FTE to support EPA efforts for Long Island Sound in Region 1. Region 1 also provides a US Government vehicle for LISO use. EPA provides, from its Working Capital Fund appropriation, support for leasing office space for the LISO through the General Services Administration. EPA Region 2 provides technical and management support to the program through the Division of Environmental Planning and Protection and EPA Region 1 provides staff and technical support through the Office of Ecosystems Protection. Region 2 provides other administrative support for official business, such as procurements, funds control and management, information technology and telecommunications support, grants management, and other policy and program management requirements. This support is essential to operating and maintaining the EPA LISO, and is provided from other EPA EPM appropriations. Finally, EPA's Atlantic Ecology Division in Narragansett, Rhode Island provides approximately 75 percent of an FTE for technical support for the scientific mission of the LISS. This senior scientist coordinates the LISS STAC and provides other critical input into the science requests for pre- and full proposals conducted biennially by the LISS.

4. SUB-AWARDS

Attachment 3 lists the FY2013 LISS budget by recipient organization; as the total funding for each recipient may consist of one or more EPA grant awards or amendments to existing grants, **Attachment 4** lists the FY2013 budget by individual EPA assistance award number by grantee; where known at this time, the actual EPA assistance award number is provided for reference. However, the award process is dynamic and final award numbers and amounts may differ from Attachment 4 as actually awarded by EPA, since this NEP summary Work Plan is due by June 1, 2013 and the grant award process does not complete until September 30, 2013. Details of the sub-award purpose, project deliverables, and project completion dates are provided in Section B of this Work Plan below. Attachments 3 and 4 also show the required non-federal matching funds and the overall actual aggregate match requirement for the LISS.

For FY2013 Federal assistance awards, the CTDEEP is providing an annual 'overmatch' in its EPA assistance award in order for the LISS to meet the overall aggregate match for the NEP as required under CWA §320. The CTDEEP overmatch is from one sewage treatment plant project in Connecticut. This also allows other recipients and sub-awardees that are not in a position to meet matching funds requirements to apply for LISS grant programs, ensuring broader participation in the work of the LISS Management Conference from academic researchers and institutions, local environmental organizations, interest groups and associations, as well as other qualified regional or watershed organizations. **[NB: Final assistance award amounts and number designations are issued by EPA pending final EPA Regional Administrators' or their delegates' action on individual awards, and each award is subject to the special terms and conditions contained therein.]**

Using FY2013 funding for work that will take place in FY2014, the LISS is providing funding to eight LISS partners through thirteen new or amended awards: NFWF [1], NYSDEC [2], CTDEEP [1]; the New England Interstate Water Pollution Control Commission (NEIWPCC) [2]; the Connecticut Sea Grant College Program (CTSEA) [2]; the New York Sea Grant Program

(NYSEA) through Cornell University's Office of Sponsored Programs (OSP) [1]; NYSEA through the Research Foundation of the State University of New York at Stony Brook [1]; the New England Regional Association of Coastal and Ocean Observing Systems (NERACOOS) [1]; USFWS Southern New England Estuary Project Office located in Charlestown, Rhode Island [1]; and National Council on Aging (NCOA) [1].

These partners implement the CCMP and conduct the LISS base program, which includes the LIS Futures Fund Grant program (NFWF), the CCMP Enhancements program (NEIWPCC), the LIS Research Grant program (CT SEA and SUNY RF), the LIS public outreach and education program (NEIWPCC/CT/NYSEA), the habitat restoration program (CTDEEP/NYSDEC/USFWS), and LIS stewardship initiative (USFWS). As indicated above, each of these partners is funded through one or more annual or multi-year EPA assistance awards or IAs as appropriate. These awards are managed by staff of the EPA LISO and EPA Region 1, who are trained and assigned as EPA Project Officers. Because of multi-year awards and varying federal appropriation levels, all partners may not receive LISS funding in every annual budget/work plan cycle.

B. PROPOSED NEW AND ONGOING PROJECTS

Beginning with the FY2008 NEP Work Plan, the LISS adopted the following reporting format in this, Section B, *Proposed New and Ongoing Projects.* This Section B format utilizes a combination of the FY2008 NEP Work Plan Guidance and the September 2008 NEP Program Evaluation Guidance Logic Model format (until updated). To adjust to this reporting format, to the extent feasible, the LISS Program Element activities have been 'broken up' under the following logic model Core Elements and Sub-elements contained in the NEP Program Evaluation Guidance:

Logic Model Core Element: **1. Program Implementation & Reporting**: a) Financial Management; b) Tracking/Reporting; c) Program Planning & Administration; d) Outreach & Public Involvement;

Logic Model Core Element: **2. Ecosystem Status & Trends**: a) Research; b) Assessment & Monitoring; c) Reporting;

Logic Model Core Element: **3. Ecosystem Protection & Restoration Projects:** a) Habitat; b) Water Quality; c) Living Resources; d) Healthy Communities; and

Logic Model Core Element: **4. Technical Assistance and Capacity Building:** a) Tools; b) Training; c) Direct Assistance.

Following is the crosswalk between the Logic Model elements the LISS Program Elements:

Logic Model Element	LISS Program Element
CCMP/Work Plan Goal	[LISS CCMP Problem Area, Hypoxia, Pathogens, Toxics, etc.]
Project/Activity Name:	[Program Element/Sub-category description]
Project/Activity Purpose and Description (indicate as Proposed, OnGoing, New, Continuing)	New: first year of project for LISS Continuing: prior year funded project On-Going: multi-year or base program project Proposed: first year project proposed for funds
Responsible Partners and Their Role(s)	[LISS Grantee Name]
Outputs/Products:	same
Milestones	(project start and completion dates) [EPA Grant/IAG Date(s)]
Budget:	[FY2013 to the extent separately identifiable]
Outcomes:	(anticipated and/or completed accomplishments) [Environmental Outputs/Outcomes]
-Short term; Intermediate; Long Term	
-Changes (+/-) in Pressure Targets:	[N/A]
Identify the CWA core program the project would support	[Checklist of 7 Core Elements]

1. Program Implementation and Reporting. Under CWA §119 (33USC1269), the EPA LISO is responsible for the overall management and coordination of the LISS Management Conference convened under CWA §320 and is to *assist* and *support* implementation of the CCMP developed under that Section, *coordinate* the grant, research and planning programs and *provide administrative* and *technical support* to the Conference.

a. Financial Management. The EPA LISO has overall responsibility for managing EPA LISS appropriated funds, ensuring that these funds are awarded in a timely and efficient manner using the methods and management controls established by the Agency. Since the LISS NEP does not utilize the single assistance agreement process for implementation, but rather is a Federally administered program (as specified under CWA §119) that utilizes a number of separate EPA assistance awards to conduct the program, financial management responsibilities are distributed, not centralized. Each EPA grantee is responsible for financial management under EPA assistance regulations, and must comply with those regulations, either 40CFR Part 30 (educational institutions) or 40CFR Part 31 (state/local governments) as applicable to the organization.

The EPA LISO manages the individual EPA assistance awards and IAs for each Federal fiscal year cycle of LISS funding. Each LISS grantee is responsible under EPA regulations for fiscal management and accountability for Federal funds it acquires by advance payment or reimbursement. EPA LISO requires semiannual grant progress reports from grantees and periodic Federal Financial Status Reports (SF260s) are to be submitted to EPA's Las Vegas Financial Center from the grantees' fiscal offices. EPA LIS grant awards use the identifier prefix, "LI;" NEP awards use the identifier "CE." Funds accounting by assistance award number is available online at EPA's Compass Data Warehouse. The LISO monitors drawdown of funds on a monthly basis and provides each grantee with the data on unliquidated obligation (ULO) status and works with grantees to ensure timely and appropriate liquidation of grant balances or adjustments to work plans and/or grants.

LISS grants are made under the Catalog of Federal Domestic Assistance (CFDA) number 66.437, Long Island Sound Program or CFDA number 66.456, the National Estuary Program in EPA Region 2. EPA LISO semi-annually updates the LISS CFDA description as necessary through EPA's internal process as required by OMB. Grantees are responsible for tracking and accounting of expenditures according to their approved assistance award budgets and must abide by EPA grant regulations and terms and conditions to modify budgets or change program direction. One-time No Cost Time Extensions (NCTE) are available without prior approval from EPA to 40CFR Part 30 awardees (educational institutions), and with EPA approval to 40CFR Part 31 awardees (states). The LISO negotiates and approves any requests for NCTEs with the appropriate EPA Region 1 or Region 2 grants management office.

b. Tracking and Reporting. As the only Federally led NEP, EPA's authority to require and collect information is limited to that contained in enabling statutes and regulations. CWA §320 and §119 indicate specific reporting requirements and EPA regulations under 40 CFR Parts 30 and 31 provide further reporting requirements for grantees. Finally, EPA grant regulations provide several reporting requirements e.g., quarterly or semi-annual reporting on grant progress. EPA LISO is responsible for the overall LISS tracking and reporting systems for the NEP. Each EPA assistance award contains Terms and Conditions (T&Cs) with reporting requirements mandated for the NEP's Government Performance and Results Act (GPRA) performance measures for: 1) habitat restoration and protection, and 2) leveraged funds.

The LISO also tracks and reports the four LIS goal area measures in EPA's Strategic Plan and budget through the Agency's Annual Commitment System (ACS) reporting system. This reports state CCMP partners' progress to EPA in reducing point source nitrogen discharges to the Sound from the 106 NY and CT STPs discharging in the LIS watershed (LI-SP41); the area of the maximum hypoxic event in the Sound (LI-SP42); the acres of coastal habitat restored or protected (LI-SP43); and river miles reopened to diadromous fish passage (LI-SP44). These data are compiled by LISS Management Conference partners through the LIS water quality monitoring program and the habitat restoration program, both of which receive LISS funding in this Work Plan. This data is collected under the authority of the T&Cs in the grant awards issued to the responsible partners.

CCMP implementation actions are tracked through EPA's eSound annual *CCMP Implementation Tracking Report*. The CCMP Implementation Tracking Reports provide detailed tracking by CCMP problem area and 37 sub-areas. FY2010 LISS funding was approved for development of this on-line system to report CCMP implementation progress; that system was completed in 2012 and data for 2010-12 has been entered into the system, designated eSound at https://esound.epa.gov/LISS/activitylist.htm. This data is collected under the authority of the grant T&Cs as specified in grantees assistance award documents.

In 2011 the LISS Management Conference partners agreed to a process to revise and update the 1994 CCMP. CCMP revision will encompass all LISS partners and the public, and will result in a final document planned to be issued by December 2014. Some FY2011-12 funding has been reprogrammed and some FY2013 funding has been earmarked in the NEIWPCC budget for program and public meeting support in FY2013.

CCMP/Work Plan Goal:	**Continuing the Management Conference**
Project/Activity Name:	eSound, the LISS CCMP Implementation Tracking System
Continuing Project/Activity Purpose & Description:	Review, assess and establish a data reporting system for tracking CCMP implementation activities
Responsible Partner(s) Role(s):	EPA Long Island Sound Office
Outputs/Products:	Annual server O&M costs; modification of system for 2013 report.
Milestones *(project start/end dates)*	10/1/10-9/30/14 and continuing.
2012 Budget:	$30,000 [See Attachment 1, line 3]
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	Coordinated reporting of federal, state, and local government actions to implement the CCMP; accounting for clear annual goals and objectives framed within available funding; access to public, environmental, and financial data for restoration and protection of Long Island Sound.
Δ (+/-) in Pressure Targets	**N/A**
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards, 2) Improving WQ Monitoring, 3) Developing TMDLs, 4) Controlling NPS Pollution on a Watershed Basis, 5) Strengthening NPDES Permits, 6) Supporting Sustainable Wastewater Infrastructure. 7) Wetlands Program Support/Implementation

c. Program Planning and Administration. As indicated above, the EPA LISO has overall responsibility for coordinating the LISS Management Conference, which is a multi-grantee, multi-state distributed partnership NEP. LISS partners also have inherent responsibilities in these areas, and are provided funding for administrative staff positions to carry out these overarching functions. LISS grantees have a negotiated Indirect Cost Rate with EPA or their Cognizant Agency to cover the overall expenses of their institution in managing federal assistance awards under Office of Management and Budget Circulars A-102, A-87 and A-89. The following charts include information in the required NEP Work Plan format relative to this Logic Model category:

CCMP/Work Plan Goal:	**Continuing the Management Conference**
Project/Activity Name:	EPA LISO Support to the Management Conference
ONGOING Project/Activity Purpose & Description:	Provides support to the Management Conference in implementing the CCMP; overall program coordination, management and direction.
Responsible Partner(s) Role(s):	EPA Long Island Sound Office
Outputs/Products:	Assistance and coordination of the LISS Management Conference. Development of annual NEP work plan; development and execution of EPA Strategic Plan elements for LIS; development, execution and management of

CCMP/Work Plan Goal:	**Continuing the Management Conference**	
	financial assistance agreements; development and submission of GPRA-required reports; tracking and reporting of implementation of CCMP actions; technical assistance to partners in program operations.	
Milestones *(project start/end dates)*	10/1/13-9/30/14 and continuing.	
2013 Budget:	$57,100 (administrative support) and $14,200 (office overhead and travel expenses), EPA staff N/A [See Attachment 1, lines 1& 2.]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	Coordinated federal, state, and local government actions to implement the CCMP; clear annual goals and objectives framed within available funding; public, political, and financial support for restoration and protection of Long Island Sound; organized and effective LISS public participation; improved water quality as measured annually by reduced anthropogenic nitrogen deposition and increased dissolved oxygen concentrations; increased habitat restoration and preservation as measured by number of acres of coastal habitat restored/preserved annually; increased species diversity as measured by river miles reopened to diadromous fish passage annually; informed and educated public and citizenry as measured by numbers of publications distributed to target populations and number of website visits; improved management and coordination of implementation actions as measured by reported program indicator outputs and outcomes.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards §304(a)	x
	2) Improving WQ Monitoring §303(d) 305(b)	x
	3) Developing TMDLs §304(b)	x
	4) Controlling Nonpoint Source Pollution on a Watershed Basis §319	x
	5) Strengthening NPDES Permits §402	x
	6) Supporting Sustainable Wastewater Infrastructure	x
	7) Wetlands Program Support/Implementation §404	x

CCMP/Work Plan Goal:	**Continuing the Management Conference**
Project/Activity Name:	State Coordination and Technical Assistance
<u>ONGOING</u> Project/Activity Purpose & Description:	Assist in all aspects of LISS Management Conference program development and support for CCMP implementation in the State of Connecticut.
Responsible Partner(s)/Role(s):	Connecticut Department of Energy and Environmental Protection
Outputs/Products:	Involvement of relevant technical staff and programs in LISS activities to protect and restore Long Island Sound, its resources and its habitats, and to protect public health and meet commitments to the LISS partnership. Development of work group products and activities essential to implementation of the CCMP. Due consideration of nitrogen control in watershed planning and management efforts. Steady progress of point source nitrogen reductions as per the TMDL and nitrogen general permit. Update of progress towards implementing CCMP recommendations in the areas of hypoxia, toxic contamination, pathogens, living marine resources and land use. Reports on progress to ensure commitments to protect and restore LIS,

CCMP/Work Plan Goal:	**Continuing the Management Conference**
	and implementation plans are on track. LIS Research and Implementation grants are consistent with and complementary to LISS goals and objectives and productive in restoring and managing Long Island Sound.
Milestones *(project start/end dates)*	10/1/13-9/30/14
2013 Budget:	$213,293 [See Attachment 1, line 4]
Outcomes: *(anticipated and/or completed accomplishments)* **-Short , Intermediate & Long Term**	Improved management and implementation of CCMP goals and objectives; improved environmental data quality and reporting of environmental results.
-Changes (+/-) in Pressure Targets	**N/A**
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards, x 2) Improving WQ Monitoring, x 3) Developing TMDLs, x 4) Controlling NPS Pollution on a Watershed Basis, x 5) Strengthening NPDES Permits, x 6) Supporting Sustainable Wastewater Infrastructure. x 7) Wetlands Program Support/Implementation x

CCMP/Work Plan Goal:	**Continuing the Management Conference**
Project/Activity Name:	State Program Coordination and Management
<u>ONGOING</u> Project/Activity Purpose & Description:	Provides support to the Management Conference in implementing the CCMP; overall program planning, coordination, administration, management and direction in the State of New York and coordination with New York State Department of State and other state/local agencies in New York.
Responsible Partner(s) Role(s):	New York State Department of Environmental Conservation
Outputs/Products:	Coordination and development of activities and products to implement the CCMP. Track progress of programs and projects designed to protect and restore LIS. Electronic and paper reports of the status of resources, water quality and implementation. Coordinate and implement CCMP actions, protect public health, preserve and protect LIS resources and water quality by soliciting and involving expertise from various state programs. Ensure that projects are consistent with NYS regulations and the CCMP. Grant proposals are reviewed for relevance and benefits to LIS. Information sharing, development of recommendations, strategies and identification of data gaps regarding wetlands loss in LIS. Increased knowledge of existing site conditions (e.g. WQ information at tidally restricted sites); will also be used to collect additional data at the 4 wetland loss research sites. DEC will be able to more effectively partner in restorations, by being able to assist in gathering essential information. Develop and implement CCMP actions as directly related to NPS pollution reduction, protect public health, preserve and protect LIS resources and WQ by soliciting and involving expertise from various state programs.

CCMP/Work Plan Goal:	**Continuing the Management Conference**	
Milestones *(project start/end dates)*	10/1/13-9/30/15	
2013 Budget:	$125,647 [See Attachment 1, line 4]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short , Intermediate & Long Term**	Coordinated management and implementation of CCMP and LIS Agreement goals and objectives. Progress towards implementing the CCMP management actions. Better enables DEC to act as a partner to get restoration projects initiated. Improved public awareness, stewardship, WQ, protection of public health, and implementation of CCMP and LIS Agreement goals and objectives.	
-Changes (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x

d. Outreach and Public Involvement. The LISS provides grants to several of its partners to conduct the Public Outreach, Information and Education (PI&E) program, which is a key Program Element of the LISS. NEIWPCC and NY/CT SEA are primarily responsible under their LISS grant awards to carry out the public outreach program. The LISS has created a Communications Team consisting of staff of these partners and other interested parties, including members of the LISS Citizens Advisory Committee (CAC). The Team meets periodically to develop and carry out its annual work plan as reflected in each grant award. In addition, NFWF conducts the Small Grants program as part of the LISFF Grant program, and at the recommendation of a review team that includes LISS Communications Team members, may also make awards for approved PI&E projects under the LISFF Large Grants program. **Attachment 5** lists the FY2012 LISFF Large and Small Grant projects, which are also posted on the LISS website and NFWF website, http://www.nfwf.org. FY2012 preliminary, anticipated or actual results are provided in the **Accomplishments** section.

The LISO and LISS provide significant support to the CAC, which is co-chaired by an elected member each from New York and Connecticut. Coordinated by the NY/CT SEAs, the CAC meets quarterly at alternating locations in Connecticut and New York and provides advice to the Management Conference partners in implementing the CCMP. The CAC operates under its Bylaws and is composed of up to 60 members who represent organizations with a demonstrated interest in Long Island Sound. Financial support for CAC meetings is provided through NEIWPCC's PI&E line item in its LISS assistance award. CAC members are reimbursed for their travel expenses directly related to attending CAC meetings **[see Attachment 6].**

In addition, the CAC meets as needed with the STAC to jointly review program priorities from a scientific perspective and to update each other on issues of scientific and public concern. The CAC co-chairs are members of the Management Committee, and provide a public perspective at Management Committee meetings. The CAC also appoints two liaisons to the STAC, one each from New York and Connecticut to represent the CAC at STAC meetings. The CAC's operating subcommittees work with LISS work groups and teams in developing program priorities, projects, and in accomplishing implementation actions. These subcommittees are *Policy, Legislative & Advocacy*, *Accountability & Reporting*, and *Local Government*. CAC members participate on LISS teams and work groups and attend those meetings as appropriate.

The **Outreach and Public Involvement** program area of the required NEP Work Plan format is summarized below:

CCMP/Work Plan Goal:	**Public Outreach, Information and Education**
Project/Activity Name:	PI&E, Small Grants and PI&E Project Support
ONGOING Project/Activity Purpose & Description:	Supports the Management Conference in conducting the LISS public outreach, information and education program through staff resources and products, services and supplies.
Responsible Partner(s) Role(s):	NEIWPCC, NYSEA, CTSEA; NFWF, direct implementation of LISS PI&E program.
Outputs/Products:	Production of three issues of *Update* for distribution throughout the LIS region. Production of six issues of *Sound Outlook* for distribution throughout the LIS region. Bi-monthly issuance of *Sound Bytes*, an electronic mail update of current LIS issues; Reporting of up to 80 indicators using LIS monitoring data and other resources. Update of progress towards implementing CCMP recommendations in the areas of hypoxia, toxic contamination, pathogens, living marine resources and land use. Fact sheets that summarize timely topics on LIS issues that can be widely distributed in paper or web site formats. Award small and medium sized grants to public, private and government entities to implement LIS restoration and education projects. Communication of LIS issues and successes to a wide variety of interested citizens, educational entities, and professional societies. Provide LISS and agency information about LIS to the public and assist other agency staff in reporting efforts meeting CCMP goals. Communication of LIS issues and resource value to state citizens and LIS awareness to the general public in the watershed.
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014 (or as specified in individual assistance awards)
2013 Budget:	NEIWPCC: $66,327; NYSEA: $172,601; CTSEA: $50,459; NFWF: $65,450; [see Attachment 1, lines 6-11]
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	Informing public and increasing citizen activism to improve stewardship and individual actions beneficial to a healthy LIS. Informing and increasing public knowledge and citizen activism on LIS issues. Increasing awareness of the state of LIS health and promoting changes in lifestyle that might benefit the Sound. Assessment of progress and key report to citizens involved in the LISS that will lead to necessary adjustments in management direction. Publicity to support LIS management activity and to inform public about trends in LIS health to create public activism Improved habitat and

CCMP/Work Plan Goal:	**Public Outreach, Information and Education**	
	water quality and increased public awareness and participation in LIS affairs Fulfill public request for knowledge about LIS and educational needs; promote better stewardship of the Sound Increased awareness for the protection and restoration of LIS to the general public and improved management decisions for the LISS partner agencies. Increased awareness for the protection and restoration of LIS to the general public and promote better stewardship of the Sound. NEIWPCC funding used for CCMP revision support ($67,500).	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x

CCMP/Work Plan Goal:	**Public Outreach, Information and Education**	
Project/Activity Name:	TMDL Work Group Support	
<u>Continuing</u> Project/Activity Purpose & Description:	To inform and educate the public and managers in the upper LIS basin states of New Hampshire, Vermont and Massachusetts of the requirements and impacts of the nitrogen TMDL.	
Responsible Partner(s) Role(s):	NEIWPCC	
Outputs/Products:	Plan, organize, and conduct public meetings in upland states; record public comments and report on results.	
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014	
2013 Budget:	$24,618 [see Attachment 1, line 24]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	A more cooperative and publicly understood process in the upland LIS watershed states for achieving reduced nitrogen loads delivered to the Sound, reduced hypoxia, and attainment of state water quality standards through TMDL adoption in upland states.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x
	8) Other: Public Involvement and Education	x

2. Ecosystem Status and Trends. The LISS partners monitor ecosystem status and trends for a suite of 80+ environmental indicators. These indicators are posted on the LISS website, http://longislandsoundstudy.net/category/status-and-trends/ and a subset of selected indicators of interest to the public is produced biennially in the LISS publication, *Sound Health* last published in 2012. The indicators are linked back to CCMP problem areas and provide information on the abundance, diversity, distribution, viability, and/or quality and trends of the resource being monitored. Updating these indicators on a periodic basis is a complex process. The LISS does not directly pay for or support the data collection efforts for the vast majority of the diverse suite of environmental indicators; these are the province of other entities that are either directly responsible for that data collection by law, statute, regulation or by history or organizational preference. The below-described (**4. Technical Assistance/Capacity Building**) LISS- funded NOAA ecologist position helps to support this area.

a. Research. The LISS Research Grant program is a cooperative effort between EPA and the New York Research Foundation of the State University of New York (SUNY RF) and Connecticut Sea Grant College program, to which each have contributed funds and expertise in review of proposals and identification of peer reviewers. In FY2013 the Management Committee approved a scientific research budget of $425,000. These funds will be awarded to the CT Sea Grant program and SUNY RF for an RFP to be developed and issued in 2014. During the FY2014 budget cycle, an additional year of LISS funding may be requested for research, and if approved, may be combined with FY2013 funds for a biennial RFP.

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**
Project/Activity Name:	Long Island Sound Research Grant Program
ONGOING Project/Activity Purpose & Description:	To administer the LISS Research Grant program by identifying scientific research needs and priorities for LIS, solicit and review project proposals and ensure the selection and management of the highest priority projects with available funds.
Responsible Partner(s) Role(s):	SUNY RF/CTSEA, jointly administer and manage the LIS research program.
Outputs/Products:	Develop Request for Preliminary and Final Proposals; List of research selected for funding; manage research projects; request, review and process progress reports and final report per research project.
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2015 [or TBD]
2013 Budget:	$425,000 [$212,500 SUNY RF, $212,500 CTSEA] See Attachment 1, line 15.
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Identify, fund and conduct highest priority research relevant to the Long Island Sound 2003 Agreement or its successor and the LISS CCMP and Action Agenda and as established by the STAC; research topics are defined, openly solicited, and selected for funding using a well developed, respected process that is fair and technically-based; new science-based information will be provided to inform decision-making and actions towards reaching the vision and goals for Long Island Sound.
Δ (+/-) in Pressure Targets	**N/A**
CWA Core Program Project Support Core	1) Strengthening WQ Standards, x

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
programs are:	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x

b. Assessment and Monitoring. In FY2013 the Management Committee once again approved funding for the LIS ambient water quality (WQ) monitoring program conducted by CTDEEP. The program provides the basis for the determination of hypoxic, and other ambient conditions in LIS and to determine state compliance with water quality standards for dissolved oxygen (DO). This information is reported by CTDEEP and is used by the LISS to report annual progress in meeting both NEP and EPA Strategic Plan goals and targets for the area and duration of hypoxia. The following charts describe the WQ monitoring program conducted by CTDEEP and other partners' monitoring and assessment projects approved in the FY2013 budget.

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
Project/Activity Name:	LIS Water Quality Field Surveys	
ONGOING Project/Activity Purpose & Description:	To monitor and assess the ambient conditions of water quality in LIS and provide management with information for decision-making.	
Responsible Partner(s) Role(s):	CTDEEP, conduct of WQ monitoring and analysis of LIS open waters.	
Outputs/Products:	Nutrient and ancillary data to evaluate benefits of nutrient management programs and health of LIS. Dissolved oxygen data and maps of areal extent and duration of hypoxia in LIS. Tissue data is required to update the health consumption advisories in CT and NY. Organized and available database (to researchers and the public); interpretive graphics and fact sheets for public consumption on web site. Plankton community data to evaluate biological condition and response to changing water quality.	
Milestones *(project start/end dates)*	October 1, 2012-September 30, 2013	
2013 Budget:	$896,676 [see Attachment 1, line 12]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Improved water quality assessment to guide management activities. Improved planktonic community assessment to guide management activities. Improved dissolved oxygen assessment to protect living resources and to determine criteria compliance in CT and NY. Greater safety of CT and NY residents who consume LIS seafood. Better public involvement and management of LIS nutrient and oxygen conditions. Improved stewardship. Data for researchers to complement their projects. Improved water quality assessment to guide management activities. In 2012 the maximum area of hypoxia in the Sound was 288 square miles lasting for 63 days compared to pre-TMDL averages of 208 square miles and 56 days.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project	1) Strengthening WQ Standards,	x

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
Support Core programs are:	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
Project/Activity Name:	TMDL development support for NYS LIS Watershed Municipal Separate Storm Sewers (MS4)	
NEW/CONTINUING Project/Activity Purpose & Description:	The TMDL reassessment; evaluation of applicable storm water BMPs to optimize reductions from MS4s; developing a retrofit plan; the BMP evaluation and implementation plan development could be used as a template for controlling storm water from urban areas throughout the watershed.	
Responsible Partner(s) Role(s):	New York State Department of Environmental Conservation	
Outputs/Products:	The development of an MS4 baseline load; analysis of the feasibility of the currently required 10% reduction from these sources; analysis of the feasibility to increase the level of reduction that could be achieved from an MS4 through storm water management practices; evaluate the potential for trading between MS4 loads and Sewage Treatment Plant (STP) loads; recommendations for storm water BMPs to optimize nitrogen reductions from MS4 (BMP Implementation Plan Development); completion of TMDL Reassessment	
Milestones *(project start/end dates)*	10/1/10-9/30/14	
2013 Budget:	$109,464 [see Attachment 1, Line 21, FY2010 funds shown in brackets]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Improved scientific basis for management decisions on MS4s; reduced nitrogen loads from storm water; improvement in local water body in addition to reduced nitrogen to LIS; better, smarter growth; improved water quality; greater understanding of the storm water loads coming from the NY portion of LIS watershed	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	
	2) Improving WQ Monitoring,	
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
Project/Activity Name:	LIS Water Quality Monitoring Enhancements	
NEW Project/Activity Purpose & Description:	To monitor and assess the ambient conditions of water quality in LIS and provide management with information for decision-making.	
Responsible Partner(s) Role(s):	Northeastern Regional Association of Coastal and Ocean Observing Systems (NERACOOS) in cooperation with UConn Dept. of Marine Sciences	
Outputs/Products:	Project will procure mapping & data products - DO sensors (2); deploy nutrient sensors; O&M of CT River sensors; DO buoy (1).	
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014	
2013 Budget:	$74,600 [see Attachment 1, line 13]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Assessment of water quality management program impact; interpretation of stream flow variability on salinity in critical coastal habitats; better assessment of trends in managed nutrients; improved assessment of water quality models.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	x
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	x
	6) Supporting Sustainable Wastewater Infrastructure.	x
	7) Wetlands Program Support/Implementation	x

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**
Project/Activity Name:	Western LIS Water Quality Enhancements
NEW Project/Activity Purpose & Description:	Support to IEC to coordinate its WQ monitoring data/methods with CTDEEP and to continue current monitoring program.
Responsible Partner(s) Role(s):	Interstate Environmental Commission/NEIWPCC
Outputs/Products:	1) Coordinate with CTDEEP and other LISS partners to ensure an effective and efficient monitoring program for LIS; 2) produce a searchable database of all historical field and laboratory data from 1991 to present; 3) bi-weekly collection of samples to be analyzed for nitrogen, phosphorus, silica, and carbon parameters;
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014
2013 Budget:	$47,840 [see Attachment 1, line 19d]
Outcomes: *(anticipated and/or completed accomplishments)* **-Short; Intermediate;& Long Term**	Better characterization of nutrient concentrations in the Sound, which can be used to assess the relationships between DO and nutrient concentrations, as well assess progress and results of nutrient reduction efforts within the watershed.
Δ (+/-) in Pressure Targets	**N/A**

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards	x
	2) Improving WQ Monitoring	x
	3) Developing TMDLs	x
	4) Controlling NPS Pollution on a Watershed Basis	
	5) Strengthening NPDES Permits	x
	6) Supporting Sustainable Wastewater Infrastructure	
	7) Wetlands Program Support/Implementation	x

CCMP/Work Plan Goal:	**Monitoring, Modeling and Research**	
Project/Activity Name:	LIS Dredging Windows Analysis	
NEW Project/Activity Purpose & Description:	Study of existing dredging 'windows' with potential management options identified.	
Responsible Partner(s) Role(s):	CTDEEP in cooperation with ACOE and EPA as technical advisors.	
Outputs/Products:	Prepare summary of existing dredge windows; Develop a dredge management risk management analysis; Review recently completed dredge window review completed in similar estuaries; Facilitate working sessions between agency representatives and working group to apply technical results to management practices	
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014	
2013 Budget:	$75,000 [see Attachment 1, line 19 f]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Common understanding of complex system that has not been summarized; Common understanding of target species and risks posed by various dredge scenarios; Identification of any potential opportunities to reform management practices to both protect coastal resources and provide operational flexibility.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring,	x
	3) Developing TMDLs,	
	4) Controlling NPS Pollution on a Watershed Basis,	x
	5) Strengthening NPDES Permits,	
	6) Supporting Sustainable Wastewater Infrastructure.	
	7) Wetlands Program Support/Implementation	x

c. Reporting. Costs for producing *Sound Health* and *Protection and Progress* are budgeted for in the NEIWPCC assistance award as necessary and as approved by the Management Committee for the appropriate budget year. These activities are usually funded in the year preceding the publication of the appropriate report to allow for establishment of financial commitments necessary to produce the documents. Copies of these reports are available upon request or electronic versions are posted on the LISS website for reference. A full suite of LIS ecosystem indicators is also posted on the LISS website, cited above.

Grant Reports. Under 40 CFR Parts 30 and 31, semi-annual reporting is required for each EPA grant award according to an established format that follows the LISS work plan form with outputs/outcomes reported. These reports are posted in EPA's Integrated Grants Management System (IGMS) and final grant progress reports are due within 90 days of the expiration date of an award.

ACS Reports. EPA LISS grantees with these responsibilities report mid-year and end-of-year progress in addressing the four elements contained in EPA's Strategic Plan and budget – point source nitrogen reduction targets; reduction in the area of maximum hypoxia; acres of habitat restored/protected; and miles of rivers opened to fish passage. In addition, out-year budget targets are requested and estimates of out-year targets are provided by grantees as appropriate during the planning and budgeting cycles. These reporting requirements are included as special Conditions in the appropriate grantees' award documents.

NEPORT Reports. CTDEEP, NFWF and NYSDEC annually report information into EPA's NEPORT data system for leveraged funds, and habitat acres restored/protected/enhanced, including river miles reopened to fish passage. These latter data are used to report accomplishments to EPA's ACS system for the LIS Strategic Plan and budget measures as appropriate. Grant awards are conditioned to require these reporting elements.

3. Ecosystem Protection and Restoration Projects. The LISS Futures Fund Grant program and the LISS CCMP Enhancements program are the primary LISS vehicles for funding implementation projects to address CCMP and other program priorities. The LISS Futures Fund, consists of Large Implementation Grants ($20,000-$150,000); Clean Water and Habitat Restoration Planning and Water Quality Monitoring Grants ($20,000-$60,000); Education Grants ($20,000-$60,000); and Long Island Sound Study Public Participation, Information and Education Grants Program Small Grants ($3,000-$10,000) projects. The LISFF is administered by NFWF. In FY2013, the LIS Futures Fund is funded at $1,176,840 and the Small Grants component is funded at $65,450. This represents a 5.3% reduction to the FY2012 Enacted Budget level allocated to LISFF due to Sequestration cuts. The CCMP Enhancements program is administered by NEIWPCC and is funded at $199,582 in FY2013 for priority projects approved by the LISS Management Committee. These projects are responsive to the *Long Island Sound Action Agenda* and other LISS priorities and are described in brief in Attachment 1, line 19b-f.

As noted, the below Logic Model subcategories are eligible funding categories under the LISFF. FY2012 LISFF-funded projects are listed in **Attachment 5**. At this time LISFF projects cannot be characterized under this Logic Model format as 2013 projects have not yet been selected.

a. Habitat; b. Water Quality; c. Living Resources; d. Healthy Communities.

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**
Project/Activity Name:	LISS Futures Fund
ONGOING Project/Activity Purpose & Description:	To provide resources for priority CCMP implementation projects at the state and local level to qualified applicants.

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**
Responsible Partner(s) Role(s):	NFWF, plans, coordinates, conducts and administers the LISS Futures Fund Grant Program
Outputs/Products:	Issue RFP to solicit a diverse range of project proposals (45-60 proposals) that address problems identified in the LISS *CCMP*; conduct two webcast workshops to encourage applicants to develop a technically sound and diverse range of project proposals (45-60 proposals) that address problems identified in the LISS *CCMP*. Provide technical assistance to 40-50 potential applicants to help them develop the most useful projects to address the problems identified in the LISS *CCMP*. Develop and distribute one press release in CT and NY to announce RFP and awards. Develop and implement one grant award event in either NY or CT. Meet with potential public, nonfederal and private funders. Support LISS and EPA/LISO to develop accomplishments brochures and other materials. Outreach to three or more Congressional offices to respond to inquiries and raise profile of implementation elements of the LISS Futures Fund in terms of federal investment around the Sound.
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2016* Actual dates under negotiation with EPA.
2013 Budget:	$1,176,840 [See Attachment 1, line 20]
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate, Long Term**	Increase community support for and interest in the projects as a means to encourage public engagement to solve the problems identified in the LISS CCMP. Increase public support for additional resources to address the problems identified in the LISS CCMP. Support both a greater number of projects and larger, more complex projects that address the problems identified in LISS CCMP. Increase public understanding of accomplishments and challenges faced in LIS and addressed by various LISS initiatives.
Δ (+/-) in Pressure Targets	**N/A**
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards: x 2) Improving WQ Monitoring: x 3) Developing TMDLs: x 4) Controlling NPS Pollution on a Watershed Basis: x 5) Strengthening NPDES Permits: x 6) Supporting Sustainable Wastewater Infrastructure: x 7) Wetlands Program Support/Implementation: x

CCMP Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**
Project/Activity Name:	LISS Stewardship Land Acquisitions
<u>Continuing</u> Project/Activity Purpose & Description:	To provide resources for priority CCMP LIS Stewardship Initiative acquisitions at the state and local level.
Responsible Partner(s) Role(s):	CTDEEP/NYSDEC
Outputs/Products:	Acquisition of properties identified by the LISS Stewardship Initiative work group for protection.
Milestones *(project start/end*	n/a

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**	
dates)		
2013 Budget:	$0. The Management Committee agreed not to provide funds for Stewardship project acquisitions in FY2012 due to the lower budget amount available from the FY2011 Enacted level for the LISS. Current acquisitions will continue with prior year funding until closed. [See Attachment 1, line 21]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	Protection of habitats of ecological, recreational, and public access value; protection of endangered, threatened, and rare species of plant and animal habitats; demonstration of effective public and private partnerships in habitat conservation.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards	
	2) Improving WQ Monitoring	
	3) Developing TMDLs	
	4) Controlling NPS Pollution on a Watershed Basis	
	5) Strengthening NPDES Permits	
	6) Supporting Sustainable Wastewater Infrastructure.	
	7) Wetlands Program Support/Implementation	

4. Technical Assistance/Capacity Building. The LISS provides technical assistance and capacity building thorough a variety of means. Several LIS Futures Fund 2012 projects provide support in this area. For example a project to engage the viticulture industry at six 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. The project aims to help growers remain economically viable while also making necessary changes in nutrient and pesticide management to become environmentally sustainable. See Attachment 5 for details.

The following EPA-funded Federal staff positions will provide ongoing significant technical assistance for the LISS in FY2013:

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**
Project/Activity Name:	USFWS Wildlife Biologist/LISS Liaison Support
ONGOING Project/Activity Purpose & Description:	The USFWS Liaison provides technical support to the LISS Management Conference to address wildlife/habitat-related issues including but not limited to essential habitat classification, mapping and management, invasive species, environmental indicators, integrated monitoring of water and biota. The Liaison will provide technical support to coordinate, manage, and report on LISS programs and manage grants and contracts as assigned
Responsible Partner(s) Role(s):	US Fish & Wildlife Service, Southern New England-New York Bight Coastal Ecosystems Program, Charlestown, RI
Outputs/Products:	Annual GPRA habitat reports for EPA; Habitat restoration information for the LISS website; Annual HRI work plans that detail priorities, highlight accomplishments, and identify funding needs; Technical reviews and recommendations regarding project funding; accurate and up-to-date grant

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**	
	files; documents and forms required for grant awards, extensions, and close-outs; approved project reports from grantees; the management plan focuses on feasible, cost-effective practices that can be undertaken to prevent and control invasive species; technical and grant assistance to stewardship area stakeholders; SI information for the LISS website; presentations to the public; annual SI work plans that detail priorities, highlight accomplishments, and identify funding needs; proposal reviews and recommendations regarding project funding.	
Milestones *(project start/end dates)*	10/1/10-2/28/14	
2013 Budget:	$116,500 [see Attachment 1, line 18]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & Long Term**	Restoration of the Sound's coastal habitat to maintain healthy and viable populations of fish & wildlife in LIS; implementation of the LISS CCMP to protect and restore LIS; prevention and control of aquatic invasive species in LIS; protection and enhancement of the Sound's ecological and recreational resources	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	
	2) Improving WQ Monitoring	
	3) Developing TMDLs	
	4) Controlling NPS Pollution on a Watershed Basis	
	5) Strengthening NPDES Permits	
	6) Supporting Sustainable Wastewater Infrastructure	
	7) Wetlands Program Support/Implementation	x

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**
Project/Activity Name:	NOAA/NMFS LISS Liaison Support
ONGOING Project/Activity Purpose & Description:	The NOAA Ecologist position provides technical support to the LISS Management Conference to address fisheries ecology and aquatic habitat-related issues including, but not limited to essential habitat classification, mapping and management, invasive species, environmental indicators, integrated monitoring of water and biota. The liaison provides technical support to coordinate, manage, and report on LISS programs and manage grants and contracts as assigned.
Responsible Partner(s) Role(s):	NOAA/NMFS Northeast Fisheries Science Center, Milford, CT
Outputs/Products:	Technical reports to highlight accomplishments, and identify funding needs; technical reviews and recommendations regarding project funding; accurate and up-to-date grant files; approved project reports from grantees; the management plan focuses on feasible, cost-effective practices that can be undertaken to prevent and control invasive species; technical and grant assistance to stakeholders; fisheries/indicators information for the LISS website; presentations to the public; annual work plans that detail priorities, highlight accomplishments, and identify funding needs; proposal reviews and recommendations regarding project funding.

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**	
Milestones *(project start/end dates)*	10/1/10-6/30/14 [Interagency Agreement] vacancy filled by incumbent, May 2012.]	
2013 Budget:	$0 [see Attachment 1, line 17; prior year funds.]	
Outcomes: *(anticipated and/or completed accomplishments)* **-Short, Intermediate & -Long Term**	Restoration of the Sound's fisheries habitat to maintain healthy and viable populations of fish in LIS; implementation of the LISS CCMP to protect and restore LIS; prevention and control of aquatic invasive species in LIS; protection and enhancement of the Sound's ecological and fisheries resources.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards	x
	2) Improving WQ Monitoring	x
	3) Developing TMDLs	x
	4) Controlling NPS Pollution on a Watershed Basis	
	5) Strengthening NPDES Permits	
	6) Supporting Sustainable Wastewater Infrastructure	
	7) Wetlands Program Support/Implementation	

a. Tools. This Work Plan provides funding for development of several programmatic tools. As an example, in 2012 EPA developed a new tracking tool for CCMP implementation actions based on the Chesapeake Bay report model. The web-based application, named *eSound*, located on EPA servers in Research Triangle Park, North Carolina, enables users to input CCMP implementation data and information. A final public report is developed and posted on the LISS website annually. Additionally, the LISS through a grant to NEIWPCC, developed a tool for use by the Stewardship work group and managers to assess the relative importance of various sites that may qualify for stewardship designation. The on-line tool is used by the work group members to rank sites for possible acquisition or other management purposes.

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**
Project/Activity Name:	LISS CCMP Enhancements Program
ONGOING Project/Activity Purpose & Description:	To provide resources for priority CCMP implementation projects at the state and local level to qualified applicants.
Responsible Partner(s) Role(s):	NEIWPCC, plans, coordinates, conducts and administers the LISS CCMP Enhancements Program
Outputs/Products:	Development of RFPs and management oversight of projects for 1) Marsh Migration Modeling, Phase 2, $48,820; 2) Stewardship Site ID Tool fixes, $30,687; 3) Urban Design and LIS at Stewardship Sites, $26,695;
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014* *end date under negotiation with EPA
2013 Budget:	$106,202 [See Attachment 1, line 19b,c,e,f]
Outcomes: *(anticipated and/or completed*	Increased habitat quality in LIS through improved understanding of marsh migration; Improved stewardship site identification and prioritization for management decisions;

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**	
accomplishments) **Short, Intermediate & Long Term**	Improved understanding of opportunities and threats from land surrounding Stewardship sites; more effective protection and management of sites through LID/G development in buffer zones; Improved knowledge of environmental/ecological data or data needs to support dredging windows in LIS.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards	
	2) Improving WQ Monitoring	
	3) Developing TMDLs	
	4) Controlling NPS Pollution on a Watershed Basis	x
	5) Strengthening NPDES Permits	
	6) Supporting Sustainable Wastewater Infrastructure	
	7) Wetlands Program Support/Implementation	x

b. Training. The LISS will continue to fund the CT and NY Sea Grant LIS Mentor Teacher program, which trains a cadre of K-12 educators to train-the-trainers in the use of LIS as a teaching tool and resource for NY and CT teachers. The Long Island Sound Mentor Teacher (LISMT) program has consistently recruited high quality, creative, and respected teachers to assist their peers in incorporating LIS content into curricula within the scope of the CT Science Frameworks. In 2010 the program expanded to the New York portions of the LIS watershed, with initial mentor teacher workshops being held. The NY Sea Grant via Cornell Cooperative Extension program assisted in conducting the first mentor teacher workshops in New York in 2010 and will continue into 2013.

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**	
Project/Activity Name:	LISS Mentor Teacher Training Program	
ONGOING Project/Activity Purpose & Description:	Increase awareness and understanding of the importance of Long Island Sound and its watershed by training a cadre of teachers to mentor the student population.	
Responsible Partner(s) Role(s):	CT Sea Grant/NY Sea Grant; direct implementation	
Outputs/Products:	Recruit six (6) mentor teachers and facilitate planning sessions for workshop development (grade level cohorts K-2, 3-5, 6-8); conduct three (3) LIS Mentor Teacher workshops for K-12 formal and informal educators; support LIS Educators Conference; conduct 3 NY mentor teacher workshops.	
Milestones *(project start/end dates)*	October 1, 2013-September 30, 2014	
2013 Budget:	$16,814 CT and $6,940 NY [See Attachment 1, line 9]	
Outcomes: *(anticipated and/or completed accomplishments)* **Short, Intermediate & Long Term**	Development of grade appropriate, multidisciplinary workshops utilizing LIS curricular resources; provision of LIS resources and appropriate pedagogy to result in increased educator and student understanding of LIS and issues facing LIS; educated teacher ranks in K-12 grades in New York and Connecticut portions of the Long Island Sound watershed.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project	1) Strengthening WQ Standards	

CCMP/Work Plan Goal:	**CCMP Implementation Support and Technical Assistance**	
Support Core programs are:	2) Improving WQ Monitoring	
	3) Developing TMDLs	
	4) Controlling NPS Pollution on a Watershed Basis	
	5) Strengthening NPDES Permits	
	6) Supporting Sustainable Wastewater Infrastructure	
	7) Wetlands Program Support/Implementation	x

c. Direct Assistance. The LISS is one of the oldest of the NEPs, and it has technically capable support staff in diverse fields of expertise, from scientists to managers to field personnel. The combined resources of the Management Conference, which include the states of New York and Connecticut's environmental management agencies, New York City, and other Federal and state institutional partners, are sufficient to carry out CCMP implementation, and dwarf the amount of NEP and EPA LIS funding provided for this purpose. The partners provide such technical assistance and build such implementation capacity for local environmental and other groups as may be necessary and appropriate to their ongoing missions. The LISS does fund staff in partner agencies to support direct implementation. Staff include the LISS habitat restoration coordinators in both states.

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**
Project/Activity Name:	LISS Habitat Restoration/Coordination
ONGOING Project/Activity Purpose & Description:	The purpose of this position is to conduct activities associated with LISS including: preparing, assisting municipalities, and evaluating project applications for habitat restoration, assessment, monitoring and research funding. Develop partnerships to restore LIS habitats. Work with regional staff to help partners prepare project work plans that are compatible with state regulations. Coordinate NYSDEC and CTDEEP activities associated with the LISS Habitat Restoration Initiative.
Responsible Partner(s) Role(s):	NYSDEC (via NEIWPCC); CTDEEP; direct implementation
Outputs/Products:	Engage new and existing LISS partners in LISS habitat restoration activities; increase project proposals for habitat restoration activities in the LIS watershed; plan, coordinate and implement restoration of the twelve priority habitat types as outlined in the LISS Habitat Restoration Strategy adopted by the Policy Committee in 1998; work with LISS communications team to issue press releases, promotional materials, and other communication items addressing habitat restoration in the LIS watershed; report at mid-year and end-of-year on progress is achieving restoration/protection/reopening targets for EPA's Strategic Plan and budget.
Milestones *(project start/end dates)*	10/1/13-9/30/14
2013 Budget:	$121,286, CTDEEP; $53,170, NYSDEC via NEIWPCC [See Attachment 1, line 16]
Outcomes: *(anticipated and/or completed accomplishments)*	Restored and protected habitat in the LIS watershed; increased public awareness about current or planned habitat restoration and restoration activities in the LIS watershed; progress towards LISS Habitat Restoration

CCMP/Work Plan Goal:	**CCMP Implementation Support & Technical Assistance**	
-Short, Intermediate, Long Term	Initiative (HRI) goals for restoring habitat and river corridors that improve health of living resources in the LIS environment; additional and leveraged funding brought to restoration activities and increased acreage/miles improved to benefit LIS water quality and biological health; public outreach about HRI and accomplishments; implementation of habitat restoration projects and effective communication to the public.	
Δ (+/-) in Pressure Targets	**N/A**	
CWA Core Program Project Support Core programs are:	1) Strengthening WQ Standards,	x
	2) Improving WQ Monitoring	x
	3) Developing TMDLs	x
	4) Controlling NPS Pollution on a Watershed Basis	x
	5) Strengthening NPDES Permits	x
	6) Supporting Sustainable Wastewater Infrastructure	x
	7) Wetlands Program Support/Implementation	x

C. PREVIOUS YEAR'S (FY2012) PROJECTS/ACTIVITIES HIGHLIGHTS

1. Goals and Accomplishments. ***Describe goals that the program met and highlight programmatic accomplishments as well as project/activity short-term and intermediate outcomes. Highlight long-term environmental results achieved wherever possible. Include outcome and/or environmental results information about projects that required substantial NEP staff time but which were sponsored/funded by others, e.g., foundations, Federal or state partners.***

A. CCMP GOAL AREA: HYPOXIA/NUTRIENT MANAGEMENT.

Point Source Load Reduction. As reported under EPA's 2011-2014 Strategic Plan (LI-SP41) and EPA's National Program Guidance reporting system, ACS, the LISS partners continued the point source nitrogen reduction program in Long Island Sound in 2012, the latest report available. The total Trade-Equalized (TE) point source nitrogen load for 2012 was 28,838 TE lbs/day, with the 2014 goal of 22,774 TE lbs/day. The EPA Strategic Plan target for 2012 was 70 percent towards the goal; the 2012 result exceeded that target, achieving 83.3 percent of the goal. It is important to keep in mind that New York City (NYC), as part of a Consent Agreement with the state of New York, had taken significant STP processing capacity off-line during construction upgrades for biological nitrogen control at affected STPs. For a number of years there was a continuing 'bulge' in discharge of nitrogen, which is now being eliminated as construction is completed and NYC treatment plants come back on line.

While the LISS does not directly fund this goal area and important CCMP activity, funds for STP nitrogen upgrades result from a combination of EPA State Revolving Funds, Connecticut's state Clean Water Fund and Bond Acts, and New York state's Clean Water/Clean Air Bond Act funds and other sources, including NYC bonds and funding for NYC STP upgrades. In 2012 the State of Connecticut secured through legislation two additional Bond funds for STP upgrades, The first funding will be available in July 2013 in the amount of $447M; the second round of funding will be available July 2014 in the amount of $550M. The LISS does include these

resources in its NEPORT Leveraged Funds report to NEP HQ, once appropriated, as it was the LISS that precipitated the 1998 bi-state nitrogen reduction agreement of 58.5 percent over a 15 year period that began with TMDL approval by EPA in 2000. **Attachment 7** depicts the point source loadings from 2000-2012.

Significant EPA LISO and Region 1 staff time is spent following up on TMDL implementation and LISS funding has been used to conduct various studies and projects to ensure that the upland states of Massachusetts, New Hampshire and Vermont's contributions to the total nitrogen load to the Sound are included in a scheduled revision to the TMDL. The LISS funded 50 percent of a CTDEEP technical position to support TMDL revision work in 2011 and as discussed above, an upper basin public outreach and education program conducted by NEIWPCC that began in 2010.

Area/Duration of Hypoxia. As reported under EPA's 2011-2014 Strategic Plan (LI-SP42) the area (square miles mi^2) of the maximum hypoxic event in Summer 2012 with less than 3 milliliters (ml) of dissolved oxygen (DO) per liter of bottom (~<1m) water (<3ml/DO) was estimated to be 288 square miles, which lasted for a period of 63 days [error margins +/-85 mi^2, +/- 15 days]. This compares with the 13-year pre-TMDL averages of 208 square miles and 56.2 days. The 13-year post-TMDL averages are 184 square miles and 57 days. The LISS provides funding to CTDEEP to conduct the LIS WQ monitoring program year-round, with additional monitoring runs during the summer months [Attachment 1, line 12]. Other ambient factors affect the formation of the hypoxic zone in the Sound, including temperature, rainfall, solar radiation, wind, currents and any resulting biological effects such as algae formation.

A strategic measure in EPA's Strategic Plan for 2011-2015 (LI-SP42) is to reduce the area of hypoxia by 15 percent from the pre-TMDL average of 208 square miles, as measured by a 5 year annual rolling average**.** For 2012, the rolling 5-year average reduction is 16.5 percent, exceeding the target by 1.5 percent. **Attachment 8** depicts the area/duration of the maximum hypoxia event in Long Island Sound since 1987 as measured by CTDEEP.

B. CCMP GOAL AREA: MANAGEMENT & CONSERVATION OF LIVING MARINE RESOURCES AND THEIR HABITATS.

Habitat Restoration. As reported in EPA's 2011-2014 Strategic Plan (LI-SP43) and the NEP's NEPORT reporting systems, the LISS restored or protected a total of 537 acres of habitat in 2012. For example, Super Storm Sandy hit Long Island Sound in October 2012, with devastating effects on many fronts. One area hard hit on Long Island's North Shore was Sunken Meadows State Park, where habitat staff had planned a project to remove an earthen dam and culvert to restore tidal flow to a vital wetland area. The project had proceeded through the planning to implementation stages when the storm hit and washed out the dam and culvert, naturally restoring the tidal flow to the estuary. This action obviated the need for the project, which may still have further and related clean up and restoration work, but 132 acres of tidal wetlands were restored at an approximate savings of $2,000,000. The LISS only provides funding for individual habitat restoration projects as they may be eligible for competitive funding under the LISS Futures Fund Large Grant program, described below in **Section D**.

Because of the complexity of planning, organizing and carrying out restoration projects in both states, the LISS funds two habitat coordinators, one each in NYSDEC (via NEIWPCC) and CTDEEP, who develop priority LIS projects, including fish passage projects, in their state. These staff positions are included in the description of LISS-funded staff in this Work Plan in Attachment 7. It should be noted that the acres restored/protected and river miles reopened were not all funded by the LISS; the CCMP called for many and varied funding sources to implement its actions. LISFF projects do help contribute to the total acres restored/protected, to the extent that eligible projects are qualified, apply, and are approved for funding.

Fish Passage Restoration. As reported in EPA's 2011-2014 Strategic Plan (LI-SP44) and EPA's NEPORT, the LISS reopened 72.3 river miles in 2012. The LISS-funded CTDEEP and NYSDEC habitat restoration coordinators develop projects to reopen fish passage in each state. Because of Connecticut's river and stream network along the LIS shoreline is much more extensive than New York's, the bulk of the fish passage projects are located in Connecticut rivers and streams. Historically there were approximately 562 miles of river in Connecticut that supported diadromous fish runs; currently there are approximately 448 miles of river reaches open to fish passage. This is not meant as a management target for restoration. It should be noted that the river miles reopened were not all funded by the LISS; the CCMP called for many and varied funding sources to implement its actions.

C. CCMP GOAL AREA: MONITORING, MODELING & RESEARCH.

LIS Scientific Research Program. The LISS, through the CT and NY Sea Grant programs, continued to monitor the six scientific research projects that were selected for funding in 2010 for the 2011-2014 project period. The abstracts of these projects may be found on the LISS website at: http://longislandsoundstudy.net/research-monitoring/lis-research-grant-program/project-descriptions/. These projects will continue to be reported on in subsequent NEP work plans as the projects are completed.

FY2008-2012 subgrant projects were completed and closed out by the grantees and are reported under **2. Completed Projects**, below.

FY2010-2014 subgrant projects are ongoing, active scientific research projects. Abstracts of these projects are posted on the LISS website.

- *Systematic Evaluation of Nitrogen Removal by BMPs in the Long Island Sound Watershed*;
- *Phase Shifts Among Primary Producers within Long Island Sound: Will Anthropogenic Stressors Continue to Expand the Niche of PSP- and DSP-producing Dinoflagellate Blooms?*;
- *Sources and Fate of Nitrogen in the North Shore Embayments*;
- *The Influence of Gelatinous Zooplankton on Nutrient Cycles, Hypoxia, and Food Webs Across Long Island Sound*;
- *Comparative Analysis of Eutrophic Condition and Habitat Status in Connecticut and New York Embayments of Long Island Sound*; and
- *Nitrogen Removal Capacity of Connecticut Estuaries: Assessing Distribution and Controls*.

The CT and NY Sea Grant College Programs completed the RFP cycle for FY2012 by selecting pre-proposal projects for funding from that cycle. Two final projects were selected and announced in Spring 2013:

- *Comparative Analysis And Model Development For Determining The Susceptibility To Eutrophication Of Long Island Sound Embayments*; J.Vaudrey, P.I., UConn; Year 1: $200,000; Year 2, $200,000. Researchers will estimate the risk of eutrophication for 50 embayments in the Long Island Sound region and will use computer models to calculate estimates for dissolved nitrogen concentrations and freshwater flushing times for each embayment.
- *Analyzing History To Project And Manage The Future: Simulating The Effects Of Climate On Long Island Sound's Physical Environment And Living Marine Resources.* N.Georgas, P.I., Stevens Institute of Technology; Year 1, $192,390; Year 2, 187,918. Researchers will analyze historical trends back to the 1970s and project and manage forward to Long Island Sound's future. The research team will synthesize physical data collected for Long Island Sound and global climate change indices. Results will be compared to historic marine resources data, and a high-resolution global climate model will look forward to simulate the effects of climate on Long Island Sound's physical environment and living marine resources up to the year 2100.

The LISS STAC met in April, June and November 2012 and continued work on the LIS ecosystem data synthesis project to summarize scientific work across several disciplines to produce a printed volume dedicated to historical LIS scientific research findings. It is anticipated that this 400+ page document will be completed and published in Fall 2012.

LIS Eelgrass Monitoring Surveys. (IA #DW-14940346, $96,394) USFWS conducted additional embayment and open water LIS flyovers in 2012 to enrich the data from prior year LISS-funded over-flights to survey extent eelgrass beds. The final report is being reviewed by the US Fish & Wildlife Service as of this writing and will be posted on the LISS website when accepted by EPA as the final product of the IA, which expired December 31, 2012.

LIS Sentinel Monitoring Program. (FY2008, $150,000; FY2010, $100,000) The LISS Sentinel Monitoring strategy is posted at: (http://longislandsoundstudy.net/wp-content/uploads/2011/04/LIS_SMstrategy_v1.pdf). The sentinel team developed and executed an RFP for pilot implementation. A contract was issued in 2011 to develop a data citation clearinghouse of the 37 sentinels and physical parameters identified in the Sentinels Strategic Plan as a basis for data assessment and synthesis. That project was completed by September 2012. Six key sentinels were selected for more detailed monitoring and an RFP issued in March 2012 for data collection and a contract agency was selected, the UConn Department of Marine Sciences. The bi-state work plan (http://longislandsoundstudy.net/wp-content/uploads/2011/04/2011_2013-SM-Work-Plan.pdf) includes evaluation of the pilot monitoring program as well as synthesis and dissemination of data from the pilot monitoring and historical data found in the data clearing house. This project is ongoing in 2013 with prior year funding.

D. CCMP GOAL AREA: IMPLEMENTATION SUPPORT AND TECHNICAL ASSISTANCE.

Long Island Sound Futures Fund (LISFF) Projects, FY2012. The LISFF provided 25 grants totaling $1,622,607 to state and local government and community groups **[see Attachment 5]**. When leveraged by $3,121,240 contributed by the recipients, a total of $4,743,847 supported on-the-ground conservation projects in Connecticut and New York. The grant program pools funds from the EPA, NFWF, USFWS, NRCS, Wells Fargo and NFWF/Walmart for projects to restore the health and living resources of LIS. The 2012 program funded 14 subgrants in Connecticut and 11 subgrants in New York. Nine small grants were awarded for educational activities to increase understanding and appreciation of Long Island Sound through community events and activities. The projects in both states will open up 128 river miles for fish passage, and restore or acquire more than 959 acres of critical fish and wildlife habitat and open space. This habitat includes lakes, underwater grasses, woodlands, meadows, wetlands, beaches, dunes and river and park frontage.

Since 2005, the program has provided $10.5 million for 261 projects in communities surrounding the Sound. With grantee match of $23 million, the *Long Island Sound Futures Fund* has generated a total of $33.5 million for locally-based conservation projects in New York and Connecticut.

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LIS Stewardship Initiative. Stewardship priority land acquisitions using $1.5 million in 2010 and $1.35 million in 2011 funds awarded to CT and NY are ongoing by the states of Connecticut and New York. As of this writing, final parcels have been selected but not closed on. Data on acreage protected will be entered into EPA's NEPORT system when available.

LIS Scientific Data Synthesis Report. In FY2012 work continued on the production of a book synthesizing scientific research on Long Island Sound, which is being prepared under the review of the LISS STAC. All book chapters have been written and are undergoing final edits and reviews. A publisher has been selected to produce the volume upon completion of the data collection and analysis. Publication of the 400+ page volume is expected by Summer 2013.

CCMP Enhancements Program. In FY2012 funds were provided for 12 projects totaling $1,074,797 to enhance CCMP implementation. These funds were distributed among six grantees, including NEIWPCC [7], NYSEA [1], CTDEEP [1], UConn/MS [1], UConn/CLEAR [1] and NYSDEC [1]. These projects are in various stages of implementation depending on the nature of the project and the individual grantee. Some are out for RFPs while others are being developed or directly implemented. The status of these projects as of April 2012 is in **Attachment 9.**

E. CCMP GOAL AREA: PUBLIC OUTREACH, INFORMATION & EDUCATION.

Sound Health 2012. During 2012, the Communications Team, supported under the NEIWPCC Base grant, produced its biennial report, *Sound Health*, which was distributed in LIS communities in Connecticut and New York. In addition, throughout the year, *Sound Health* is distributed to schools and community groups and organizations and is in use by LIS Mentor Teachers to educate K-12 students about Long Island Sound. The report is posted on the LISS website, which is also operated and maintained by the LISS communications staff with support

from the NEIWPCC grant; and the report is available through EPA's national distribution center, National Service Center for Environmental Publications at: http://www.epa.gov/nscep/.

Long Island Sound Citizens Summit. The 22nd annual Long Island Sound Citizens Summit entitled *Superstorm Sandy and the "New Normal:" Rebuilding for Resiliency and Adapting to Climate Change,* was held on April 26, 2013 at Iona College in New Rochelle, New York. More than 150 citizens attended the Summit. Andrew C. Revkin, award-winning author and New York Times columnist was the keynote speaker. EPA, through NEIWPCC, provided support to *Save the Sound*, a program of *Connecticut Fund for the Environment*, to plan, organize, and conduct the event. Planning is underway for the next annual Citizens Summit in Spring 2014.

2. Completed Projects. ***For completed projects that were funded by a CWA § 320 sub-award, indicate: project purpose; entity that led project implementation; final grant amount – if project came in under budget, describe how remaining funds will be reallocated to ensure expenditure during the project period; project deliverable(s) and project completion date.***

The LISS is an ongoing partnership of Federal, state and local organizations implementing the cleanup and restoration plan for Long Island Sound. The LISS is not organized by 'project' and its program functions are distributed across its partners. Therefore, unless there are specific and discrete sub-grant projects that have been completed, this reporting category does not adequately represent the LISS organizational and reporting structure. However, in FY2012, several partners' assistance awards funded in prior fiscal years have been completed and their EPA awards closed out:

- LI-97186501, Connecticut Sea Grant 2008-2102 Research Program, $485,519; this grant funded several subgrants in the LIS Research Grant Program: *Geochemical Budgeting of Dissolved Gases for Understanding Long Island Sound Hypoxia; The Distribution, Causes, and Impacts of Alexandrium Fundyense Blooms in Coves, Near Shore, and Open Water Regions of Long Island Sound; and Impacts of Climate Change on the Export of the Spring Bloom in Long Island Sound.* Summaries of this work are posted on the LISS website: http://longislandsoundstudy.net/research-monitoring/lis-research-grant-program/project-descriptions/
- LI-97183601, Connecticut Sea Grant, Synthesis Report, $74,543; this grant supported work to develop a synthesis volume of historic scientific data collected on various ecological parameters of Long Island Sound. The report has been completed and is undergoing final edits before submission to the printer, Summer 2013.
- LI-96107701, CT Dept. of Energy & Environmental Protection, Base Program, $1,404,617; this grant conducted the base LISS program for Connecticut, including coordination and reporting of environmental results, water quality monitoring, habitat restoration and protection and stewardship and land management.
- LI-96128401, UConn Center for Land Use Education and Research, $201,956; this grant was originally let in 2010 ($93,000) to update the New York portions of the watershed's GIS data for land cover to the most current data available. The project was amended in 2011 ($108,956) to include an update to the entire LIS watershed in CT and NY. The project was completed in 2012 and the results are posted on the CLEAR website at: http://clear.uconn.edu/projects/landscapeLIS/index.htm

- LI-97241708, SUNY Research Foundation, 2008 Research Program, $485,519; this grant funded several subgrants in the LIS Research Grant Program: *Interaction of Biological and Physical Factors Controlling Bottom Dissolved Oxygen; and Summer Synoptic Weather Variability as the Control of the Seasonal Evolution of Hypoxia.* Summaries of this work are posted on the LISS website: http://longislandsoundstudy.net/research-monitoring/lis-research-grant-program/project-descriptions/**.** In addition, this grant supported work to develop a synthesis of historic scientific data collected on various parameters of Long Island Sound in coordination with LI-97186501 above.

3. Success Stories/Transferable Activities, Tools. The LISS is willing to discuss any of its ongoing programs and activities with NEP staff that were felt to be worthy of technology transfer to other NEPs; this can be done in conjunction with this Work Plan. The LISS website, the nitrogen TMDL, the LISS environmental indicators, *Sound Health* and *Protection & Progress* are all examples of successful and transferable products and activities from which the other NEPs may benefit**.**

One significant project that was partially supported by the LISS through the Futures Fund is the bioextraction project conducted by UConn's Department of Ecology and Evolutionary Biology in cooperation with EPA, NOAA and a number of supporting partners. **Attachment 10** is a summary fact sheet on the project, and it was selected for inclusion as a Best Practice in the EPA Office of Water FY2012 Best Practices and End of Year Report.

4. Support of CWA Core Program Implementation. ***Information about the anticipated role the NEP will play in the use of CWA tools; use role definitions in the September 28, 2007 Program Evaluation Funding Guidance: Primary; Significant; Support.***

Based in CWA Sections 119 and 320, this FY2012 NEP Summary Work Plan supports, directly or indirectly, many CWA core programs as indicated in the Office of Water's 2013 National Program Guidance. In turn, these core EPA regulatory programs support CCMP implementation through permits that establish nutrient levels, or programs that reduce nonpoint source pollution to the Sound. The LISFF supports EPA's Environmental Justice and Urban Waters initiatives. For example, the FY2012 Futures Fund RFP listed Urban Waters as a qualifying project category. As a result, 23 percent of the projects selected for funding in 2012 were classified as having an urban waters component, such as *Ship to Shore*, *Coastal Classroom on the East River*, *Urban Park Rangers*, *Solar Youth*, and *Rocking the Boat*, in which inner-city and disadvantaged youth are given the opportunity to visit and explore Long Island Sound -- some for the first time -- and to accomplish meaningful conservation work on public lands and waters. More than $110,000 was provided to local community and neighborhood groups to conduct this vital work in 2012 and similar project support will continue in 2013 through the RFP.

Because of the LISS nitrogen TMDL, over the last several years, both the states of Connecticut and New York revised their ambient water quality standards (**CWA §304**) for DO pursuant to EPA's 2000 national guidance for DO in marine waters. Connecticut conducts the LISS ambient water quality monitoring (WQM) program under **CWA §106**. The data compiled by the LISS WQM program is one of the most robust and extensive datasets on ambient conditions available to scientists, researchers and managers. The LISS nitrogen TMDL (**CWA §303(d)**) set firm

reduction targets and encouraged trading at point sources, and NPDES/SPDES permits (**CWA §402**) have been modified to incorporate TMDL nitrogen limits on a 15-year enforceable schedule.

The states of New York and Connecticut recognize the significant investments required to support wastewater infrastructure and have passed state bond act funding to sustain efforts to upgrade facilities to reduce nitrogen loads to the Sound as established in the nitrogen TMDL The State of Connecticut designated all of its LIS waters in 2007 as a No Discharge Zone under the **CWA §312** and the State of New York has accomplished a similar designation in NY LIS waters in 2011. The states use authorities and funding under **CWA §319** to address priority problem areas of the Sound that originate in the watershed on land. These actions are primary support of CWA core programs, and are ongoing and integral to LISS CCMP implementation to restore and protect Long Island Sound and its watershed.

5. External Factors. ***Description of external factors that had an impact on: overall work plan implementation, attainment of specific goals; achievement of project milestones and/or output completion; and description of adaptive management strategies the program used to deal with those factors.***

In FY2013, funding available to the LISS was decreased by approximately 5 percent from FY2012 Enacted level due to Sequestration. As a result the LISS was not able to again fund any acquisitions of critical coastal lands in Stewardship areas, and was not able to fund additional environmental projects under the LISFF due to the reduction in funding. Using 2012 average project costs, approximately two fewer LISFF projects will be funded in FY2013 because of the funding reduction to the LISFF. This will also result in loss of similar levels of matching and/or leveraged funding from subgrant partners.

Likewise, the states of New York and Connecticut have felt the impact of state budget constraints with hiring freezes and staff furlough days; staff have been limited in their travel authorizations for LISS and other national, regional or local conference and meetings regardless of funding source; teleconferencing, webinars and video conferencing have been used for LISS work group and other meetings to compensate for staff travel restrictions.

In 2010 the statutory funding authorization for CWA §119 and §320 expired. Legislative efforts to reauthorize have not yet been successful in the 113th Congress. In 2011 the statutory authorization for the Long Island Sound Stewardship Act [P.L. 109-359] expired. The final legislative results of any future reauthorization bills may impact future LISS program implementation and direction.

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Attachment 1

LONG ISLAND SOUND STUDY
SUMMARY OF FY2013 LISS FUNDING UNDER CWA §119 AND §320
BY PROGRAM ELEMENT

LISS PROGRAM ELEMENT	ACTIVITY/TASK	2013 PRODUCTS/SERVICES	LISS GRANTEE OR FEDERAL IA	2013 BUDGET	ENVIRONMENTAL OUTCOMES
Coordination and Reporting of Environmental Actions and Results: Grants, GPRA, EPA Strategic Plan	**EPA Long Island Sound Office Support**	1) Telecommunications; printing; copier; postage; supplies, materials. Office rental covered under GSA.	EPA LISO	$12,200	Coordinated federal, state, and local government actions to implement the CCMP; clear annual goals and objectives framed within available funding; public, political, and financial support for restoration and protection of Long Island Sound
		2) Office Administrative Support, 1FTE	NCOA	$57,100	
		3) eSound CCMP Tracking System Maintenance	EPA LISO	$30,000	Comprehensive cross-program reporting of environmental results, benefits and costs.
	NY/CT State Coordination & Technical Assistance	4) Assist in all aspects of LISS program development, reporting and support, 2FTE.	CTDEEP	$213,293	Involvement of relevant technical staff and programs in LISS activities to protect and restore Long Island Sound, its resources and its habitats, and to protect public health and meet commitments to the LISS partnership.
			NYSDEC	$125,647	
	Management Conference Administrative Support	5) National NEP travel; Management Conference Meetings; CAC Meeting Support; NY/CT state travel support for local and national meetings and conferences; CCMP revision support costs.	NEIWPCC	$7,937	Increased citizen involvement and participation at local and national meetings; increased understanding of issues and ability to inform and advise management conference partners on program direction and policy.
	COORDINATION SUBTOTAL:			**$446,177**	**= 10.4%**
Public Outreach, Information, Participation and Education	**Public Information & Education Program**	6) LISS communications coordination, 1FTE; project management & support	NEIWPCC	$66,327	Increasing citizen involvement in CCMP implementation and program direction; informing and increasing public knowledge and citizen participation in LIS issues; increasing understanding of the state of LIS health; better public assessment of progress and production of key reports to citizens involved in the LISS leading to changes in management direction or CCMP implementation.
		7) LISS NY coordination, 1FTE, UPDATE, presentations, press releases.	NY Sea Grant	$172,601	
		8) LISS CT coordination (0.80FTE), presentations, press releases.	CT Sea Grant	$50,459	
		9) K-12 Mentor Teacher Program in New York and Connecticut; LIS Educators Conference Support	CT Sea Grant	$16,814	Conduct of grade appropriate, multidisciplinary workshops utilizing LIS curricular resources; provision of LIS resources and appropriate pedagogy to result in increased educator and student understanding of LIS and issues facing LIS; educated teacher ranks in K-12 grades in New York and Connecticut portions of the Long Island Sound watershed.
			NY Sea Grant	$6,940	
	Small Grants Program	10) LISS Small Grants Program RFP for public information, education, outreach, and <$6K projects, e.g., beach cleanups,	NFWF	$65,450	Informed public and increased citizen participation to improve stewardship and individuals' actions beneficial to a healthy LIS; increasing awareness of the state of LIS health and promoting changes in lifestyle that might benefit the Sound; improved habitat and water quality and increased public awareness and participation in LIS affairs; fulfilled public expectations for knowledge about LIS and educational needs.
	PI&E Program Support	11) Development and distribution of revised CCMP document, contractor support.	NEIWPCC	$67,500	
	PI&E SUBTOTAL:			**$ 446,091**	**= 10.4%**

Water Quality Monitoring, Modeling and Scientific Research	**Water Quality Monitoring & Modeling**	12) LIS Water Quality Field Surveys conducted year-round by CTDEEP using *RV Dempsey*; includes captain, crew, sampling and analyses at 48 stations in NY and CT LIS waters to support TMDL attainment.	CTDEEP	$896,676	Improved water quality assessment to guide management activities; improved planktonic community assessment to guide management activities; improved dissolved oxygen assessment to protect living resources and to determine criteria compliance in CT/NY; greater safety of CT/NY residents who consume LIS seafood; better public involvement and management of LIS nutrient and dissolved oxygen conditions affecting living marine resources.
		13) LIS Water Quality Monitoring enhancements	NERACOOS	$74,600	Assessment of management program impact; interpretation of stream flow variability on salinity in critical coastal habitats; better assessment of trends in managed nutrients; improved assessment of water quality models.
		14) CT River WQ Monitoring	USGS-CTDEEP	$35,000	Improved continuous water quality data for simulations or analyses in support of nitrogen TMDL conditions.
	Scientific Research		SUNY Research Foundation	$212,500	Conduct of highest priority research relevant to the Long Island Sound 2003 Agreement or its successor and the LISS CCMP is defined, openly solicited, and selected for funding using a well developed, respected process that is fair and technically-based; new science-based information is provided to inform decision-making and actions towards reaching the vision and goals for Long Island Sound.
		15) LIS Research Grant Program, FY2014 RFP for scientific topic areas and STAC meeting support.	CT Sea Grant	$212,500	
	MONITORING, MODELING & RESEARCH SUBTOTAL:			**$ 1,431,276**	**= 33.6 %**
CCMP Implementation Support, and Technical Assistance	**Habitat Restoration**		CTDEEP	$121,286	Restored and protected critical coastal habitat in the LIS watershed; increased public awareness about current or planned habitat restoration and restoration activities in the LIS watershed; progress towards LISS Habitat Restoration Initiative (HRI) goals for restoring habitat and river corridors that improve health of living resources in the LIS environment; additional and leveraged funding brought to restoration activities and increased acreage/miles improved to benefit LIS water quality and biological health; public outreach about HRI and accomplishments; implementation of habitat restoration projects and effective communication to the public.
		16) Habitat coordination, 2FTE; priority list of habitat restoration sites; habitat team support for implementation of restoration and protection goals.	NYSDEC-NEIWPCC	$53,170	
		17) NOAA National Marine Fisheries Service Ecologist, 1FTE (x2 years) [FY2013 continuing under prior year carryover funding, $240,000]	NOAA	[$120,000]	Restoration of the Sound's fisheries habitat to maintain healthy and viable populations of fish in LIS; implementation of the LISS CCMP to protect and restore LIS; prevention and control of aquatic invasive species in LIS; protection and enhancement of the Sound's ecological and fisheries resources; improved understanding of food webs and implications for fisheries management programs.
		18) USFWS Wildlife Biologist Liaison support to the LISS, 1FTE. (1 year)	USFWS	$116,500	Restoration of the Sound's coastal habitat to maintain healthy and viable populations of fish and wildlife in LIS; implementation of the LISS CCMP to protect and restore LIS; prevention and control of aquatic invasive species in LIS; protection and enhancement of the Sound's ecological and recreational resources.
	CCMP Technical Support	19) FY2013 CCMP Enhancements Program: a) LIS tributary N data analysis	USGS-CTDEEP	$75,000	Improved environmental conditions in LIS (reduced hypoxia) Reduction of NPS and stormwater loading of nitrogen to Long Island Sound.
		b) Marsh Migration Modeling, Phase 2 [Phase 1 funded in FY2012, $44,500; NEIWPCC]	NEIWPCC	$48,820	Increased habitat quality in LIS through improved understanding of marsh migration, more information to guide long term management decisions including habitat

					restoration, stewardship activities and NPS.
		c) Stewardship Site ID Tool fixes	NEIWPCC	$30,687	Improved stewardship site identification and prioritization for management decisions.
		d) Western LIS WQ Monitoring Enhancements 1) continue current program 2) enhance coordination with CTDEEP	NEIWPCC-IEC	$36,068 $11,772	1) Coordinate with CTDEEP and other LISS partners to ensure an effective and efficient monitoring program for LIS; 2) produce a searchable database of all historical field and laboratory data from 1991 to present; 3) bi-weekly collection of nutrient samples to be analyzed for nitrogen, phosphorus, silica, and carbon parameters; better characterization of nutrient concentrations in the Sound, which can be used to assess the relationships between DO and nutrient concentrations, as well assess progress and results of nutrient reduction efforts within the watershed
		e) Urban Design and LID at Stewardship Sites	NEIWPCC	$29,695	Improved understanding of opportunities and threats from land surrounding Stewardship sites; more effective protection and management of sites through LID/G development in buffer zones; increased public awareness, access to and use of established sites by urban populations.
		f) Dredging Windows	CTDEEP	$75,000	Improved knowledge of environmental/ecological data or data needs to support dredging windows in LIS.
	LIS Futures Fund Large Grant Program	20) LIS Futures Fund Large Grants FY2012 program element breakout, $1,671,124: Water Quality, 13%; Habitat/Species, 39%; Planning, 4%; Green Infrastructure, 27% Education, 17% Urban, 23%* *included in habitat & education	NFWF	$1,176,840	Increase community support for and interest in the projects as a means to encourage public engagement to solve the problems identified in the LISS CCMP. Increase public support for additional resources to address the problems identified in the LISS CCMP. Support both a greater number of projects and larger, more complex projects that address the problems identified in LISS CCMP. Increase public understanding of accomplishments and challenges faced in LIS and addressed by various LISS initiatives.
	Stewardship Initiative Support	21) LIS Stewardship acquisition/management to support 33 stewardship areas in New York and Connecticut, climate change priority for marsh migration potential. [Acquisition funding suspended in FY2012 until current projects close, $2.8M, FY10/11]	NYSDEC CTDEEP	$0 $0	Protection of habitats of ecological, recreational, and public access value; protection of endangered, threatened, and rare species of plant and animal habitats; demonstration of effective public and private partnerships in habitat conservation.
	Regulatory and Compliance Assistance	22) NY MS4 Engineer, 1FTE; [FY2010 support continuing through FY2013, $228,000]	NYSDEC	$109,464	Review, assess and revise nitrogen TMDL using the latest data and information available; improve water quality; protected marine resources; enhanced fishery; more abundant and variety of species.
		23) LIS TMDL Workgroup Support; 0.5FTE.	NEIWPCC	$24,618	A more cooperative and publicly understood process in the upland LIS watershed states for achieving reduced nitrogen loads delivered to the Sound, reduced hypoxia, and attainment of state water quality standards through TMDL adoption in upland states.
	IMPLEMENTATION SUPPORT SUBTOTAL:			**$1,908,920**	**= 44.8 %**
TOTAL FUNDING AVAILABLE, SEQUESTRATION & RESCISSION = $4,257,000				**$4,232,464**	**Fiduciary Reserve = $24,536**

LONG ISLAND SOUND STUDY
NATIONAL ESTUARY PROGRAM WORK PLAN
LIST OF FY2013 LISS-FUNDED STAFF

ORGANIZATION/NAME	LISS TITLE	DESCRIPTION OF RESPONSIBILITIES/ACTIVITIES
EPA LISO		
Edna Nolfi	Administrative Assistant	Provides overall office administrative support.
CTDEEP		
Mark Parker	Environmental Analyst 3	Coordinates overall LIS program in CT.
Kelly Streich	Environmental Analyst 3	Provides technical support. (50%)
Katie Clayton-O'Brien	Environmental Analyst 2	Water quality sampling/analysis.
Matthew Lyman	Environmental Analyst 2	Water quality sampling/analysis.
Rodney Randall	Boat Captain	RV John Dempsey CTDEP WQ Monitoring
Christine Olsen	Environmental Analyst 2	Water quality sampling/analysis. (80%)
Harry Yamalis	Environmental Analyst 2	Coordinates habitat restoration plans/projects in CT.
NYSDEC		
Sarah Deonarine	LIS Coordinator	Coordinates overall LIS program in New York
NY Sea Grant		
Amy Boyagian	NY Outreach Coordinator	Develops and implements communications plans and public information/education program in NY.
Karen Palmeri	Administrative Support	Supports Extension Specialist. (33%)
NEIWPCC		
Erin Jacobs, P.E.	Environmental Analyst II	Overall LIS coordination within NEIWPCC. (33%)
Robert Burg	LISS Outreach Coordinator	Coordinates the overall LISS communications program
Susy King	Director of Water Quality Programs	Oversees NEIWPCC's partnership with LIS program, sits on LISS Management Committee on behalf of Ron Poltak, NEIWPCC's Executive Director. (10%)
Emily Bird	Environmental Analyst I	Coordinates TMDL support with upper basin states. (25%)
Steven McCague	NYSDEC MS4 Engineer	Develops plans for MS4 support to communities
Vacant	NYSDEC Habitat Restoration Coordinator	Coordinates habitat restoration plans/projects in the New York portions of the LIS watershed.
CTSEA		
Judy Preston	CT Outreach Coordinator	Provides PI&E support and coordination in CT (70%)
NOAA [FY10-11 Funded]		
Dr. Jason Krumholz	Ecologist	Supports LIS water quality and fisheries data.
USFWS [FY10-11, 13 Funded]		
Georgia Basso	Fish & Wildlife Biologist	Supports LIS habitat restoration program.

Attachment 3

Long Island Sound Study
2013 Budget Summary by Organization
April 18, 2013

Organization & Base Program Activity	2013 Final	2013 Required Match	2013 Actual Match Provided
1. EPA Long Island Sound Office	**$99,300**	**$0**	**$0**
a. Office administration and operating expenses	$12,200	$0	$0
b. CCMP Implementation Tracking [new 2010]	$30,000	$0	$0
c. Administrative Support (NCOA)	$57,100	$0	$0
2. CT Dept. of Environmental Protection	**$1,403,255**	**$1,306,255**	**$1,306,255**
a. CT State Coordination	$208,293	$213,293	$213,293
b. CT LISS Habitat restoration coordination	$118,286	$121,286	$121,286
c. LIS Water Quality Monitoring Program	$891,676	$896,676	$896,676
d. CT River Monitoring, USGS	$35,000	$0	$0
e. Dredging Windows	$75,000	$75,000	$75,000
f. Tribuary Load Trend Analysis, USGS	$75,000	$0	$0
3. NYS Dept. of Environmental Conservation	**$235,111**	**$288,281**	**$288,281**
a. NYS LIS Coordination & Reporting [Base Grant]	$125,647	$125,647	$125,647
b. Habitat Coordination	$0	$53,170	$53,170
b. MS4 Support, CE-97211111	$109,464	$109,464	$109,464
4. CT Sea Grant	**$67,273**	**$3,541**	**$3,541**
a. LIS PI&E Coordination	$50,459	$2,656	$2,656
b. K-12 Mentor Teacher Program Support	$16,814	$885	$885
5. NY Sea Grant Cornell U.	**$179,541**	**$9,450**	**$9,450**
a. Public Outreach Coordination	$172,601	$9,084	$9,084
b. NY Mentor Teacher Program	$6,940	$365	$365
6. NEIWPCC	**$232,552**	**$14,054**	**$0**
a. Task 1 Outreach/Education Support/SH-PP	$66,327	$3,491	$0
b. Task 2 Meeting/Travel Coordination Support	$7,937	$7,937	$0
c. Task 3 NYSDEC Habitat Coordinator	$53,170	-$53,170	$0
d. Task 4 LIS TMDL/Upper Basin Outreach Support	$24,618	$1,296	$0
f. Task 5 CCMP Revision Support	$67,500	$67,500	$0
CTDEEP Travel Support	$13,000	-$13,000	$0
7. CT Sea Grant College Program	**$212,500**	**$212,500**	**$0**
a. Connecticut Sea Grant Research Support	$212,500	$212,500	$0
b. STAC Support (1 year)	$0	$0	$0
9. New York SUNY Research Foundation	**$212,500**	**$212,500**	**$0**
a. New York Sea Grant Research Support	$212,500	$212,500	$0
b. STAC Support (1 year)	$0	$0	$0
10. Enhancement Grants Program (NEIWPCC)	**$157,042**	**$157,042**	**$0**
a. Urban Design/LID Stewardship	$29,695	$29,695	$0
b. Western LIS WQ Monitoring IEC	$47,840	$47,840	$0
c. Stewardship ID Tool Data Improvements	$30,687	$30,687	$0
d. Marsh Migration Modeling (NY)	$48,820	$48,820	$0
11. National Fish & Wildlife Foundation	**$1,242,290**	**$957,305**	**$957,305**
a. LIS Futures Fund Large Grants	$1,176,840	$953,860	$953,860
b. LIS Futures Fund Small Grants	$65,450	$3,445	$3,445
12. USFWS	**$116,500**	**$0**	**$0**
a. Wildlife Biologist Liaison	$116,500	$0	$0
13. NERACOOS	**$74,600**	**$74,600**	$0
a. WQ Monitoring Enhancements	$74,600	$74,600	$0
Total:	**$4,232,464**	**$3,260,062**	**$2,564,831**
Funds Available:	$4,257,000	**Overmatch Need:**	**$695,232**
Fiduciary Reserve:	$24,536		

Long Island Sound Summary of FY2013 Grant Awards by Number

ORGANIZATION	Project Period # Months	Expires	EPA Assistance Award #	FY2013 Projected Budget
Final LIS Allocation				$4,257,000
BASE IMPLEMENTATION PROGRAM:			Reserve $	$24,536
EPA LISO Office Tracking contract				$30,000
a. Operations/Expenses				$12,200
NCOA/EPA Administrative Support [MT]		5/31/13	Q83435101	$57,100
NYSDEC Base 2010 [JS]	60	9/30/15	LI97213810	$125,647
NYSDEC MS4 Support [JS]	36	9/30/13	CE97211111	$109,464
NYSEA PI&E [JS]	60	9/30/13	LI97241608	$179,541
SUNY Research Foundation 2013 [JS]	TBD	9/30/18	LI-new	$212,500
NFWF 2013 [JS]	TBD	TBD	LI-new	$1,242,290
CTDEEP 2013 CCMP Implementation	TBD	TBD	LI-new	$1,403,255
NEIWPCC Implementation [LON]	TBD	TBD	LI-new?	$232,552
NEIWPCC Enhancements 2008-2012 [LON]	TBD	TBD	LI-new	$157,042
CTSEA PI&E & Mentor Teachers [JS]	48	9/30/13	LI96113801	$67,273
CTSEA Research 2011-2014 [JS]	TBD	9/30/18	LI-new	$212,500
NERACOOS Monitoring [JS]	TBD	TBD	LI-new	$74,600
USFWS/EPA IA Technical Support 10 [MT]	53	2/28/14	DW14957853	$116,500
TOTALS:				
BALANCE SUBTOTALS:				$4,257,000

Region 1, Green; Region 2 Blue; IAs, HQ = Yellow; Amend=pink; Expires = Red

$0

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.

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°47'49.64" N, 73°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, 71°51'30.62 °W, 41°19'07.96"N to mouth of Thames River, New London, CT 72°04'52.27"W, 41°18'36.77"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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Attachment 6

Long Island Sound Study
Travel Documentation for FY2012 NEP Work Plan
April 2012-March 2013

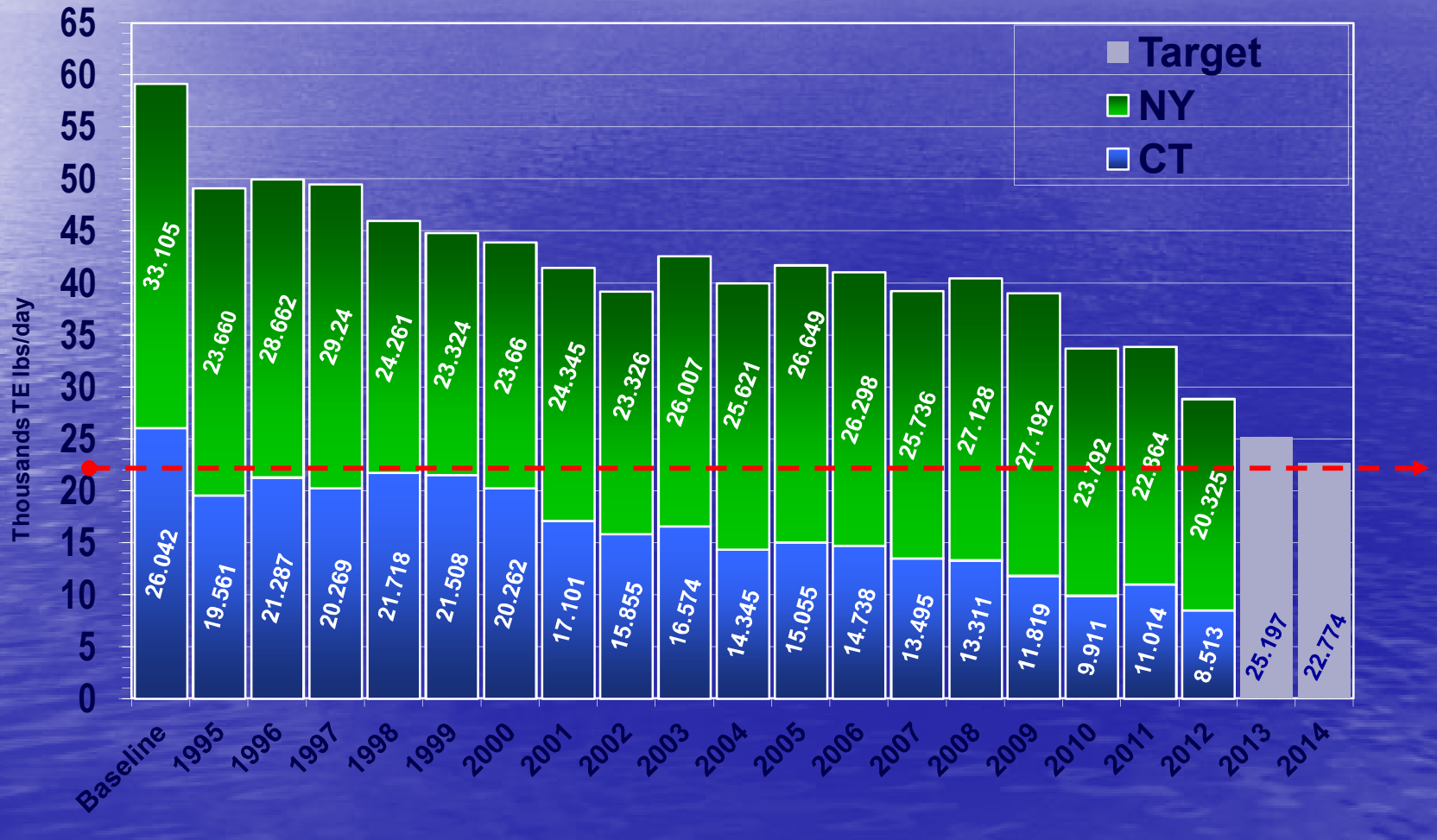
Meeting Date	Meeting Title	Meeting Location	Person or Committee	Cost	Total Cost Per Meeting
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$72.15	
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$31.42	
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$18.26	
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$76.93	**$458.04**
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$87.08	
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$30.65	
6/14/2012	Joint CAC/STAC Meeting	Norwalk, CT	CAC	$141.55	
9/13/2012	CAC meeting	NY, NY	CAC	$35.27	
9/13/2012	CAC meeting	NY, NY	CAC	$385.12	
9/13/2012	CAC meeting	NY, NY	CAC	$23.00	
9/13/2012	CAC meeting	NY, NY	CAC	$96.60	
9/13/2012	CAC meeting	NY, NY	CAC	$216.65	**$917.54**
9/13/2012	CAC meeting	NY, NY	CAC	$70.54	
9/13/2012	CAC meeting	NY, NY	CAC	$28.87	
9/13/2012	CAC meeting	NY, NY	CAC	$30.75	
9/13/2012	CAC meeting	NY, NY	CAC	$30.74	
12/13/2012	CAC meeting	Stamford, CT	CAC	$54.55	
12/13/2012	CAC meeting	Stamford, CT	CAC	$101.78	
12/13/2012	CAC meeting	Stamford, CT	CAC	$80.47	
12/13/2012	CAC meeting	Stamford, CT	CAC	$96.57	**$878.97**
12/13/2012	CAC meeting	Stamford, CT	CAC	$455.44	
12/13/2012	CAC meeting	Stamford, CT	CAC	$62.16	
12/13/2012	CAC meeting	Stamford, CT	CAC	$28.00	
1/17/2013	LIS Dredged Material Management Plan Workging Group Meeting	Bridgeport, CT	CAC	$102.23	**$102.23**
3/14/2013	CAC meeting	NY, NY	CAC	$36.23	
3/14/2013	CAC meeting	NY, NY	CAC	$36.00	
3/14/2013	CAC meeting	NY, NY	CAC	$33.50	
3/14/2013	CAC meeting	NY, NY	CAC	$82.90	**$188.63**
					$2,545.41

LONG ISLAND SOUND STUDY

A PARTNERSHIP TO RESTORE AND PROTECT THE SOUND

Home Contact bioextraction

Point Source Nitrogen Trade-Equalized Loads
1995-2012
106 NY/CT STPs



Maximum Area/Duration of Hypoxia

1987-2012 (June-September)

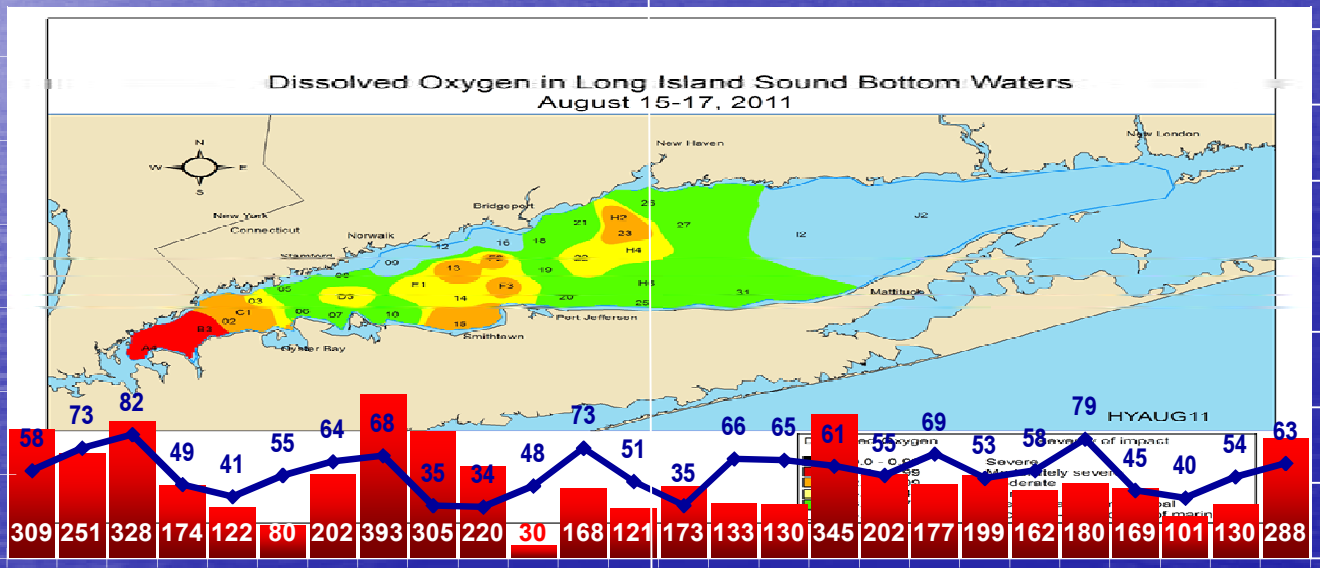
26 Year Averages: 56.6 days/195.8 mi²

Pre-TMDL Ave. Days = 56.2

Post-TMDL Ave. Days = 57.1

Pre-TMDL Area Ave. = 208 mi²

Post-TMDL Area Ave. = 184 mi²



Pre-TMDL = 1987-1999
Post-TMDL = 2000-2011
Hypoxia = <3.0 mg/L DO
5 year rolling average = 173.6 mi²

Area of Hypoxia — Duration of Hypoxia

Status of LISS Enhancement Projects

(as of April 1, 2013)

Active Projects:

Project: GIS-Based Eelgrass Habitat Suitability Model
Lead Investigator/Contractor: Cornell Cooperative Extension of Suffolk County (subcontracted with UConn)
Funded: $120,000 FY09

Overview: This project is intended to create a GIS-based eelgrass habitat suitability model for Long Island Sound to be used by resource managers to identify coastal areas meeting basic eelgrass habitat and water quality requirements. Following the completion of this study, resource managers will have a user-friendly GIS-based, spatial index model to target future restoration sites and identify areas in need of water quality and/or habitat improvements before eelgrass restoration will be feasible.

Status: Ongoing. Completed outputs include an approved Quality Assurance Project Plan (QAPP), the development of an overall GIS model, compilation and refinement of GIS ranked layers, field sampling for the "Mini-Model" sites (3 in NY and 3 in CT), analysis of sediment samples, preliminary analysis of nutrient samples, and the preliminary development of "Mini-Models" based on available data. A no-cost extension amendment has been approved. Final deliverables are now due by July 31, 2013.

Project: System-wide Eutrophication Model (SWEM) Improvements
Lead Investigator/Contractor: UConn (subcontracted with HDR Engineering)
Funded: $200,000 FY09 + $100,000 FY10 = $300,000
Overview: This project is intended to improve the LISS partners' ability to accurately model environmental conditions of Long Island Sound under various nutrient input scenarios. This project will be a first step in incorporating the SWEM into a community watershed model framework.
Status: Ongoing. The QAPP was approved on August 13, 2012. Tasks to revise and assess SWEM, transition SWEM to a community model framework, evaluate assimilation strategies, evaluate the sensitivity to meteorology, and add shellfish and kelp submodels are underway. Model Evaluation Group meetings were held on December 17, 2012 and March 7, 2013 to conduct an independent, technical peer review of the SWEM modifications. A no-cost extension amendment has been approved. Final deliverables are now due by December 31, 2013.

Project: LIS Embayment Monitoring Phase I: Coordination
Lead Investigator/Contractor: The Maritime Aquarium at Norwalk
Funded: $75,800 FY11
Overview: This project is intended to evaluate the water quality data needs and current monitoring efforts in Long Island Sound and to develop a framework and QAPP template for coordinated near-shore water quality monitoring.
Status: Ongoing. Completed outputs include the completion of the community monitoring group surveys, the distribution of a project newsletter to community monitoring groups, three regional stakeholder meetings held in December, and the development of meeting minutes from the stakeholder meetings. Tasks to draft a formal summary based on feedback from stakeholder surveys and regional stakeholder meetings and to develop the draft QAPP are underway. Anticipated activities during the next quarter include the dissemination of the draft framework and QAPP to stakeholders, a second round of regional stakeholder meetings in May, and the incorporation of feedback into the final drafts of the framework and QAPP deliverables. Final deliverables are due by May 31, 2013.

Status of LISS Enhancement Projects

(as of April 1, 2013)

Project: GIS Needs Assessment
Lead Investigator/Contractor: Corbel Analytics (subcontracted with the GIS Resource Group, Inc. and SUNY Buffalo)
Funded: $64,000 FY11
Overview: A GIS Needs Assessment will be performed to support LISS environmental management goals. This project is intended to provide a strategy to increase the usability and availability of GIS data and resources to inform science-based management of Long Island Sound.
Status: Ongoing. Completed tasks include the review of available background documents; continued testing of a means of capturing an inventory of GIS data and project related files on each user's PC as an initial assessment of GIS use and data being used; the development and testing of a range of data clipping options for GIS users deploying Esri software including ArcView 3.x, ArcGIS 9.x and ArcGIS 10.x; testing of available downloaded GIS data from websites of State and Federal agencies (related to the LISS) to establish a baseline understanding of the currency, accuracy, resolution, attribute quality, and completeness of the metadata across the agencies; attendance at the March Habitat Restoration Workgroup and CAC meetings; and a Phase 1 Interim Report component of the Graduate Students' Independent Study research into the potential development of an LISS Geoportal to make GIS data more readily available to GIS users and non-GIS users alike. Ongoing tasks include interviews with LISS partners; the modification of a customized web-based online questionnaire to define the future GIS use, data needs and prioritization of functional GIS applications; deployment of the questionnaire; requests for sample data from GIS users; and research on current metadata standards and tools for assessing the quality of metadata content and possible cloud-based data sharing services. Final deliverables are due by July 31, 2013.

Project: TMDL Technical Support and Embayment Monitoring Phase II: Implementation
Contractor: JJ Environmental
Funded: $355,000 FY11
Overview: The LIS TMDL workgroup identified the need for a study evaluating the feasibility and cost-effectiveness of implementing low-cost biological nitrogen removal without significant capital costs at wastewater treatment facilities in the Upper Basin states (MA, VT, NH). The cost of the project is $150,000, leaving ~$175,000 in contractual funds available for other projects including Phase II of the embayment coordination work.
Status: Ongoing. Completed tasks include the development and submission of the QAPP, a review of the Monitoring Plan and submission of comments, and development of a spreadsheet with contact information for all the project treatment plants.

Project: Stormwater & Nonpoint Source Tracking Tool – Phase 1
Lead Investigator/Contractor: WaterVision, LLC.
Funded: $44,619 FY12
Overview: Bring on a contractor through an RFP process to:

1. Investigate current (model) systems for TMDL implementation and nonpoint source reduction tracking. Evaluate and compare the costs and performance of each approach considering staff costs, system development and maintenance, level of training for operation and maintenance, data availability, and capability and performance.
2. Identify the data needed by these tracking programs to assess the scope and effectiveness of MS4 stormwater and urban, agricultural, and other NPS control programs being implemented.
3. Determine the available sources of information on nonpoint source and stormwater nitrogen

reductions within the Long Island Sound watershed.

4. Estimate data demands that would be required of a tracking system by the potential users and estimate cost to develop tracking system.

Status: NEIWPCC facilitated the proposal review process with a multi-agency LISS review team. WaterVision, LLC. was the selected contractor and NEIWPCC has executed a contract with a start date of April 8, 2013.

Project: Synthesis of Current Sentinel Monitoring Data
Lead Investigator/Contractor: Coastal Ocean Analytics
Funded: $73,250 FY12
Overview: Bring on a contractor through an RFP process to synthesis and assess existing and historical datasets in the context of climate change to identify trends and data gaps at the regional, Sound-wide, and local scale. The synthesis and assessment of current sentinel monitoring data will guide future iterations of the strategy and monitoring implementation.
Status: NEIWPCC facilitated the proposal review process with a multi-agency LISS review team. Coastal Ocean Analytics was the selected contractor and NEIWPCC is moving forward with executing a contract. The anticipated start date is April 26, 2013.

Project: Sentinel Monitoring Implementation
Lead Investigator/Contractor: To be determined
Funded: $150,000 FY12
Overview: Bring on a contractor through an RFP process to implement a pilot sentinel monitoring program to identify discernible climate trends and long term adaptation strategies.
Status: Only one proposal was received during the first round of the proposal application process. The Sentinel Monitoring for Climate Change Workgroup decided to re-release the RFP on March 1, 2013. Proposals are due on May 3, 2013.

Project: Habitat Restoration Online Database
Lead Investigator/Contractor: Taylor Design
Funded: $54,427 FY12
Overview: Hire a web design contractor to help the LISS Habitat Restoration work group better track the progress of potential, in-progress, and completed restoration projects. Improving the database will also enable the Habitat Restoration work group to quickly produce prioritized lists of potential habitat restoration sites and export stored data such as acres/miles restored or federal dollars leveraged against non-federal dollars over a variety of timeframes.
Status: Ongoing. Completed outputs include the development and approval of database wireframes. Programming of the database is ongoing. A working database is anticipated to be ready for testing next quarter. The contract end date is September 30, 2013.

Project: Marsh Migration Modeling
Lead Investigator/Contractor: Warren Pinnacle Consulting, Inc.
Funded: $44,500 FY12
Overview: Model potential salt marsh migration pathways in pilot areas and to use model outputs to assess the pilot areas for long term habitation restoration potential and suitability of the pilot areas as future marsh migration targets for acquisition purposes or management decisions.
Status: Submitted sole source justification to EPA Grant Project Officer to contract with Warren Pinnacle. Contract process underway.

Status of LISS Enhancement Projects

(as of April 1, 2013)

Project: Value Inventory Documentation for Important Ecological Areas
Lead Investigator/Contractor: CT Sea Grant
Funded: $12,810 FY12
Overview: The purpose of this project is to record more comprehensive and quantitative documentation on the Important Ecological Areas previously identified by the Southern New England-New York Bight Coastal Program and the Connecticut Department of Energy and Environmental Protection and to better understand the habitat characteristics of these sites and their significance to the LISS.
Status: Submitted sole source justification to EPA Grant Project Officer to contract with CT Sea Grant. Contract process is underway.

Project: Long Island Sound Economic Valuation
Lead Investigator/Contractor: Earth Economics
Funded: $67,615 FY12
Overview: Bring on a contractor through an RFP process to estimate the economic value of the water supplies, natural resources, and ecosystems within the Long Island Sound watershed to recreation, water quality, water supply, hunting/fishing, ecotourism, forest, agriculture, open space, and port benefits. This project will also require the development of a list of potential simple economic indicators that can be tracked over time to highlight changes.
Status: NEIWPCC facilitated the proposal review process with a multi-agency LISS review team. Earth Economics was the selected contractor and NEIWPCC is moving forward with executing a contract. The anticipated start date is April 29, 2013.

Project: Sustainable Yard Care Pilot Strategy
Lead Investigator/Grantee: NY Sea Grant
Funded: $35,000 FY12
Overview: This project will use behavior change tools to improve lawn care practices of Long Island Sound residents with an aim toward improving water quality in Long Island Sound and its tributaries. This project includes conduct of focus groups to learn more about the barriers preventing residents from practicing positive environmental behaviors related to lawn care practices that lead to polluted runoff. The information from this project will be the basis for the LISS Communications Team and its partners to develop a program to change residential lawn care behavior.
Status: A LISS team was formed and developed and issued an RFP for work, the grantee selected the contractor and the contractor is working on focus group interviews in Spring 2013. The project completes by September 30, 2013.

Project: Connecticut Green Infrastructure Symposium
Lead Investigator/Grantee: CTDEEP
Funded: $45,000 FY12
Overview: This project will plan, organize and conduct a symposium on green infrastructure and its potential impacts to address nonpoint source pollution and water quality.
Status: Ongoing.

Project: New York Coastal Zone Hazard Mapping
Lead Investigator/Grantee: NYSDEC

Funded: $170,000, FY12
Overview: A grant was awarded to NYSDEC on October 1, 2012 to map hazard zones in the coastal area of two demonstration communities.
Status: Ongoing. NYSDEC issued an RFP in 2012 and a contractor has been selected to conduct the mapping. Work will complete by September 2013.

Project: Nitrogen Best Management Practices Installation and Monitoring
Lead Investigator/Grantee: UConn CLEAR
Funded: $66,603, FY12
Overview:
Status:

Project: LIS Water Quality Monitoring Enhancements
Lead Investigator/Grantee: UConn Dept. of Marine Sciences
Funded: $310,973, FY12
Overview:
Status:

1 Going Really Green: *Sea Farming for Environmental and Economic Benefits*

Highlights:

- **What**: This Best Practice demonstrates the potential of sea farms, shellfish and seaweeds, to improve water quality in coastal areas of the United States. Protection and restoration of habitats such as wetlands and riparian buffers are an accepted strategy to manage nutrient loadings from watersheds to water bodies by promoting denitrification. In the same way, the nutrient processing and assimilative capacity of water bodies can be enhanced through sea farming to extract nutrients and improve water quality. Pilot projects in Long Island Sound are evaluating the feasibility of sea farming in coastal waters, quantifying the potential for nutrient bioextraction, evaluating use conflicts, and researching new markets for products, considering suppliers and consumers. Enhancing sea farming can reduce nutrient pollution, have ancillary ecosystem benefits by creating habitat, support sustainable jobs and potentially reduce the national seafood trade deficit.
- **Who**: This is a multi-partner project leveraging resources from multiple sources: EPA, through the Long Island Sound Study (LISS), provided funding to the University of Connecticut (UConn) Department of Ecology and Evolutionary Biology to test growth and other parameters 'in-situ' for seaweed species; EPA and NOAA, through its Small Business Innovation Research (SBIR) program, provided resources to the Bronx River Watershed Initiative[1] to test 'in situ' growth and other parameters for shellfish production. NOAA's Aquaculture Program provided funding for monitoring and assessment of the shellfish component by the National Marine Fisheries Service Northeast Fisheries Science Center's Milford Laboratory. Both of these projects are measuring the effects these flora and fauna have on the nitrogen cycle. The Connecticut Sea Grant Program and NOAA's SBIR Programs provided resources for seaweed seed stock. UConn's School of Business and its Stamford Learning Accelerator provided resources to measure and estimate the economic and social market benefits and costs of these approaches. EPA's Regional Ecological Services (REServ) program, in cooperation with NOAA's Center for Coastal Monitoring and Assessment and NOAA's Aquaculture Program provided funding to further evaluate the role of bioextraction in the nutrient budget using farm- and system-scale modeling for shellfish production.
- **Why**: Nutrient pollution impairs coastal water quality; EPA is focused on reducing nutrient pollution through comprehensive and innovative strategies. Emphasis has been on reducing sources of nutrients in the watershed and improving the health of watersheds to filter and remove nutrients. This best practice highlights a third and complementary strategy - restoring the assimilative capacity of coastal water bodies to nutrients that has been lost from changes in habitat and living resources, such as a reduction in shellfish populations. Enhancing sea farming of shellfish and seaweeds can complement nutrient control as part of a comprehensive strategy to attain water quality standards.

Brief Description:

The key elements of this Best Practice are: 1) key partners' recognition of the need for a comprehensive approach that combines traditional water pollution control methods with innovative strategies in a cost-effective and economically sustainable manner; 2) the vision to foresee a different approach that combines science and business in synergistic partnerships to achieve mutual goals - clean water and economic benefits, including new jobs; 3) willingness and ability to use limited resources to conduct on-the-ground scientific empirical experiments in cooperation with the business community; and 4) moving from practical experimentation to actual implementation and development.

This multi-partner project has shown that sea farming in highly urbanized waters is feasible and practical. Conflicts with recreation can be minimized or avoided. Farming seaweeds and shellfish species improves water quality while developing new consumable and non-consumable products and markets that enhance the economic value of the waterbody. Sea farming can provide new jobs in a very vulnerable commodity sector, as well as new sources of revenue for local and state governments. Sea farming in urban coastal areas has

[1] New York State Office of the Attorney General and the New York State Department of Environmental Conservation (NYSDEC) under the Bronx River Watershed Initiative Memorandum of Agreement executed by and between the New York State Office of the Attorney General and the NYSDEC and the National Fish & Wildlife Foundation as of April 20, 2007.

demonstrated scientifically that seaweed and shellfish production is viable, is sustainable, can provide important feedstock for both human and animal consumption that is safe and nutritious and can also produce a stable source of stock for non-consumable products such as biofuels.

Current Status:
Part 1, Seaweed Demonstration -- successful pilot-scale implementation; Part 2, Shellfish Demonstration -- successful pilot-scale implementation; Part 3, Economic Analysis Modeling -- ecosystem-scale seaweed and shellfish modeling and economic benefits efforts are underway and ongoing.

Outcomes:
The annual nutrient reduction capabilities of shellfish and seaweed aquaculture have been scientifically demonstrated, aquaculture techniques in general are well established, and these approaches are applicable in a wide range of aquatic environments in urban coastal waters throughout the US Coastal Zone and its Exclusive Economic Zone. Economic incentives for aquaculture expansion still need development, e.g., payment to sea farmers for ecosystem services created, and sustained inclusion in nitrogen trading programs. For example, in a nitrogen trading scheme, cultivated seaweeds and shellfish can increase the nitrogen carrying capacity of the waterbody, creating a new market source for trading credits. Currently in the Connecticut nitrogen trading program, only sewage treatment plant nitrogen reductions qualify as credits for purchase. Projections for Long Island Sound show a potential for as much as 10,500 tons (dry weight) of annual seaweed (*Gracilaria*) production, with a 5 percent nitrogen capture rate at extraction. Using the Connecticut Nitrogen Credit Trading Board's 2011 price per pound of nitrogen of $5.42, there could be a potential market value in the nitrogen removed to operators of $5,691,000 annually. The total CT nitrogen credit pool in 2011 was $6.8 million by comparison. The additional market and non-market benefits of seaweed and shellfish farming and bioextraction are being reviewed.

Lessons Learned/Recommendations:
Limits to aquaculture expansion come primarily from social sources rather than ecosystem carrying capacity, so informing the public and gaining acceptance and their understanding is critical to this enterprise. It is important to engage the local communities in explaining both the physical processes and the environmental and social benefits of these initiatives. It is also important to engage federal, state and local leaders, regulators and potentially, legislators.

Contact Information: Mark A. Tedesco, Director, EPA Long Island Sound Office, Tedesco.mark@epa.gov http://www.longislandsoundstudy.net; Dr. Charles Yarish, Professor of Ecology and Evolutionary Biology, University of Connecticut, Charles.yarish@uconn.edu.

Dr. Charles Yarish (center) with UConn and Bridgeport Regional Aquaculture Science and Technology Education Center researchers and students collecting farmed kelp.

Shellfish and seaweed suspension raft off the Bronx River, NY

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region I
Office of Ecosystem Protection
Boston, Massachusetts

Region II
Clean Water Division
New York, New York

May 28, 2013

Subject: Approval of Long Island Sound National Estuary Program Work Plan

From: Mark A. Tedesco, Director
EPA Long Island Sound Office (LISO)

Through: Kenneth Moraff, Director
Office of Ecosystem Protection (OEP)

Joan L. Matthews, Director
Clean Water Division (CWD)

To: H. Curtis Spalding, Regional Administrator
EPA Region 1

Judith A. Enck, Regional Administrator
EPA Region 2

Attached for your approval under EPA regulation 40CFR35 Subpart P, Financial Assistance for the National Estuary Program (NEP), is the summary Work Plan for Long Island Sound for FY2013 funding for work to take place in FY2014. The Work Plan was approved by the Management Conference partners on April 18, 2013 and meets the requirements of current NEP funding guidance.

Under this summary Work Plan, EPA will make or amend twelve Assistance and Interagency Agreements with ten Federal, state, local, academic and regional partners totaling $4,257,000 with an additional required aggregate match of $3,260,062 from the partners. EPA Regions 1 and 2 will make these awards and obligate funding on or before September 30, 2013. Authority to make these awards has been delegated to the Directors, OEP and CWD (formerly DEPP) under EPA Delegations 2-72 and 2-94.

We recommend that you approve the Work Plan. Please do not hesitate to contact us if you have any questions.

Acting for

Curtis Spalding 5/30/13
Curtis Spalding Date

Judith A. Enck Date