



Comprehensive Conservation and Management Plan 2015

Supplemental Document 3

Sustainable and Resilient Communities (SC) Theme

Implementation Actions 2015–2019

Summary Table. Sustainable and Resilient Communities (SC) Implementation Actions

Implementation Actions (IAs) have been formulated to carry out the SC strategies. The IAs are listed in the table with highest priority actions shaded in **bold blue**. The major strategies addressed by the action are also listed in the table.

IA Number	Implementation Action Title	Major Strategies Addressed
SC-1	Provide technical and grant assistance to support festivals and celebrations that encourage appreciation and use of the Sound.	3-1a1, 3-1a2
SC-2	Provide support through technical and grant assistance to organizations that promote environmentally sustainable recreational activities along Long Island Sound.	3-1a1
SC-3	Continue programs to promote youth and adult fishing and boating as healthy and sustainable recreational sports.	3-1a1
SC-4	Seek a National Heritage Area Designation for Long Island Sound that will promote the Sound's heritage as the "Urban Sea" and the Sound's cultural, historical, maritime, and natural resources.	3-1a2
SC-5	Provide technical and grant assistance to support federal and local initiatives that increase appreciation and understanding of the Sound for underprivileged and non-traditional audiences in urban areas.	3-1a3, 2-3a1
SC-6	Produce informational materials that can be distributed through multiple formats to encourage stewardship and increase the public's understanding of the ecological, cultural, and recreational value of Long Island Sound.	3-1b1
SC-7	Develop innovative projects with partners to disseminate knowledge and results from Long Island Sound monitoring and research.	3-1b1
SC-8	Raise awareness through various media formats about the Sound's water quality conditions that could impact human health.	3-1b1
SC-9	Expand efforts, through the LISS website and social media channels, to educate the public about the impacts of climate change on Long Island Sound and in Long Island Sound Stewardship Areas.	3-1b1
SC-10	Provide technical and grant assistance to local volunteer organizations working towards the ecological restoration of the Sound.	3-1c1, 2-3a1, 2-3a2
SC-11	Continue staff support for Sound Stewardship volunteer projects and other outreach activities at New York and Connecticut Stewardship Areas.	3-1c1, 3-2b2, 2-3a1, 2-2a1, 2-2a2, 2-2d1, 2-3a1, 2-3a2
SC-12	Continue the Long Island Sound Citizens Summit, and support other Sound-wide events that encourage dialogue between resource managers, environmental stakeholders, and residents.	3-1c1
SC-13	Provide natural landscaping guidance to communities and homeowners to encourage the use of alternatives to chemical and nutrient-intensive landscaping, and the establishment of natural vegetated buffers near bodies of water.	3-1c2

IA Number	Implementation Action Title	Major Strategies Addressed
SC-14	Support efforts through technical and grant assistance to develop behavior change campaigns that result in measurable environmental improvements to the Sound's ecosystem.	3-1c2
SC-15	Develop a Sound-wide marketing campaign to increase the public's safe and sustainable use of the Sound.	3-1c2, 2-3a1
SC-16	Continue programs such as the Long Island Sound Mentor-Teacher Program that provide formal and informal K-12 educators with opportunities to learn how to include Long Island Sound instruction in their classrooms.	3-2a1, 3-2a2
SC-17	Provide technical and grant assistance to encourage informal education activities on Long Island Sound.	3-2b1
SC-18	Create an annual "get out on Long Island Sound day" of informal educational activities around the Sound to promote "on-the-water" experiences.	3-2b1
SC-19	Provide training to municipalities on low-impact development and green infrastructure.	3-3a1
SC-20	Develop and implement regional outreach and training programs on innovative/sustainable flood and erosion control for municipalities.	3-3a1
SC-21	Provide support, including funding and technical assistance, for the development and dissemination of environmental technical manuals and studies to environmental decision makers and resource managers.	3-3a2
SC-22	Use the best available social science research methods to understand the public's role in the Long Island Sound ecosystem, and use that information to help support campaigns to reduce pollution and improve water quality.	3-3a2
SC-23	Develop a handbook, website, and, or, other materials (e.g., regulations, funding sources, best practices) to be used by municipal officials to aid in the development of sustainability and resiliency plans and their integration into comprehensive plans.	3-4a1, 1-1a9
SC-24	Conduct region-wide and town-specific workshops to assist municipalities in developing sustainability and resiliency plans and integration into their comprehensive plans.	3-4a1. 1-1a8
SC-25	Support communities as they develop and adopt new or updated stand-alone Municipal Sustainability Plans.	3-4a1; 3-4b1; 3-4b2, 1-1a6, 1-1a8, 1-1c1, 1-1b2
SC-26	Support communities as they develop and adopt new or updated Coastal Resiliency Plans.	3-4a1; 3-4b1; 3-4b2. 1-1a6, 1-1a8, 1-1c1, 1-1b2
SC-27	Conduct reviews of waterfront revitalization, economic development, and, or, redevelopment plans, to assess the degree to which sustainability and resiliency concepts are incorporated.	3-4a2, 1-1a6, 1-1c1, 1-1b2

IA Number	Implementation Action Title	Major Strategies Addressed
SC-28	Develop guidance for quantifying the benefits and costs of sustainability activities and economic development to incorporate into sustainability and resiliency planning efforts.	3-4a2, 3-4b3
SC-29	Identify and recommend removal and, or, protection of sensitive infrastructure in the coastal zone (e.g., oil tanks, pump, power stations, etc.) and work to prevent future siting of such infrastructure in vulnerable coastal floodplains.	3-4b1, 1-1a8
SC-30	Implement standards, best practices, and educational materials for Green Infrastructure/Low-Impact Development planning and implementation.	3-4b2
SC-31	Develop regional outreach programs and training modules on sustainability and resiliency planning topics.	3-4b2
SC-32	Remediate and sustainably develop abandoned and underutilized sites (brownfields).	3-4b3
SC-33	Develop and implement the Long Island Sound Dredge Material Management Plan.	3-4b3
SC-34	Conduct a review of the implementation of resiliency and sustainability plans as they relate to community and waterfront development and redevelopment.	3-4b3, 1-2a1, 1-2a2
SC-35	Establish a sustainability and resiliency grant program to encourage implementation of sustainability and resiliency plans.	3-5a1
SC-36	Develop a municipal sustainability recognition program that incorporates ideas from other states to incentivize sustainable development and economic planning.	3-5a1
SC-37	Develop a Public Access Plan to increase public access points and the length of shoreline accessible by the public to the Sound and its rivers.	3-5a2
SC-38	Encourage the sustainable use of natural coastal areas, including Long Island Sound Stewardship Areas, through support of sustainable blueways, bikeways, and greenways.	3-5a2, 2-1b1

Implementation Action: SC-1

Provide technical and grant assistance to support festivals and celebrations that encourage appreciation and use of the Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Residents have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1a: To increase appreciation of Long Island Sound and opportunities for residents to get a meaningful experience on the Sound and on its shoreline.
Strategy: 3-1a1: Encourage opportunities to enjoy Long Island Sound through activities such as fishing, swimming, and bird watching. 3-1a2: Support maritime and cultural heritage awareness.

Project Description/Background: The Long Island Sound Study (LISS) provides support to organizations that celebrate the ecological resources of the Sound, including organizations that host National Estuaries Day events. The support may include, but is not limited to, financial assistance as part of the Long Island Sound Futures Fund (LISFF), marketing assistance through LISS' social media channels and the LISS website, or networking assistance by connecting festival/celebration organizers with other organizations that may also support their activities, festivals, and celebrations of the Sound. The purpose of this action is to provide more opportunities for the public to enjoy and appreciate the Sound, as well as increase their knowledge about the health of the Sound.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: Long Island Sound Futures Fund

Funding Needs: \$\$\$—Entire Project; \$-\$\$ per project

Expected Outputs:

- Number of festivals and celebrations
- Number of visitors attending festivals and celebrations

Performance Metric(s):

- Number of visitors that have reported that they increased their knowledge about the health of Long Island Sound assessed by surveys
- Number of visitors that have reported that they increased their appreciation of Long Island Sound assessed by surveys

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-2

Provide support through technical and grant assistance to organizations that promote environmentally sustainable recreational activities along Long Island Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1a: To increase appreciation of Long Island Sound and opportunities for residents to get a meaningful experience on the Sound and on its shoreline.
Strategy 3-1a1: Encourage opportunities to enjoy Long Island Sound through activities such as fishing, swimming, and bird watching.

Project Description/Background: The purpose of this action is to help the public use the Sound in a sustainable manner, through more education campaigns like Connecticut Sea Grant’s “Don’t Dump Bait” campaign and informational resources that promote sustainable recreational activities. The LISS Communications Team can provide these informational resources as well as grant assistance to ensure continued enjoyment of Long Island Sound resources. For example, working with marinas, boat dealers and marine supply businesses, recreational fishing businesses, and coastal sporting goods businesses, the LISS Communications Team can generate and distribute an annual tide chart with useful information about how to fish, boat, etc. in an environmentally sustainable way.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, Stewardship Site managers, local businesses and marinas.

Funding Sources: Long Island Sound Futures Fund, printing grant from another funding agency, larger businesses with mutual interest in protection and recreational use of the Sound

Funding Needs: \$

Expected Outputs:

- Development and distribution of informational materials
- Campaigns promoting environmentally sustainable recreation

Performance Metric(s):

- Number of informational materials distributed
- Number of campaigns promoting environmentally sustainable recreation
- Knowledge of sustainable recreation of shoreline areas is increased as assessed by surveys

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-3

Continue programs to promote youth and adult fishing and boating as healthy and sustainable recreational sports.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1a: To increase appreciation of Long Island Sound and opportunities for residents to get a meaningful experience on the Sound and on its shoreline.
Strategy: 3-1a1: Encourage opportunities to enjoy Long Island Sound through activities such as fishing, swimming, and bird watching.

Project Description/Background: Encouraging fishing and promoting sustainable fishing are important parts of the effort to promote interest in Long Island Sound and to develop good stewards for the Long Island Sound and the environment. The states of Connecticut and New York recognize this need through youth fishing programs—I Fish New York in New York and the Connecticut Aquatic Education Resources (CARE) in Connecticut. In addition, both states have programs to encourage opportunities for responsible marine fishing on the shoreline, including improving access at state public boating launch sites. The purpose of this action is to continue these important state programs.

In addition to continuing these important state programs, this action aims to involve local boating and fishing organizations in the promotion of youth and adult fishing and boating as healthy and sustainable recreational sports. This can be accomplished through sustainable fishing programs, boat safety programs, and the promotion of environmentally friendly boat use and maintenance practices.

Cooperators and Partners: CTDEEP, NYSDEC Bureau of Marine Resources, USFWS, and local boating and fishing organizations (e.g., Power Squadron clubs, angler clubs, yacht clubs, sailing clubs, etc.)

Funding Sources: CTDEEP and NYSDEC

Funding Needs: \$\$\$/yr (CARE), \$—Fish New York, \$\$\$ NYSDEC Bureau of Marine Resources Marine Fishing Access (MFA) Unit.

Expected Outputs:

- Continued funding for youth fishing programs and other state and local programs that encourage responsible fishing
- Number of children and adults that participate in fishing education programs

Performance Metric(s):

- Number of children and adults that participate in fishing education programs
- Number of children and adults that learn the importance of protecting fish habitats as assessed by surveys
- Number of recreational fish caught (NOAA survey)
- Number of recreational fishing trips (NOAA survey)
- Number of improved boating launch and shoreline fishing sites

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-4

Seek a National Heritage Area designation for Long Island Sound that will promote the Sound's heritage as the "Urban Sea" and the Sound's cultural, historical, maritime, and natural resources.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objectives: 3-1a: To increase appreciation of Long Island Sound and opportunities for residents to get a meaningful experience on the Sound and on its shoreline.
Strategy: 3-1a2: Support maritime and cultural heritage awareness.

Project Description/Background: Long Island Sound has been described by Congress as a “National Treasure” and an “Estuary of National Significance.” Despite these tributes, much more can be done to raise awareness—both nationally and locally—of the unique natural, cultural, and historical resources that the Sound has to offer. Instilling pride of place and an enduring stewardship ethic is critical to encourage citizens to value the Sound’s natural resources. One way to accomplish this is to seek the National Park Service designation of a National Heritage Area (NHA) for the Sound. NHAs are designated by Congress and currently participating regions in the northeast include the Hudson Valley, Lake Champlain, and Quinebaug and Shetucket Rivers Valley. NHA entities support historic preservation, natural resource conservation, recreation, heritage tourism, and educational projects. NHA partnerships through tourism and visitation and leveraging funds contribute nearly \$13 billion to the national economy. The enhanced support and opportunity for funding of conservation, recreation, and education are other important benefits to securing the NHA designation. Hiring a grant writer for the effort would be needed to complete the National Park Service application, which includes developing a management plan to conserve and interpret the regions’ nationally significant history and resources.

In addition to seeking the NHA designation, this action also promotes establishment of a traveling Long Island Sound exhibit to help share the story of the Sound's cultural, historical, maritime, and natural resources with the intentions of raising awareness, promoting stewardship, and instilling a sense of pride.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, CTDEEP, NYSDEC, USFWS, LISS Stewardship Initiative partners

Funding Sources: LISS Program funds and state and local tourism agencies

Funding Needs: \$\$

Expected Outputs:

- An application, which includes a management plan for the NHA, is completed and sent to the National Park Service
- Establishment of an exhibit that promotes the historical, cultural, and ecological resources of Long Island Sound.

Performance Metric(s):

- Attainment of the NHA designation.

Implementation Status: New

Expected Timeframe: 2015–2019 (Three years to get the application prepared; four years for project implementation).

Implementation Action: SC-5

Provide technical and grant assistance to support federal and local initiatives that increase appreciation and understanding of the Sound for underprivileged and non-traditional audiences in urban areas.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objectives: 3-1a: To increase appreciation of Long Island Sound and opportunities for residents to get a meaningful experience on the Sound and on its shoreline.
Strategy: 3-1a3: Connect/reconnect urban populations, including underserved and non-English language communities, to the Sound. 2-3a1: Promote the creation of educational and outreach programs tailored for multiple user groups.

Project Description/Background: According to a LISS public perception survey, Long Island Sound residents who live in highly urbanized areas are less likely to participate in activities on the Sound. They also are less likely to have a favorable view of the Sound's water quality. To better understand the environmental needs in urban areas, a Long Island Sound urban areas needs assessment will be conducted. By consulting with the EPA Region 1 and 2 Environmental Justice (EJ) offices and local environmental organizations, information will be collected on the environmental issues that these communities face and what technical assistance is needed to help solve their issues. Also, cultural information on how to best reach and deliver these programs to different urban audiences will be collected.

After the needs assessment is complete, a Long Island Sound urban areas program will be designed and developed to address select environmental issues through a culturally aware delivery method. The program will be piloted in a select urban area, and will be evaluated and revised accordingly. If deemed effective, the program will be expanded to additional urban areas facing similar environmental issues.

Additionally, to increase use of public access sites in urban communities as well as increase appreciation and understanding of the Sound, grant programs such as the LISFF should support local community groups that connect residents to urban waters, support municipal efforts to restore degraded waterfronts and natural areas, and engage citizen volunteers to help in restoration efforts. LISS also should be an important resource for federal urban initiatives that have a presence in the Long Island Sound watershed, including the Urban Oases project in the New Haven Harbor watershed, part of the USFWS's Urban Wildlife Refuge Partnership, and EPA's support of the Bronx River restoration effort, part of its Urban Waters Federal Partnership.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, LISS Stewardship Initiative partners, USFWS, Audubon Connecticut, EPA Region 1 and 2 Environmental Justice offices, local urban environmental organizations

Funding Sources: FWF, EPA, USFWS

Funding Needs: The needs assessment will be completed by LISS staff, led by New York Sea Grant. \$\$/year for projects (through the Long Island Sound Futures Fund)

Expected Outputs: Students and adults involved in Long Island Sound activities in urbanized areas

- Restored waterfronts and natural areas
- Wildlife demonstration sites developed throughout the Long Island Sound watershed through projects such as the Urban Oases project
- Long Island Sound urban areas needs assessment
- Long Island Sound urban areas program piloted in a select area

Performance Metric(s):

- Number of students and adults in urban areas who have a greater appreciation of the Sound through experiences as assessed by surveys.
- Extent of environmental improvements as a result of technical and grant assistance (e.g., number of low-impact development (LID) projects that improve water quality or restored waterfronts and natural areas)

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action: SC-6

Produce informational materials that can be distributed through multiple formats, to encourage stewardship and increase the public's understanding of the ecological, cultural, and recreational value of Long Island Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1b: To increase public knowledge and understanding of the ecological health of Long Island Sound.
Strategy: 3-1b1: Provide information products that educate communities about the health of Long Island Sound, and about the collaborative efforts to restore and protect the Sound.

Project Description/Background: A Public Perception Survey, conducted by the LISS in 2006, suggests that Long Island Sound residents are not well informed when it concerns environmental issues and terms (<http://longislandsoundstudy.net/wp-content/uploads/2010/03/LIS.Public.Perception.Survey2006.pdf>) associated with Long Island Sound. For example, less than one-third questioned in the survey knew that storm drains empty into the Sound and its tributaries. The survey also indicated that environmentally knowledgeable residents are more likely to engage in behaviors to prevent pollution (such as lawn care practices to reduce fertilizer runoff into storm drains). As such, the LISS Communications Team along with project partners, work together to produce attractive and engaging print, web, social media, traveling display, and promotional materials to distribute to a wide range of audiences, including outreach materials to underrepresented populations within the LIS shoreline boundary and to upper basin state communities. This information ultimately helps increase the public's understanding of the ecological, cultural, and recreational value of Long Island Sound, and to encourage the stewardship of Long Island Sound as well as serve the goal of Environmental Justice (EJ). Also, to coordinate print and web-based materials in a more efficient manner, a LISS Communications Strategy will be developed. The Communications Strategy, which will be developed within the first year of the implementation of the CCMP, will be implemented throughout the five years. At the end of the five years, it will be revised for the following five years, and so on. The LISS Communications Strategy will outline the print and web-based communication channels and how they will be coordinated, leaving room for the incorporation of new web-based communication tools if they are deemed efficient and effective.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant. Additional assistance may be provided by other LISS staff and project partners.

Funding Sources: LISS

Funding Needs: \$\$/year—Special projects would warrant additional funding.

Expected Outputs:

- LISS Communications Strategy
- LISS website
- Printed reports on health and management of Long Island Sound are produced, based on the LISS Communications Plan (i.e., Sound Health, Protection and Progress)
- Print and web-based newsletters are produced, based on the LISS Communications Plan (i.e., Sound Update, Sound Bytes)
- LISS social media presence (i.e., Facebook, Instagram, etc.)
- Promotional materials

Performance Metric(s):

- Percentage of people knowledgeable about Long Island Sound issues as measured through surveys
- Number of people accessing Long Island Sound websites and social media sites

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-7

Develop innovative projects with partners to disseminate knowledge and results from Long Island Sound monitoring and research.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1b: To increase public knowledge and understanding of the ecological health of Long Island Sound.
Strategy: 3-1b1: Provide information products that educate communities about the health of Long Island Sound and about the collaborative efforts to restore and protect the Sound.

Project Description/Background: The LISS Communications Team meets regularly with Long Island Sound researchers to assist with disseminating their monitoring and research results. To assist researchers in this task, the Communications Team can utilize innovative methods working with the LISS Science and Technical Advisory Committee (STAC) and community partners. Some possible methods could include traveling exhibits, citizen science engagement, interactive websites, mobile applications, web-based games, videos, etc. These projects would provide citizens with a better understanding of the ongoing efforts to protect and restore the Sound.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, STAC, LISS researchers, community partners

Funding Sources: LISFF, Foundation or private industry depending on venue.

Funding Needs: \$\$/project

Expected Outputs: Dissemination of information to new audiences; new partnerships between science and citizens; increased visibility for LISS

Performance Metric(s):

- Number of new innovative outreach projects highlighting Long Island Sound science per year
- Number of people and organizations engaged
- Increased interest in Long Island Sound research projects through requests on Long Island Sound websites and social media sites

Implementation Status: New

Expected Timeframe: 2016–2020.

Implementation Action: SC-8

Raise awareness through various media formats about the Sound's water quality conditions that could impact human health.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1b: To increase public knowledge and understanding of the ecological health of Long Island Sound.
Strategy: 3-1b1: Provide information products that educate communities about the health of Long Island Sound and about the collaborative efforts to restore and protect the Sound.

Project Description/Background: In consultation with the Connecticut Department of Health (CTDOH) and the New York State Department of Health, areas and audiences will be identified to receive information on Long Island Sound's water quality health and safety concerns. Once these areas and audiences have been identified, the LISS Communications Team, along with project partners, will work together to provide access to information in print or web-based format in multiple languages on Long Island Sound's water quality health and safety concerns. This information will then be distributed to the selected areas and audiences. The information will address water quality health and safety concerns such as fecal contamination of shellfish, unsafe levels of toxic contaminants in fish, emerging toxic contaminants, harmful algal blooms, invasive species, combined sewer overflows, and pathogen levels at bathing beaches that lead to beach closings. This information ultimately raises awareness about potential health risks associated with the Sound's water quality and enhances appreciation and understanding of the ecological health of the Sound.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, CTDOH, and the New York State Department of Health. Additional assistance may be provided by other LISS staff and project partners. Potential partners to help distribute food and water quality information include, but are not limited to, supermarkets/grocery stores, farmers markets, county health departments, etc.

Funding Sources: LISS program funds, CTDOH, NYS Health Department

Funding Needs: \$\$/year

Expected Outputs:

- Number of print and web-based information on Long Island Sound's water quality health and safety concerns

Performance Metric(s):

- Number of copies of print materials distributed
- Number of public service announcements on safe harvesting and handling of shellfish
- Number of people that request (print) or view (web) the health and safety fact sheets
- Number of people knowledgeable about Long Island Sound water quality issues as assessed by surveys

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-9

Expand efforts, through the LISS website and social media channels, to educate the public about the impacts of climate change on Long Island Sound and in Long Island Sound Stewardship Areas.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1b: To increase public knowledge and understanding of the ecological health of Long Island Sound.
Strategy: 3-1b1: Provide information products that educate communities about the health of Long Island Sound and about the collaborative efforts to restore and protect the Sound.

Project Description/Background: Natural coastal areas such as wetlands, dunes and seagrass meadows, play an important role in protecting the coast during and following extreme weather events such as hurricanes. But there is concern that the impacts of climate change might lead to changes in the environment such as SLR that will degrade these important coastal areas. The public should be made more aware of the critical role natural areas play in protecting the coast, and what can be done by citizens and communities to assure that a natural shoreline will continue to exist. The LISS Communications Team and the Sentinel Monitoring for Climate Change work group will collaborate to develop messages for the public to be disseminated through social media and to produce web pages as part of the LISS website on the science of climate change, how climate change impacts the biota and non-living resources of Long Island Sound, and information on adaptation, and preparedness for Long Island Sound citizens. In addition, this climate change information will also be put on posters and signage and erected at Stewardship areas.

Cooperators and Partners: NEIWPCC, New York Sea Grant, Connecticut Sea Grant, LISS Sentinel Monitoring for Climate Change work group, USFWS, and NOAA

Funding Sources: LISS program funds

Funding Needs: \$

Expected Outputs:

- Number of enhanced web pages
- Number of print products such as posters and signage at Stewardship areas
- Number of postings to social media

Performance Metric(s):

- The public has increased understanding of climate change issues and knowledge on how to prepare for climate change as assessed by surveys.
- Number of visits to the climate change website.

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action: SC-10

Provide technical and grant assistance to local volunteer organizations working towards the ecological restoration of the Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c1: Involve the public in the cleanup and restoration of Long Island Sound through volunteerism and community action. 2-3a1: Promote the creation of educational and outreach programs tailored for multiple user groups. 2-3a2: Communicate the importance of ecosystem services to the public and municipal leaders.

Project Description/Background: The LISS Communications Team assists in the promotion of volunteer and community activities on behalf of local volunteer organizations working towards ecological restoration throughout Long Island Sound. Staff will make information about restoration opportunities available through its website, as well as assist with developing select, project-specific promotional materials. The LISS web page includes a “Volunteer Opportunities” for Connecticut and New York, where volunteers can view descriptions of community organizations that conduct environmental volunteer work. On this web page, a calendar of upcoming volunteer events is maintained.

LISS will provide technical assistance to local volunteer organizations through a Volunteer Management Toolkit that will be developed by New York Sea Grant. A corresponding volunteer management training program will be conducted and evaluated. Attendees of the training program will be encouraged to conduct Long Island Sound volunteer events with Long Island Sound Stewardship Area managers and others in the watershed, and will be responsible for reporting on their activities. LISS will also provide local volunteer organizations with grant assistance, such as the Long Island Sound Futures Fund.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: LISS, LISFF

Funding Needs: \$

Expected Outputs:

- LISS “Volunteer Opportunities”/ “volunteer portal” webpage.
- Number of volunteers participating in volunteer opportunities
- Number of Long Island Sound Volunteer Management Toolkits distributed
- Number of attendees in the volunteer management training program

Performance Metric(s):

- Restoration projects completed
- Number of people and organizations engaged in restoration activities
- Number of visitors to the LISS “Volunteer Opportunities” webpage.
- Number of volunteer events that are conducted as a result of the volunteer management training program

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-11

Continue staff support for Sound Stewardship volunteer projects and other outreach activities at New York and Connecticut Stewardship Areas.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c1: Involve the public in the cleanup and restoration of Long Island Sound through volunteerism and community action. 3-2b2: Engage youth in stewardship opportunities. 2-3a1: Promote the creation of educational and outreach programs tailored for multiple user groups. 2-2a1: Develop volunteer stewardship programs to manage invasive species to ensure habitats are healthy and include representative plant and animal species. 2-2a2: Teach and promote measures that will help to prevent the introduction and spread of invasive biota in Long Island Sound and connected upland areas. 2-2d1: Promote projects that protect and restore biological and ecological diversity. 2-3a1: Promote the creation of educational and outreach programs tailored for multiple user groups. 2-3a2: Communicate the importance of ecosystem services to the public and municipal leaders.

Project Description/Background: The LISS's Stewardship, Habitat Restoration, and Communications Work Groups (USFWS, CTDEEP, NYSDEC, NEIWPC, New York Sea Grant, Connecticut Sea Grant, Audubon New York, and Audubon Connecticut), along with project partners, will work together to continue staff support for Sound Stewardship volunteer projects and other outreach activities at Long Island Sound Stewardship Areas. This action will allow for the continuation of volunteer and outreach efforts at Long Island Sound Stewardship Areas, such as educational and hands-on volunteer projects for the general public, interpretive nature walks, and installation of signage. In particular, education on how human disturbance can affect wildlife, especially public trust species, will be conducted. Ultimately, these efforts work to raise the public's awareness and increase their appreciation for the ecological health of Long Island Sound.

Cooperators and Partners: USFWS, CTDEEP, NYSDEC, NEIWPC, New York Sea Grant, Connecticut Sea Grant, Audubon New York, Audubon Connecticut

Funding Sources: LISS program funds for staff. Additional funding will be needed for mini-grant stewardship projects for Long Island Sound Stewardship Sites.

Funding Needs: \$\$—mini grant stewardship projects. Special projects would warrant additional funding.

Expected Outputs:

- Stewardship Day educational and hands-on volunteer projects for the general public
- Sound Stewards citizen science educational projects for K-12 and college students
- National Trails Day and interpretive nature walks for the general public
- Installation of Stewardship network signage

Performance Metric(s):

- Number of volunteers participating in stewardship programs, such as Stewardship Day, Sound Stewards, National Trails Day, interpretive nature walks, etc.
- Public perception of the health of Sound has increased as assessed by surveys.

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-12

Continue the Long Island Sound Citizens Summit and support other Sound-wide events that encourage dialogue between resource managers, environmental stakeholders, and residents.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c1: Involve the public in the cleanup and restoration of Long Island Sound through volunteerism and community action.

Project Description/Background: Since the early 1990s, the LISS has been helping to support the Long Island Sound Citizens Summit, a day-long forum for residents of Long Island Sound to learn about important issues affecting the Sound, and for residents to inform LISS and its partners about environmental priorities from a citizen perspective. The Summit venue alternates each year between Connecticut and New York. In recent years the Summit has been organized by Save the Sound/Connecticut Fund for the Environment through a contract managed by NEIWPC. It is critical to the future of Long Island Sound that this dialogue continues through the forum of the Long Island Sound Citizens Summit.

Cooperators and Partners: Save the Sound/Connecticut Fund for the Environment, NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: LISS program funds

Funding Needs: \$/year

Expected Outputs:

- Long Island Sound Citizens Summit conference

Performance Metric(s):

- Number of citizens and stakeholders that attend the conference
- Residents increase their knowledge about important Long Island Sound issues as assessed by surveys
- LISS and its stakeholders receive feedback that help inform environmental decision-making

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-13

Provide natural landscaping guidance to communities and homeowners to encourage the use of alternatives to chemical and nutrient-intensive landscaping, and the establishment of natural vegetated buffers near bodies of water.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c2: Encourage residents, both homeowners and renters, to engage in environmentally-friendly practices around their homes and communities.

Project Description/Background: Through the UConn Extension Master Gardener Program, LISS, and Sea Grant programs, offer annual Advanced Master Gardening certificate program(s) for interested and qualified individuals designed to provide an understanding of the link between chemical and nutrient intensive residential landscaping and the water quality of Long Island Sound. The program offers design and implementation alternatives, with emphasis on native plants, vegetated buffers, and other green solutions to stormwater runoff, and living shorelines (as it relates to SLR and storm abatement). The field component of this program will bring these habitat restoration and management principles to LISS Stewardship Sites and the significant outreach component of the program will ensure dissemination of information to communities and homeowners, including selected materials available in Spanish. Additionally, a number of resources on natural landscaping guidance, available in print and online, will be distributed to professionals, municipal officials, and homeowners. This action will ultimately encourage citizens to engage in environmentally friendly practices around their homes and communities.

Cooperators and Partners: Connecticut Sea Grant, UConn Extension Master Gardening Program in Connecticut, multiple partners engaged to present, provide outreach opportunities, and as resources to participants.

Funding Sources: LISS base program funds; small grants or foundation support opportunity

Funding Needs: \$-\$\$

Expected Outputs:

- Number of training sessions
- Number of resources developed and distributed to professionals, municipal officials and homeowners
- Numbers of Master Gardeners trained
- Number of outreach opportunities organized by Master Gardeners

Performance Metric(s):

- Foster individual stewardship and behavior change as assessed by surveys
- Support professional development of informal and formal educators

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-14

Support efforts through technical and grant assistance to develop behavior change campaigns that result in measurable environmental improvements to the Sound's ecosystem.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c2: Encourage residents, both homeowners and renters, to engage in environmentally-friendly practices around their homes and communities.

Project Description/Background: A Public Perception Survey, conducted by the LISS in 2006, reveals that many Long Island Sound residents unknowingly engage in practices around their home and yard that result in pollution that can eventually discharge into streams and rivers and Long Island Sound (<http://longislandsoundstudy.net/wp-content/uploads/2010/03/LIS.Public.Perception.Survey2006.pdf>). To address this issue, Community Based Social Marketing (CBSM) behavior change campaigns identify the barriers that prevent people from doing the right thing and use marketing tools such as incentives or establishing new social norms to try to change habits. Past Long Island Sound CBSM campaigns have focused on reducing stormwater runoff, groundwater contamination, and coastal marine debris. Future campaigns may include, but are not limited to, best practices for turf management and the protection and maintenance of on-site wastewater treatment systems. The LISS Communications team will lead this effort by providing information on CBSM via a LISS webpage, workshops, webinars, and other methods to encourage community groups to develop their own CBSM projects.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: Long Island Sound Futures Fund

Funding Needs: \$\$/a year

Expected Outputs:

- LISFF grant applications that propose or incorporate CBSM
- LISFF grants funded to implement CBSM projects
- Web pages, workshops, webinars, or other methods conducted to promote the development of CBSM to community groups

Performance Metric(s)

- Number of LISFF grant applications that propose or incorporate CBSM
- Number of LISFF grants funded to implement CBSM projects
- Number of attendees at CBSM workshops and webinars
- Number of visitors to the CBSM webpage
- Number of people who commit to changing behaviors that lead to environmental improvements
- Extent of environmental improvements as a result of CBSM projects (e.g., acres of lawn with environmentally-friendly lawn practices)

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action: SC-15

Develop a Sound-wide marketing campaign to increase the public's safe and sustainable use of the Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-1: Citizens have the awareness, knowledge, and skills to protect the Sound.
Objective: 3-1c: To increase public stewardship, at home and in the community, to protect the natural resources of Long Island Sound.
Strategy: 3-1c2: Encourage residents, both homeowners and renters, to engage in environmentally-friendly practices around their homes and communities. 2-3a1: Promote the creation of educational and outreach programs tailored for multiple user groups.

Project Description/Background: Citizens who appreciate and use the Sound are more likely to be advocates for restoring and protecting the Sound. Interest in the Sound, however, is low in urban areas and declines the farther away people live from the shore, according to a 2006 Public Perception Survey. To increase awareness and appreciation of the Sound, LISS would like to work with its partners to develop a Sound wide marketing campaign to promote the ecologically sensitive use of publicly accessible sites in the Sound closest to where people live, including in traditionally underrepresented areas as an element of Environmental Justice. The campaign would serve a dual purpose through the development of consistent messages that can be shared among LISS's partners to raise awareness around the Sound of how they can reduce water pollution by making smart environmental choices around their yard and home and their community.

Cooperators and Partners: CTDEEP, NYSDEC, NEIWPC, New York Sea Grant, Connecticut Sea Grant, representative groups on the CAC, Long Island Sound Stewardship Site managers, and state and local tourism offices.

Funding Sources: LISS will fund the first year. Funding for years two through five will be through a collaboration of funders, including EPA, NYSDEC, CTDEEP, different groups on the CAC, and local foundations.

Funding Needs: \$ to design the campaign; \$\$ or \$\$\$ to implement the campaign

Expected Outputs:

- A marketing campaign that will include promoting events at Long Island Sound Stewardship Sites
- Development of posters and poster ads displayed at transportation center venues and nature centers
- New LISS website content, including web videos promoting the Sound
- Public service ads on radio and cable television promoting the Sound

Performance Metric(s)

- Increased attendance at public access sites along the Sound from non-coastal communities and urban areas
- Increased traffic to LISS's website and social media sites to find out about Long Island Sound and activities on the Sound

Implementation Status: New

Expected Time frame: 2015–2019 (2015–2017 to design and 2018–2019 to implement).

Implementation Action: SC-16

Continue programs such as the Long Island Sound Mentor-Teacher Program that provide formal and informal K-12 educators with opportunities to learn how to include Long Island Sound instruction in their classrooms.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-2: Future generations have the skills to become leaders and stewards for the Sound.
Objective: 3-2a: To incorporate Long Island Sound topics, including its ecology and history, into New York and Connecticut classrooms and curriculum and informal settings.
Strategy: 3-2a1: Support professional development of formal and informal educators. 3-2a2: Provide science-based information products and supplemental resources such as lesson plans for specific Long Island Sound topics.

Project Description/Background: Since 2002, the Long Island Sound Mentor Teachers Program has engaged educators in professional development workshops in sharing with their peers their successful strategies for implementing Long Island Sound into existing curricula. The Long Island Sound Mentor Teachers plan interdisciplinary sessions on varying topics related to Long Island Sound, such as nonpoint source pollution, invasive/ non-native species, water quality, and geology. To further engage the teachers in the restoration of Long Island Sound, sessions could focus on restoration projects done by scientists and resource managers, as this would provide teachers with real-world information of exemplary efforts to improve the Long Island Sound ecosystem. All sessions include a field component within the Long Island Sound watershed. Workshop lessons and activities are developed by the Mentor Teachers. These lessons and activities are designed for use in the classroom or field and are aligned to the content standards of the Connecticut/New York Science Frameworks and/or the National Science Education Standards, in a format that can be easily implemented into existing curricula. The goal of these teacher professional development workshops is to encourage teachers to incorporate the teaching of Long Island Sound in their classrooms. Instructional materials about the Long Island Sound watershed also should be shared with teachers in the Upper Basin states.

In addition to the Long Island Sound Mentor Teachers program, teachers can participate in other environmental education professional development workshops (e.g., USFWS and Connecticut Audubon Schoolyard Habitat Program, Coastal Certificate Program, NOAA Teachers at Sea Program, Project WET, Project WILD, WILD Aquatic, etc.) to learn how to incorporate the teaching of Long Island Sound into their classrooms. This action is essential to educating the next generation about Long Island Sound.

Cooperators and Partners: The Long Island Sound Mentor Teacher Program is coordinated by Connecticut Sea Grant and New York Sea Grant. Coordination of other teacher workshops is conducted by partner organizations.

Funding Sources: LISS program funds for the coordination of the Long Island Sound Mentor Teacher Program by Connecticut Sea Grant and New York Sea Grant.

Funding Needs: \$\$/ year

Expected Outputs:

- Long Island Sound Mentor Teacher Workshops and other related professional development workshops
-

Performance Metric(s):

- Number of attendees in the Long Island Sound Mentor Teacher Workshops
- Number of students reached as a result of the educator attending the Long Island Sound Mentor Teacher workshop
- Number of teachers that incorporate the teaching of Long Island Sound in their classrooms as assessed through surveys

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-17

Provide technical and grant assistance to encourage informal education activities on Long Island Sound.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-2: Future generations have the skills to become leaders and stewards for the Sound.
Objective: 3-2b: To provide youth with opportunities to learn about Long Island Sound and its related issues.
Strategy: 3-2b1: Support informal education at aquariums, museums, and coastal environments with facilities such as nature centers.

Project Description/Background: Informal education institutions (e.g., aquariums, nature centers, science centers, etc.) provide students and adults alike with memorable field experiences on the Sound. To encourage the continuation of these field experiences on Long Island Sound, which are critical to maintaining and enhancing the public's appreciation of the Sound, the LISS Communications Team will provide technical and grant assistance to these informal education institutions to encourage them to continue their field experiences. This assistance includes the development of technical guidance materials, such as manuals or field guides, to compliment the Long Island Sound field experiences.

Cooperators and Partners: Informal education institutions, NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: LISS program funds

Funding Needs: \$/year.

Expected Outputs:

- Technical guidance provided to informal education institutions
- Grant assistance provided to informal education institutions
- Technical guidance materials will be developed and distributed to informal education institutions

Performance Metric(s):

- Number of informal education institutions that seek technical guidance from LISS
- Number of informal education institutions that seek grant assistance from LISS
- Number of technical guidance materials distributed to informal education institutions
- Number of field programs offered by informal education institutions on Long Island Sound

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-18

Create an annual “get out on Long Island Sound day” of informal educational activities around the Sound to promote “on-the-water” experiences.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-2: Future generations have the skills to become leaders and stewards for the Sound.
Objective: 3-2b: To provide youth with opportunities to learn about Long Island Sound and its related issues.
Strategy: 3-2b1: Support informal education at aquariums, museums, and coastal environments with facilities such as nature centers.

Project Description/Background: Facilitate the bringing together of informal education organizations in both Connecticut and New York that provide on-the-water experiences for the public to celebrate an annual “get out on Long Island Sound” day. A variety of informal education organizations have boats that they use to conduct tours or do outreach/education on Long Island Sound. This event could also be combined with a near shore “local flotilla” that encourages a water parade for anyone owning a small boat. Sound-wide publicity would be provided for this event, in an effort to reach all citizens on both shores of the Sound, particularly targeting urban populations (as an element of Environmental Justice), with limited experience on the water. Educational materials could be created specific to this event, including the coupling of the water experience with Stewardship Area land events and a map(s) of points of interest and entry for an on-the-water Long Island Sound experience. Participating in an “on-the-water” experience is to see Long Island Sound from a new perspective and the best way to gain appreciation and understanding for its resources, as well as to promote use.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, maritime non-profits and museums that use boats to promote the use, appreciation, and understanding of Long Island Sound.

Funding Sources: Long Island Sound Futures Fund, funding associated with tourism in Connecticut and New York.

Funding Needs: \$\$ - part time coordinator/year

Expected Outputs:

- Events, both “on-the-water” and land-based as part of “Get Out on Long Island Sound Day”

Performance Metric(s):

- Number of participants
- Number and diversity of organizations that participant in the event(s)
- Free media exposure
- Increase in public awareness of Long Island Sound as assessed by surveys

Implementation Status: New

Expected Timeframe: 2017–2019.

Implementation Action: SC-19

Provide training to municipalities on low-impact development and green infrastructure.

- Theme: Sustainable and Resilient Communities
- Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
- Outcome: 3-3: Policy makers, resource managers, and other stakeholders have the informational resources to undertake collaborative efforts to restore and protect the Sound.
- Objective: 3-3a: To ensure that policy makers, environmental professionals, health professionals, and other stakeholders have the best available information in order to make decisions that will improve the management of Long Island Sound.
- Strategy: 3-3a1: Support the dissemination of the best practices to reduce contaminants, improve water quality, and protect habitats through professional development training and workshops.

Project Description/Background: Develop and implement regional training to municipalities on LID and green infrastructure (GI). LID/GI training topics will include, but are not limited to, vegetated buffers, living shorelines, bioretention, and pervious pavement. In conjunction with these workshops, a field component will be offered, where site-based implementation of Best Management Practices (BMPs) will be demonstrated. The training will target municipalities (i.e., public works, wetlands commissioners, property managers) and will be tailored to fit their specific needs. BMPs). In addition, to a blog/listserv will be created to promote ongoing communication among/between participants on LID/GI information and techniques. This action supports the dissemination of best practices to reduce pollution and improve water quality and ensures that policy makers, environmental professionals, and stakeholders have the best available information to make management decisions.

Cooperators and Partners: Army Corps of Engineers, FEMA, NRCS, appropriate academic institutions, coastal engineering consulting companies, New York and Connecticut Sea Grant, NEMO

Funding Sources: Long Island Sound Futures Fund

Funding Needs: \$\$/year for speakers, transportation, supplies, meeting space, printed material, marketing

Expected Outputs:

- Training workshops
- Demonstration BMPs installed in conjunction with training workshop

Performance Metric(s):

- Results of pre- and post-surveys at each training that indicate a change in knowledge
- Number of people trained in LID/GI
- Follow-up surveys to assess BMP implementation

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-20

Develop and implement regional outreach and training programs on innovative/sustainable flood and erosion control for municipalities.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-3: Policy makers, resource managers, and other stakeholders have the informational resources to undertake collaborative efforts to restore and protect the Sound.
Objective: 3-3a: To ensure that policy makers, environmental professionals, health professionals, and other stakeholders have the best available information in order to make decisions that will improve the management of Long Island Sound.
Strategy: 3-3a1: Support the dissemination of the best practices to reduce contaminants, improve water quality, and protect habitats through professional development training and workshops.

Project Description/Background: Develop and implement a regional outreach and training program on innovative/sustainable flood and erosion control, including vegetated buffers and living shorelines, for municipalities (public works, wetlands commissioners, property managers). Outreach and training will include training workshops, site-based implementation demonstrations of these innovative and sustainable techniques for flood and erosion control, as well as development of regulations. The program will be implemented at the county level to better address local, site-specific issues.

In addition, a blog/listserv will be created to promote ongoing communication among/between participants on innovative/sustainable flood and erosion control information and techniques, including sources of funding for implementation. This action supports the dissemination of best practices to reduce pollution and improve water quality and ensures that policy makers, environmental professionals, and stakeholders have the best available information to make management decisions.

Cooperators and Partners: NEMO, RPAs/COGs, private contractor

Funding Sources: LISFF

Funding Needs: \$\$/yr (Speakers, transportation, supplies, meeting space, printed material, and marketing)

Expected Outputs:

- Regional Outreach and Training Workshops
- Flood and erosion control demonstration projects
- Blog/list serve

Performance Metric(s):

- Results of pre- and post-surveys at each training that indicate a change in knowledge
- Number of people trained in sustainable and flood erosion control.
- Follow-up surveys to assess flood and erosion control implementation

Implementation Status: New

Expected Timeframe: 2016–2020.

Implementation Action: SC-21

Provide support, including funding and technical assistance, for the development and dissemination of environmental technical manuals and studies to environmental decision makers and resource managers.

- Theme: Sustainable and Resilient Communities
- Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
- Outcome: 3-3: Policy makers, resource managers, and other stakeholders have the informational resources to undertake collaborative efforts to restore and protect the Sound.
- Objective: 3-3a: To ensure that policy makers, environmental professionals, health professionals, and other stakeholders have the best available information in order to make decisions that will improve the management of Long Island Sound.
- Strategy: 3-3a2: Update and disseminate information on the best available scientific, socioeconomic, and environmental trends to policy makers, resource managers, and stakeholders.

Project Description/Background: Municipalities and local environmental organizations offer the most direct way to reach residents and enhance their knowledge base. LISS's partners, along with project partners, will work together to produce print and/or web-based resources, including environmental reports and environmental technical manuals. These resources will be used by environmental decision makers, resource managers at the municipal level, and local environmental organizations to help inform residents of local environmental issues and how they impact the Sound.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, NEMO

Funding Sources: LISS program funding for the Communications team staff; Long Island Sound Futures Fund

Funding Needs: \$ to \$\$/yr

Expected Outputs:

- Print and/or web-based resources (manuals, etc.) developed for environmental decision makers

Performance Metric(s):

- Number of environmental decision makers that utilize LISS developed resources as assessed by surveys

Implementation Status: Underway

Expected Timeframe: 2015–2019.

Implementation Action: SC-22

Use the best available social science research methods to understand the public's role in the Long Island Sound ecosystem, and use that information to help support campaigns to reduce pollution and improve water quality.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-3: Policy makers, resource managers, and other stakeholders have the informational resources to undertake collaborative efforts to restore and protect the Sound.
Objective: 3-3a: To ensure that policy makers, environmental professionals, health professionals, and other stakeholders have the best available information in order to make decisions that will improve the management of Long Island Sound.
Strategy: 3-3a2: Update and disseminate information on the best available scientific, socioeconomic, and environmental trends to policy makers, resource managers, and stakeholders.

Project Description/Background: In 2006, LISS funded a Soundwide Public Perception Survey on residents' opinions of the Sound's water quality, their knowledge of the Sound's environmental problems, where residents access environmental information, and what lawn care and other outdoor practices they engage in that may contribute to pollution in the Sound and its tributaries. While the survey correlated environmental knowledge with behaviors contributing to environmental stewardship, achieving positive behavior changes requires understanding and addressing the specific barriers preventing individuals and communities from their adoption. Developing a strategy on how to use the best social science research available (which could include refining the 2006 survey, developing more targeted surveys, focus groups, and review of existing social data) is needed to establish baseline and trends metrics on the degree to which the public understands its role in the protection of Long Island Sound and acts on that knowledge.

Research using Social Science methods will provide updated information on the barriers preventing citizens from engaging in the types of lawn care practices and other actions on land that should improve water quality. This can be useful for resource managers and environmental groups developing education campaigns and community-based social marketing campaigns. It will also help resource managers assess whether residents perceive that there is progress in restoration efforts, whether residents are willing to take on a more active role in helping to clean up the Sound, and their knowledge of environmental issues compared to the 2006 survey baseline.

Cooperators and Partners: New York Sea Grant, Connecticut Sea Grant, NEIWPC, survey contractor, and CAC.

Funding Sources: LISS program funds

Funding Needs: \$\$

Expected Outputs:

- The research method results will contain an executive summary of the study's major findings, divided into major topics, including: recreational use of Long Island Sound; perceived water quality; enactment of behaviors that have some impact on water quality; attitudes towards environment in general and willingness to change behaviors that affect Long Island Sound; residents' exposure to different media sources conducted in the Long Island Sound watershed from 2006 to the present.

Performance Metric(s): The research methods effectiveness will be measured by its impact on:

- Providing information to resource managers, the public, and policy makers that will help increase understanding on the issues facing the Sound.
- The development of socio-economic indicators that will help resource managers assess how residents impact the environment of Long Island Sound.
- Utility in helping LISS and its partners develop outreach and behavior change campaigns.

Implementation Status: New

Expected Timeframe: 2016–2018.

Implementation Action SC-23

Develop a handbook, website, and, or, other materials (e.g., regulations, funding sources, best practices) to be used by municipal officials to aid in the development of sustainability and resiliency plans and their integration into comprehensive plans.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4a: To encourage and facilitate the development of ecologically sustainable regional, state, and local sustainability, mitigation, and resiliency plans and integrate them into community comprehensive plans.
Strategy: 3-4a1: Provide support to municipalities to facilitate the development and updating of sustainability, and resiliency plans that incorporate current concepts on these topics. 1-1a8: Incorporate climate change and sea level rise in planning, regulation, and BMPs for stormwater and wastewater treatment.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. Resiliency planning (and climate adaptation) is focused on the capacity of community infrastructure to withstand the effects of anthropogenic (e.g., oil spills) and natural (e.g., storms, sea level rise (SLR)) perturbations.

This action is tailored to provide support for community development of sustainability and resiliency plans by providing easy to use educational materials. This material will: include approaches for assessing risks and vulnerabilities, include the use of GI approaches and developing strategy options that support sustainable and resilient wastewater and stormwater infrastructure design. Material should also include guidance on how to incorporate interim sustainability and resiliency measures prior to the adoption and implementation of final municipal sustainability and resiliency plans. In addition, this activity will include material to inform municipalities and other government agencies of the existence of model sustainability and resiliency plans completed and, or, adopted by Long Island Sound coastal towns.

Cooperators and Partners: LISS; Municipalities within the New York and Connecticut Coastal Long Island Sound Watershed, New England Municipal Sustainability Network, EPA brownfields, NYDOS, CTDEEP, New York and Connecticut Sea Grant, US EPA, Regional Planning Entities and Councils of Governments, State Planning Associations; CIRCA

Funding Sources: LISS enhancement grant; Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning

Funding Needs: \$

Expected Outputs:

- Educational, and, or, training materials suitable for community development of sustainability and resiliency plans and to integrate them into comprehensive plans.

Performance Metric(s):

- Completed handbook, website and, or other materials.

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action SC-24

Conduct region-wide and town-specific workshops to assist municipalities in developing sustainability and resiliency plans and integration into their comprehensive plans.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4a: To encourage and facilitate the development of ecologically sustainable regional, state, and local sustainability, mitigation, and resiliency plans and integrate them into community comprehensive plans.
Strategy: 3-4a1: Provide support to municipalities to facilitate the development and updating of sustainability, and resiliency plans that incorporate current concepts on these topics. 1-1a8: Incorporate climate change and sea level rise in planning, regulation, and BMPs for stormwater and wastewater treatment.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. Resiliency planning (and climate adaptation) is focused on the capacity of community infrastructure to withstand the effects of anthropogenic (e.g., oil spills) and natural (e.g., storms, SLR) perturbations.

This action is tailored to provide support for community development of sustainability and resiliency plans by conducting workshops throughout the region. These workshops will: include approaches for assessing risks and vulnerabilities, include the use of GI approaches and developing strategy options that support sustainable and resilient wastewater and stormwater infrastructure design. Workshop goals should also include material on how to incorporate interim sustainability and resiliency measures prior to the adoption and implementation of final municipal sustainability and resiliency plans. In addition, this activity will include material to inform municipalities and other government agencies of the existence of model sustainability and resiliency plans completed and, or, adopted by Long Island Sound coastal towns.

Cooperators and Partners: LISS; Municipalities within the New York and Connecticut Coastal Long Island Sound Watershed, New England Municipal Sustainability Network, EPA brownfields, New York Department of State, Connecticut DEEP, New York and Connecticut Sea Grant, US EPA, Regional Planning Entities and Councils of Governments, State Planning Associations; Connecticut Institute for Resilience and Climate Adaptation

Funding Sources: LISS program funds; Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning

Funding Needs: \$

Expected Outputs:

- Workshops with materials suitable for community development of sustainability and resiliency plans and to integrate them into comprehensive plans.

Performance Metric(s):

- Completed workshops with workshop summary reports.

Implementation Status: New

Expected Timeframe: 2016–2017.

Implementation Action SC-25

Support communities as they develop and adopt new or updated stand-alone Municipal Sustainability Plans.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4a: To encourage and facilitate the development of ecologically sustainable regional, state, and local sustainability, mitigation, and resiliency plans and integrate them into community comprehensive plans.
Strategy: 3-4a1: Provide support to municipalities to facilitate the development and updating of sustainability, and resiliency plans that incorporate current concepts on these topics. 3-4b1: Revise zoning, permitting, and related regulations to ensure that future development and redevelopment conform to sustainability, mitigation, and resiliency plans. 3-4b2: Provide technical assistance and training for homeowners, municipal officials, developers, engineers, and consultants on sustainability, adaptation, and resiliency concepts and opportunities for implementation. 1-1a6: Implement low-impact development and green infrastructure for new and existing residential development and mitigate pollution from commercial and industrial sources. 1-1a8: Incorporate climate change and sea level rise in planning, regulation, and BMPs for stormwater and wastewater treatment. 1-1c1: Preserve hydrologic function (e.g. flooding, buffer zones, resiliency, groundwater, etc.) in developing watersheds and restore in impaired watersheds. 1-1b2: Protect wetlands, healthy watersheds, riparian buffers, and open land to minimize land disturbance and impervious cover through land protection, sustainable development and green infrastructure.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. In particular, the following components of municipal sustainability plans are important to the sustainable conservation and management of Long Island Sound: (1) Evaluation of long term needs and reduction of energy use and water use. (2) Evaluation of drinking water infrastructure and long term needs. (3) Reduction of water quality impacts especially from nonpoint sources. (4) Improvement of sustainable transportation options and opportunities for walkable communities with waterfront access. (5) Promotion of water-dependent uses, including public access on waterfront parcels. (6) Identification of infrastructure/natural system needs to allow for waterfront recreation and access consistent with sustainability plans and smart growth programs. (7) Identification of one or more municipal staff to coordinate and implement these plans. (8) Develop and update a list of resources and contacts (e.g., such as model regulations and appropriate planning agencies, including the Connecticut/New York Planners Associations) to assist with municipal and regional resiliency planning. (9) Development and implementation of municipal ordinances to make them consistent with sustainability plans.

Cooperators and Partners: Municipalities within the New York and Connecticut Coastal Long Island Sound Watershed, New England Municipal Sustainability Network, EPA brownfields, NYDOS, CTDEEP, New York and Connecticut Sea Grant, US EPA, Regional Planning Entities and Councils of Governments, State Planning Associations

Funding Sources: Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning

Funding Needs: \$\$/municipality depending on size and density

Expected Outputs:

- Sustainability Plans for each municipality or planning area linked to comprehensive plan, resiliency plan and other guiding municipal and regional planning documents

Performance Metric(s):

- Number of municipalities with completed sustainability plans
- Number of municipalities implementing sustainability plans
- Number of implemented sustainability plans

Implementation Status: New

Expected Timeframe: 2015–2018.

Implementation Action SC-26

Support communities as they develop and adopt new or updated Coastal Resiliency Plans.

Theme:	Sustainable and Resilient Communities
Goal:	Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound
Outcome:	3-4: New and existing development is sustainable and resilient.
Objective:	3-4a: To encourage and facilitate the development of ecologically sustainable regional, state, and local sustainability, mitigation, and resiliency plans and integrate them into community comprehensive plans.
Strategy:	3-4a1: Provide support to municipalities to facilitate the development and updating of sustainability, and resiliency plans that incorporate current concepts on these topics. 3-4b1: Revise zoning, permitting, and related regulations to ensure that future development and redevelopment conform to sustainability, mitigation, and resiliency plans. 3-4b2: Provide technical assistance and training for homeowners, municipal officials, developers, engineers, and consultants on sustainability, adaptation, and resiliency concepts and opportunities for implementation. 1-1a6: Implement low-impact development and green infrastructure for new and existing residential development and mitigate pollution from commercial and industrial sources. 1-1a8: Incorporate climate change and sea level rise in planning, regulation, and BMPs for stormwater and wastewater treatment. 1-1c1: Preserve hydrologic function (e.g. flooding, buffer zones, resiliency, groundwater, etc.) in developing watersheds and restore in impaired watersheds. 1-1b2: Protect wetlands, healthy watersheds, riparian buffers, and open land to minimize land disturbance and impervious cover through land protection, sustainable development and green infrastructure.

Project Description/Background: New resiliency plans should be developed and, or, existing plans augmented to incorporate concepts that serve to protect natural habitat and built infrastructure. Understanding potential impacts to both natural habitat and man-made infrastructure due to climate change and incorporating findings into resiliency planning will help protect Long Island Sound and municipal economies. In particular, the following components of municipal coastal resiliency plans are important to the long-term conservation and management of Long Island Sound: (1) Identification and protection of important natural and man-made infrastructure and habitats that are vulnerable to impact from natural hazards or infrastructure failures due to climate change. (2) Incorporation of natural infrastructure/habitat (GI) based solutions into planning activities. Where appropriate, encourage beneficial use of dredged material in these solutions. (3) Identification of infrastructure/natural system needs to allow for waterfront recreation and access consistent with resiliency needs. (4) Development of applied research, standards and best practices to encourage implementation of nature-based solutions. (5) Coordination of Hazard Mitigation and Resiliency planning (i.e., NHMP through FEMA) including flood and erosion control programs incorporating both natural systems and hard infrastructure. (6) Re-design, upgrade and/or retrofit WWTFs, stormwater infrastructure, and drinking water facilities to be resilient in a changing climate. (7) Where appropriate, implement CT2013 legislation to require consideration of SLR in the design of WWTF construction and upgrades. (8) Identification of one or more municipal staff to coordinate and implement these plans. (9) Develop and update a list of resources and contacts to assist with municipal and regional resiliency planning. (10) Development and implementation of municipal ordinances to make them consistent with resiliency plans. (11) Provide information/access to funding sources for municipalities and residents (including low-interest loans) and streamline/coordinate federal/state/local permitting processes.

Cooperators and Partners: Municipalities within the New York and Connecticut coastal Long Island Sound watershed, FEMA – community rating system, NYDOS, CTDEEP, New York and Connecticut Sea Grant, Regional Planning Entities and Councils of Governments, TNC, Connecticut Institute for Resilience and Climate Adaptation, HUD-DOT Partnership for Sustainable Communities

Funding Sources: Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources, Cleaner Greener programs in New York, HUD, HUD-DOT Partnership for Sustainable Communities, FEMA, brownfields area-wide planning

Funding Needs: \$\$/municipality depending on the size and density of municipal development.

Expected Outputs: Resiliency Plans for each municipality or planning area linked to comprehensive plans, sustainability plans, and other guiding municipal and regional planning documents. The following interim and specific outputs are proposed:

- By 2018: Identify and design 15 coastal and riverine habitat enhancement/restoration projects that will protect human neighborhoods from flooding assure clean water and provide wildlife habitats. Examples include: nature-based demonstration projects that protect or restore priority natural shorelines, beach and dune restoration/enhancement, marsh enhancement, migration and restoration, shoreline softening projects, removal of high risk dams, ecological connectivity and flood improvement projects associated with bridges and culverts, and protection, restoration, and enhancements to

riverine floodways and flood plains.

- By 2018: Identify high-priority coastal conservation areas around Long Island Sound, including both ecological priority and disaster reduction priority areas and implement projects to conserve them.

Performance Metric(s):

- Number of municipalities with completed resiliency plans, implementing resiliency plans
- Number of completed coastal/riverine restoration projects that protect neighborhoods from flooding
- Number of coastal conservation areas identified with both ecological and disaster importance
- Number of coastal conservation areas of both ecological and disaster importance conserved
-

Implementation Status: New

Expected Timeframe: 2015–2018.

Implementation Action SC-27

Conduct reviews of waterfront revitalization, economic development, and, or, redevelopment plans, to assess the degree to which sustainability and resiliency concepts are incorporated.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4a: To encourage and facilitate the development of ecologically sustainable regional, state, and local sustainability, mitigation, and resiliency plans and integrate them into community comprehensive plans.
Strategy: 3-4a2: Ensure consistency among economic development and sustainability, mitigation, and resiliency planning efforts. 1-1a6: Implement low-impact development and green infrastructure for new and existing residential development and mitigate pollution from commercial and industrial sources. 1-1c1: Preserve hydrologic function (e.g. flooding, buffer zones, resiliency, groundwater, etc.) in developing watersheds and restore in impaired watersheds. 1-1b2: Protect wetlands, healthy watersheds, riparian buffers, and open land to minimize land disturbance and impervious cover through land protection, sustainable development and green infrastructure.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. Resiliency planning (and climate adaptation) is focused on the capacity of community infrastructure to withstand the effects of anthropogenic (e.g., oil spills) and natural (e.g., storms, SLR) perturbations.

This activity will be undertake five-year reviews and develop an inventory of progress toward the development and implementation of sustainability and resiliency plans. In addition, it will provide a means to assess consistency of implementation with up-to-date sustainability and resiliency principles. This action will support the sustainability and resiliency aspect of the following long-term ecosystem indicator and target: Waterfront communities with resilient shorelines and sustainable, resilient infrastructure: By 2020 all waterfront communities have developed plans for shoreline resiliency and infrastructure sustainability and resiliency, with half actively implementing them by 2020 and all by 2035.

Cooperators and Partners: LISS, CTDEEP, NYSDEC, NYDOS, Municipalities

Funding Sources: Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning

Funding Needs: \$

Expected Outputs:

- Five year review of Long Island Sound municipalities' sustainability and resiliency plans.
- Inventory of municipal sustainability and resiliency plan development.

Performance Metric(s):

- Development and maintenance of a sustainability/resiliency plan inventory database.

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action SC-28

Develop guidance for quantifying the benefits and costs of sustainability activities and economic development to incorporate into sustainability and resiliency planning efforts.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4a2: Ensure consistency among economic development and sustainability, mitigation, and resiliency planning efforts. 3-4b3: Balance waterfront recreational, commercial, and industrial uses according to sustainability and resiliency plans.

Project Description/Background: Developing an understanding of sustainability, adaptation, and resiliency concepts for many levels of professionals and citizens is important to developing effective plans and programs. It is important to determine the benefits and costs of sustainability and resiliency program over appropriate time scales. The guidance should include the following:

- Quantify the relative magnitude of waterfront and nearshore uses in municipalities.
- Incorporate a means to connect water dependent business uses to recreational and commercial fisheries.

Consider using “full-cost accounting” and “life-cycle cost accounting” processes to capture more of the true costs that are often externalized in traditional cost-benefit analyses. Also consider costs based on ecosystem parameters (coastal watershed communities) that extend from uplands to coasts and into the offshore areas, which might allow some innovative and equitable payments for ecosystem services or ecological impact fees to be assessed to mitigate watershed and offshore impacts.

Cooperators and Partners: LISS, Municipal Planning Employees, New York and Connecticut Sea Grant, Regional Planning Entities and Councils of Governments, EPA Smart growth program (N. Kingstown, RI model)

Funding Sources: LISS program funds, Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources

Funding Needs: \$\$

Expected Outputs:

- A guidance document and materials for use in planning, education, and outreach

Performance Metric(s):

- Document provided to all interested communities and stakeholders

Implementation Status: Underway

Expected Timeframe: 2015–2017.

Implementation Action SC-29

Identify and recommend removal and, or, protection of sensitive infrastructure in the coastal zone (e.g., oil tanks, pump, power stations, etc.) and work to prevent future siting of such infrastructure in vulnerable coastal floodplains.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b1: Revise zoning, permitting, and related regulations to ensure that future development and redevelopment conform to sustainability, mitigation, and resiliency plans. 1-1a8: Incorporate climate change and sea level rise in planning, regulation, and BMPs for stormwater and wastewater treatment.

Project Description/Background: Coastal infrastructure such as oil storage facilities, public works facilities, power infrastructure etc. can be vulnerable to increased threat of storm surges and SLR. Identification and relocation/retrofitting of these facilities will help to reduce damage and prevent releases of pollutants to Long Island Sound. This action will include training and providing resources to legislators and municipal managers on coastal resiliency, planning and adaptation to enact better laws and guidance on siting and to provide the tools needed for appropriate placement of municipal infrastructure in safe flood protected areas. Coastal Management Act CGS Section 22a-92(b)(1)(E) already disallows the siting within the coastal boundary of new tank farms and other new fuel and chemical storage facilities which can reasonably be located inland and requires any new storage tanks which must be located within the coastal boundary to abut existing storage tanks or to be located in urban industrial areas and to be adequately protected against floods and spills. This action is, therefore, consistent with the Coastal Management Act as well as Connecticut's Natural Hazard Mitigation (http://www.ct.gov/deep/cwp/view.asp?a=2720&q=325652&deepNav_GID=1654) and Climate Change preparedness support (http://www.ct.gov/deep/cwp/view.asp?a=4423&Q=528012&deepNav_GID=2121).

Cooperators and Partners: The state legislatures and the state agencies of Connecticut and New York and their respective state municipalities, the LISS Citizens Advisory Committee (CAC) and other Long Island Sound stakeholders.

Funding Sources: Planning/study could be funded by LISFF, other local grants. Actual expenses for moving/protection would have to come from State Revolving Funds (SRFs)

Funding Needs: \$\$

Expected Outputs:

- Secure and adaptable coastal resiliency plans that will protect infrastructure and reduce the impacts of accidental pollutant releases due to natural weather disasters and SLR.
- Reduced accidental spill events due to weather and flooding events.
- Inventory of vulnerable infrastructure
- Model legislation for siting new infrastructure

Performance Metric(s):

- Vulnerable infrastructure inventory
- Proposed legislative language for appropriate jurisdiction

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action SC-30

Implement standards, best practices, and educational materials for Green Infrastructure/Low-Impact Development planning and implementation.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b2: Provide technical assistance and training for homeowners, municipal officials, developers, engineers, and consultants on sustainability, adaptation, and resiliency concepts and opportunities for implementation.

Project Description/Background: Low-Impact Development (LID) is a management approach whose aim is to reduce the environmental effects of development and Green Infrastructure (GI) is a methodology that uses natural or quasi natural methods for water management that protects, restores, or mimics the natural water cycle (American Rivers' website). It is an approach to stormwater management and water resource protection that communities can use to maintain healthy waters, provide multiple environmental benefits, and support sustainable communities. Unlike single-purpose gray stormwater infrastructure, which uses pipes to dispose of rainwater, GI uses vegetation and soil to manage rainwater where it falls. By weaving natural processes into the built environment, GI provides not only stormwater management, but also flood mitigation, air quality management, and much more (US EPA website). LID and GI can help to minimize nutrient migration from developed sites, reduce demand on wastewater treatment plants, and decrease amount and concentration of nutrients and contaminants entering stormwater and/or groundwater flows into Long Island Sound. The following initial steps are expected:

- Develop a catalog of ecosystem services. This catalog of services, their associated value and optimal usage can then be used in community and natural resource planning. Ecosystem services are those that the environment provides that protect or provide resources including water, timber, and habitat for fisheries, and pollination of native and agricultural plants.
- Develop a manual of waterfront construction that incorporates elements of GI and LID
- Develop programs to teach and inform on ecosystem services, GI, and associated best practices.

Cooperators and Partners: LISS, Municipal Planning Employees, New York/ Connecticut Sea Grant, Regional Planning Entities and Councils of Governments, Connecticut Institute for Resilience and Climate Adaptation, EPA-Soak up the Rain program, Non-traditional partners from service industries to inform implementation (e.g., builders, engineering firms, landscape architects, ecologists, etc.)

Funding Sources: LISS, Hurricane Sandy Relief Funds, Comprehensive Plan Funding Sources

Funding Needs: \$

Expected Outputs:

- Guidance documents and materials for use in planning, education, and outreach

Performance Metric(s):

- A catalog of ecosystem services
- A waterfront construction manual of that incorporates elements of GI and LID
- Number of programs to teach and inform on ecosystem services, GI, and associated best practices
- Increased number of development/re-development projects and private facilities with LID/GI BMPs

Implementation Status: New

Expected Timeframe: 2015–2017.

Implementation Action SC-31

Develop regional outreach programs and training modules on sustainability and resiliency planning topics.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b2: Provide technical assistance and training for homeowners, municipal officials, developers, engineers, and consultants on sustainability, adaptation, and resiliency concepts and opportunities for implementation.

Project Description/Background: As municipalities develop sustainability and resiliency plans, training, and maintaining resources to support these efforts will enable effective development and implementation of the plans. Outreach programs will also involve developing a peer network of municipalities working on sustainability.

Cooperators and Partners: Municipalities within the New York and Connecticut Coastal Long Island Sound Watershed, Regional Planning Entities and Councils of Governments, New York Sea Grant, Connecticut Sea Grant, CTDEEP, NYDOS, NEMO, The Nature Conservancy, Connecticut Institute for Resilience and Climate Adaptation

Funding Sources: EPA Smart Growth assistance, HUD-DOT-EPA Partnership for Sustainable Communities, EPA Energy Star Portfolio Training (for municipal buildings or housing authorities), and EPA Assistance and Pollution Prevention Office resource. Additional funding sources could include agencies, entities, and organizations (including private foundations) that address coastal resiliency and hazard mitigation

Funding Needs: \$\$

Expected Outputs:

- Up to date online tools and training to support resiliency and sustainability planning

Performance Metric(s):

- Number of communities engaged in sustainability and resiliency workshops per year

Implementation Status: New

Expected Timeframe: 2015–2016.

Implementation Action: SC-32

Remediate and sustainably develop abandoned and underutilized sites (brownfields).

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b3: Balance waterfront recreational, commercial, and industrial uses according to sustainability and resiliency plans.

Project Description/Background: This action will obtain and provide funding to municipalities for remediating former and abandoned commercial/industrial sites. This would include cleaning up contaminated superfund sites and restoring or replacing derelict structures in coastal districts around Long Island Sound, subsequently reducing polluted stormwater runoff and leaching of contaminants into the ground water, as well as contributing to sustainable smart growth, development of public access, and vibrant shoreline communities.

Cooperators and Partners: The state agencies of Connecticut (DECD and DEEP http://www.ct.gov/deep/cwp/view.asp?a=2715&q=489000&deepNav_GID=1626#ABCProgram) and New York (<http://www.dec.ny.gov/chemical/8450.html>), their respective state municipalities, redevelopment agencies and other quasi-government organizations. Non-profit land acquisition organizations (TNC, Audubon)

Funding Sources: A combination of state and federal grants and loans primarily funded through each states' respective SRF loan and grant programs and through EPA Grants. See <http://www.ctbrownfields.gov/ctbrownfields/site/default.asp> and <http://www.dec.ny.gov/chemical/brownfields.html>. Private/non-profit funding may assist.

Funding Needs: \$\$\$\$; Individual projects can easily exceed \$1M. Expected funds equal more than \$10 million.

Expected Outputs:

- Eliminate contaminated soils and sediments around Long Island Sound and reduced polluted stormwater runoff and leaching of contaminants into ground water.
- Use of underutilized sites to increase public access to and appreciation of Sound.

Performance Metric(s):

- Number of sites or acres restored/remediated.

Implementation Status: New. While some efforts may have been made, a formal process to undertake systematic cleanup and re-development would be a new process.

Expected Timeframe: 2015–2019.

Implementation Action SC-33

Develop and implement the Long Island Sound Dredge Material Management Plan.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b3: Balance waterfront recreational, commercial, and industrial uses according to sustainability and resiliency plans.

Project Description/Background: When completed the LIS DMMP will be the comprehensive plan for the management of dredged material for Long Island Sound federal dredging activities. The development of the DMMP is a USACE-led process which draws on existing information to: (1) determine the economic and engineering need for dredging according to existing and reasonably prospective navigation traffic; (2) identify the anticipated locations and volumes of dredged material to be generated within the Long Island Sound; and (3) examine existing dredged material disposal sites and management practices to determine if shortfalls in capacity or opportunities for better management exist. Once the DMMP is implemented navigable channels in harbors and bays will be maintained using sustainable practices that include timely dredging and material re-use. It will encourage dredge material re-use projects that restore and enhance natural system resiliency. Implementation will be monitored by Long Island Sound Regional Dredging Team. Dredged material management must also consider the appropriate use of dredging windows to both protect sensitive organisms and keep harbors accessible for boating.

Cooperators and Partners: LISS, USACE NAE and NYD, EPA Regions 1 and 2, NOAA, NYSDOS, NYSDEC, CTDEEP, CTDOT, RICRMC, and the Long Island Sound DMMP Project Delivery Team

Funding Sources: USACE

Funding Needs: \$

Expected Outputs:

- Completed DMMP and PEIS by April 2015

Performance Metric(s):

- Submission of comments that ensure implementation of DMMP meet CCMP strategies
- Continue assessment of implementation of DMMP through Long Island Sound Regional Dredging Team
- Completed DMMP and Programmatic Environmental Impact Statement (PEIS)

Implementation Status: Underway

Expected Timeframe: 2015 (2015–2035 for implementation).

Implementation Action SC-34

Conduct a review of the implementation of resiliency and sustainability plans as they relate to community and waterfront development and redevelopment.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-4: New and existing development is sustainable and resilient.
Objective: 3-4b: To develop and implement sustainability and resiliency plans throughout new and existing development, housing, transportation, emissions control, energy efficiency, and job creation programs for all municipalities.
Strategy: 3-4b3: Balance waterfront recreational, commercial, and industrial uses according to sustainability and resiliency plans. 1-2a1: Minimize vessel/marina discharge impacts. 1-2a2: Reduce generation of marine debris and improve and increase its cleanup in Long Island Sound waters.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. Resiliency planning (and climate adaptation) is focused on the capacity of community infrastructure to withstand the effects of anthropogenic (e.g., oil spills) and natural (e.g., storms, SLR) perturbations.

This activity will be undertake 5-year reviews and develop an inventory of progress toward the implementation of sustainability and resiliency plans. In addition, it will provide a means to assess consistency of implementation with up-to-date sustainability and resiliency principles. This action will support the sustainability and resiliency aspect of the following long-term ecosystem indicator and target: Waterfront communities with resilient shorelines and sustainable, resilient infrastructure: By 2020 all waterfront communities have developed plans for shoreline resiliency and infrastructure sustainability and resiliency, with half actively implementing them by 2020 and all by 2035.

Cooperators and Partners: LISS program funds, CTDEEP, NYDEC, Municipalities

Funding Sources: Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning, LISS, CTDEEP, NYSDEC, Municipalities

Funding Needs: \$

Expected Outputs:

- Five year review of Long Island Sound municipalities' implementation of sustainability and resiliency plans
- Inventory of municipal sustainability and resiliency plan implementation

Performance Metric(s):

- Development and maintenance of a sustainability/resiliency implementation inventory database

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action SC-35

Establish a sustainability and resiliency grant program to encourage implementation of sustainability and resiliency plans.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-5: Public access and sustainable economic activities along the waterfront are enhanced, balanced, and resilient.
Objective: 3-5a: To encourage communities to identify priority waterfront economic development activities and then to implement economic development strategies and infrastructure planning that result in vibrant, resilient, and environmentally sustainable communities.
Strategy: 3-5a1: Establish programs and provide support to communities to help them in obtaining recognition for exemplary sustainability programs.

Project Description/Background: Sustainability planning for energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water will form the basis of community sustainability efforts. Resiliency planning (and climate adaptation) is focused on the capacity of community infrastructure to withstand the effects of anthropogenic (e.g., oil spills) and natural (e.g., storms, SLR) perturbations.

This activity will promote the development and implementation of sustainability and resiliency plans by providing financial support for communities.

Cooperators and Partners: LISS program funds, CTDEEP, NYSDEC, Municipalities

Funding Sources: LISS enhancement grants, Comprehensive Plan Funding Sources, EPA Smart growth, brownfields Wide Area Planning, LISS, CTDEEP, NYDEC

Funding Needs: \$

Expected Outputs:

- Development of sustainability grant Request for Proposals (RFP)
- Development of a resiliency grant RFP
- RFP advertisement, award, and grant support

Performance Metric(s):

- Completed grant RFP
- Completed RFP advertisement
- Completed awards

Implementation Status: New

Expected Timeframe: 2015–2019.

Implementation Action SC-36

Develop a municipal sustainability recognition program that incorporates ideas from other states to incentivize sustainable development and economic planning.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-5: Public access and sustainable economic activities along the waterfront are enhanced, balanced, and resilient.
Objective: 3-5a: To encourage communities to identify priority waterfront economic development activities and then to implement economic development strategies and infrastructure planning that result in vibrant, resilient, and environmentally sustainable communities.
Strategy: 3-5a1: Establish programs and provide support to communities to help them in obtaining recognition for exemplary sustainability programs.

Project Description/Background: Many states and regions recognize leadership and progress in municipal sustainability. Review these programs and, where appropriate develop comparable Long Island Sound program to encourage Connecticut and New York municipalities to pursue municipal sustainability and incorporate sustainability concepts in their land use, coastal resilience, and economic planning.

Include the creation of a community sustainability standard and criteria to determine levels of sustainability as part of the recognition. Reward multiple communities (rather than just one) at various levels (bronze, silver, gold, platinum, etc.) to encourage all communities to participate.

Cooperators and Partners: Municipalities within the New York and Connecticut Coastal Long Island Sound Watershed, Regional Planning Entities and Councils of Governments, New York Sea Grant, Connecticut Sea Grant

Funding Sources: Varied community development programs.

Funding Needs: \$\$

Expected Outputs:

- Documentation of a framework for soliciting nominations, providing recognition, and incentivizing municipal sustainability.

Performance Metric(s):

- Number of communities nominated/per year; number of recognitions given.

Implementation Status: Underway

Expected Timeframe: 2015–2018.

Implementation Action: SC-37

Develop a Public Access Plan to increase public access points and the length of shoreline accessible by the public to the Sound and its rivers.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-5: Public access and sustainable economic activities along the waterfront are enhanced, balanced, and resilient.
Objective: 3-5a: To encourage communities to identify priority waterfront economic development activities and then to implement economic development strategies and infrastructure planning that result in vibrant, resilient, and environmentally sustainable communities.
Strategy: 3-5a2: Improve access to Long Island Sound and its embayments, maintain and enhance view corridors and blueways, and enhance water-dependent uses.

Project Description/Background: In many areas around the Long Island Sound watershed, residents are deprived of access to streams, rivers, and the Sound. In other areas, public access exists but barriers such as lack of parking or public transportation limit use. In other cases residents are unaware that good access to the shoreline in their communities even exists. Environmental justice concepts stress the importance of access to the coast for everyone, regardless of income level. Access to the shoreline is already limited by a high percentage in private ownership. In addition, municipal restrictions prevent out of town visitors to local beach and shoreline parks. Beaches and shorelines are becoming narrower, restricting public access even more as high tides come up to homes and buildings. Rising coastal water levels and storms are changing coastlines, but if opportunities are pursued for more public access and sustainable development along the LIS shoreline, this public trust resource would be for all the public.

To ensure people's ability to appropriately use and appreciate the Sound, LISS should take the initial step of developing a public access plan that would (1) inventory all current access points (in New York and Connecticut) along LIS, (2) list recommendations on where new public access sites should be created, and (3) suggest how existing public access sites, such as Long Island Sound Stewardship Sites, can be improved to better support public use. An access plan should include a target on the number of access sites that will be added or improved by 2035, and identify funding sources. The planning process to increase public access to the Sound will include an evaluation of the capacity of new access sites identified to support public use without significantly diminishing the ecological services provided by the site, as currently done through the implementation of the Connecticut Coastal Management Act water-dependent use policies. These policies require that new non water-dependent development at waterfront sites provide new opportunities for public recreational enjoyment of Connecticut's coast. The administration of CCMA's water dependent use policies has resulted in the creation of approximately 60 coastal public sites at privately-owned waterfront sites since the inception of Connecticut's Coastal Management Program in 1980. Additionally, access points to the Sound might not be ADA (Americans with Disabilities Act) accessible and in compliance with federal ADA regulations. As such, access areas need to be inspected to see if they are in compliance with the ADA regulations. New York Sea Grant is currently conducting this work along the Hudson River in partnership with the Cornell Northeast ADA Center (<http://www.ilr.cornell.edu/edi/p-neada.cfm>). If this is deemed important in Long Island Sound, a similar program can be brought to Long Island Sound via New York Sea Grant.

Cooperators and Partners: NYSDEC, CTDEEP, USFWS, NEIWPC, New York Sea Grant, Connecticut Sea Grant

Funding Sources: LISS, NOAA Coastal and Estuarine Land Conservation Program (CELCP) (coastal land acquisition funding through the NOAA-administered competitive state grant program), Connecticut Open Space and Watershed Land Acquisition Grants and the Recreation and Natural Heritage Trust program.

Funding Needs: \$\$

Expected Outputs:

- A public access plan that includes the topics described above.

Performance Metric(s):

- Attainment of CCMP target for adding and improving public access sites by 2035.

Implementation Status: New

Expected Timeframe: 2016–2018.

Implementation Action: SC-38

Encourage the sustainable use of natural coastal areas, including Long Island Sound Stewardship Areas, through support of sustainable blueways, bikeways, and greenways.

Theme: Sustainable and Resilient Communities
Goal: Support vibrant, informed, and engaged communities that use, appreciate, and help protect Long Island Sound.
Outcome: 3-5: Public access and sustainable economic activities along the waterfront are enhanced, balanced, and resilient.
Objective: 3-5a: To encourage communities to identify priority waterfront economic development activities and then to implement economic development strategies and infrastructure planning that result in vibrant, resilient, and environmentally sustainable communities.
Strategy: 3-5a2: Improve access to Long Island Sound and its embayments, maintain and enhance view corridors and blueways, and enhance water-dependent uses. 2-1b1: Identify high-priority areas to protect using a repeatable, criteria-based process to minimize bias, supplemented by expert knowledge.

Project Description/Background: To encourage the sustainable use of natural coastal areas, and to educate on how human disturbance can affect wildlife, especially public trust species. LISS Communications team will also provide Long Island Sound-specific literature that will assist a larger and multiple-agency/partnership effort to create a region-wide system of publicly accessible recreational and educational trails that bridge land and water within the estuary region. This will be part of a bi-state, recreational, tourism, and public health collaborative that enlists multiple non-traditional partners, including, but not limited to, health districts, Connecticut Forest and Park Association, multiple tourism councils, regional/local chambers of commerce, marinas/recreational boating industry, Connecticut and New York State Parks, private recreational sporting/outdoor clubs, LISS Stewardship Areas, and urban groups representing underprivileged populations as an element of environmental justice.

Cooperators and Partners: New York Sea Grant, Connecticut Sea Grant, NEIWPC, LISS Stewardship Area managers, Audubon New York, Audubon Connecticut

Funding Sources: Long Island Sound Futures Fund, but potential to tap into a number of larger funding agencies according to emphasis (e.g., educational or public health related granting funds).

Funding Needs: \$\$\$ - Depending on number of partners and scope could be substantial

Expected Outputs:

- Educational literature
- Web-based support materials
- Number of participants
- Number of events
- Number of collaborators
- Number of communities
- Regional scope could all be tracked as outputs
- Stewardship Atlas maintained on the LISS website (<http://longislandsoundstudy.net/issues-actions/stewardship/stewardship-areas-atlas/>)

Performance Metric(s):

- Amount of dollars generated and benefitting local economies from events hosted through partnership effort;
- Number of requests for information
- Success in creating, improving, and expanding stewardship areas/ greenways/ blueways/ bikeways.
- Number of visitors to the Stewardship Area Atlas webpage

Implementation Status: New

Expected Timeframe: 2015–2019.