



Comprehensive Conservation and Management Plan 2020

Supplemental Document 3

Sustainable and Resilient Communities (SC) Theme

Implementation Actions 2020–2024

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	Support festivals, celebrations, events, campaigns and materials that reach priority audiences through multiple communication channels to promote education and encourage appreciation, responsible use, and stewardship of the Sound’s natural, cultural, historical and maritime resources.	3-1a1, 3-1a2
SC-2	Support efforts and projects that promote environmentally sustainable recreational activities and protection of the Sound’s environmental and wildlife resources.	3-1a1, 2-2b2, 2-4a3
SC-3	Continue programs to promote recreational fishing and boating as healthy and sustainable activities, while incorporating education on environmental issues and ways to enhance stewardship.	3-1a1
SC-4	Support federal, state and local environmental justice initiatives that promote equitable access, appreciation, and understanding of the Long Island Sound.	3-1a3, 2-3a1
SC-5	Support or develop tools (e.g., training modules, websites, regulations, best practices, etc.) and conduct region-wide and town-specific workshops to assist municipalities in incorporating environmental justice in projects that implement CCMP actions.	3-1a3, 2-3a1
SC-6	By 2024, develop and implement a 5-year coordinated communications plan that engages multiple audiences (e.g., elected officials and municipalities) in ongoing efforts to improve the health and resilience of Long Island Sound.	3-1b1, 3-1a3, 2-3a1
SC-7	Produce informational materials to engage multiple audiences in stewardship and increase the public's understanding of the ecological, cultural, and recreational value of Long Island Sound.	3-1b1
SC-8	Develop projects with the Long Island Sound National Estuarine Research Reserve and other partners to disseminate knowledge and results from Long Island Sound monitoring and research.	3-1b1, 1-3c1, 4-1b3, 4-2b2
SC-9	Raise awareness through various media formats about the Sound’s water quality conditions that could impact human health.	3-1b1
SC-10	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-11	Support local volunteer organizations that are working toward the ecological restoration of the Sound and its tributaries.	3-1c1, 2-3a1, 2-3a2

IA Number	Implementation Action Title	Major Strategies Addressed
SC-12	Continue 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-13	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-14	Promote landscaping guidance, practices and policies to property owners and communities that encourage alternatives to chemical and nutrient-intensive landscaping, including establishment of natural vegetated buffers near waterbodies.	3-1c2
SC-15	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-16	Develop a Sound-wide campaign to increase the public's connection to and safe and sustainable use of the Sound.	3-1c2, 2-3a1
SC-17	Continue and expand efforts such as the Long Island Sound Mentor-Teacher Program to 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-18	Support and encourage informal education activities on Long Island Sound.	3-2b1
SC-19	Support programs and opportunities that promote in-the-field and hands-on learning through classroom and informal activities.	3-2b1
SC-20	Provide support to municipalities on low-impact development and green infrastructure.	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, improve water quality and steward healthy habitats and resilient communities.	3-3a2
SC-23	Develop tools (e.g., training modules, websites, regulations, best practices, etc.) and conduct region-wide and town-specific workshops to assist municipalities in the development of sustainability and resiliency plans and their integration into comprehensive plans.	3-4a1, 1-1a8
SC-24	Support community development, adoption, and implementation of new or updated Municipal Sustainability Plans and Coastal Resiliency Plans.	3-4a1, 3-4b1, 3-4b2, 1-1a6, 1-1a8, 1-1c1, 1-1b2, 4-3b4

IA Number	Implementation Action Title	Major Strategies Addressed
SC-25	Develop guidance for assessing the benefits and costs of sustainability activities and economic development, including protection of ecosystem function versus infrastructure protection, to incorporate into sustainability and resiliency planning efforts.	3-4a2, 3-4b3
SC-26	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-27	Implement standards, best practices, and educational materials for Green Infrastructure/Low-Impact Development planning and implementation.	3-4b2
SC-28	Remediate and sustainably develop abandoned and underutilized sites (brownfields).	3-4b3
SC-29	Pursue further study and support for beneficial use and other alternatives to open water placement of dredged material.	3-4b3
SC-30	Provide technical and financial assistance to municipalities to implement sustainable and resilient community projects.	3-5a1
SC-31	Support planning and implementation to increase the number of points and the length of the Sound's shoreline and rivers that provide equitable public access while also protecting and balancing the health and resilience of sensitive wildlife habitats and breeding areas.	3-5a2
SC-32	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

Support festivals, celebrations, events, campaigns and materials that reach priority audiences through multiple communication channels to promote education and encourage appreciation, responsible use, and stewardship of the Sound's natural, cultural, historical and maritime 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: 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. This action will support festivals, celebrations, events, campaigns, and materials that reach priority Long Island Sound audiences through multiple communication channels. The purpose of this action is to provide more opportunities for education and encourage appreciation, responsible use, and stewardship of the Sound's natural, cultural, historical, and maritime resources.

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

Funding Sources: LISFF

Funding Needs: \$-\$\$/project; \$\$\$-entire project

Expected Outputs:

- Festivals, celebrations, events, and campaigns aimed at improving knowledge and appreciation of the Sound and its conservation

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
- Number of visitors attending festivals and celebrations

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-2

Support efforts and projects that promote environmentally sustainable recreational activities and protection of the Sound's environmental and wildlife 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.
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. 2-2b2: Manage habitat threats (e.g., climate-change driven threats and predator-prey relationships) to targeted and Trust species. 2-4a3: Identify surrogate/representative species for long-term monitoring to evaluate ecosystem health

Project Description/Background: The purpose of this action is to support efforts and projects that promote environmentally sustainable recreational activities and protection of the Sound's environmental and wildlife resources. 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 useful information on environmentally sustainable practices. Some recreational activities are threats to populations of species of greatest conservation need, including forage species. Therefore, through the promotion of environmentally sustainable recreational activities, this action should reduce the conflicts between the Sound's ecological resources, wildlife, and humans uses, especially for species and habitat at greatest risk (HW-17).

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

Funding Sources: LISFF, 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 created and/or distributed
- Number of campaigns promoting environmentally sustainable recreation
- Number of engagements in social media platforms (e.g. likes, views, comments, shares, etc.)
- Knowledge of sustainable recreation of shoreline areas is increased as assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-3

Continue programs to promote recreational fishing and boating as healthy and sustainable activities, while incorporating education on environmental issues and ways to enhance stewardship.

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: Promoting healthy and sustainable recreational fishing and boating are important to facilitate education on environmental issues and enhancement of stewardship. The states of Connecticut and New York recognize this need through fishing programs—I Fish New York and the Connecticut Aquatic Education Resources (CARE). 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 fishing and boating as healthy and sustainable recreational sports. This can be accomplished through sustainable fishing programs, boat safety programs, the dissemination of information regarding legal practices (e.g., permit processes) in multiple languages, and the promotion of environmentally friendly boat use and maintenance practices. This action can support LISS environmental justice goals by promoting connections and partnerships with communities historically disconnected from boating and fishing on the Sound, and improving access to the activity for non-English speaking anglers who may be unfamiliar with the permitting process.

Cooperators and Partners: CTDEEP, NYSDEC, USFWS, local boating and fishing organizations (e.g., Power Squadron clubs, angler clubs, yacht clubs, sailing clubs, etc.), schools, community groups, Boys and Girls Clubs, etc.

Funding Sources: CTDEEP and NYSDEC.

Funding Needs: \$\$\$/yr (CARE); \$-Fish New York; \$\$\$-NYSDEC

Expected Outputs:

- Continued funding for fishing programs and other state and local programs that encourage responsible fishing
- Increased participants in fishing education programs
- Anglers following sustainable fishing practices
- Increasing access to fishing and boating activities in underserved areas
- Reduction in the number of anglers fined for illegal fishing practices due to language barriers or a lack of knowledge

Performance Metric(s):

- Number of participants in fishing education programs
- Number of participants 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 educational signs posted in a non-English language

Expected Timeframe: Ongoing; 2020-2024

Implementation Action: SC-4

Support federal, state and local environmental justice initiatives that promote equitable access, appreciation, and understanding 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.
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, 44% of Long Island Sound residents who live in highly urbanized areas participated in at least one Sound activity in 2006. However, only 9% fished or harvested shellfish in the Sound and only 7% motor boated, sailed, kayaked or canoed 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 areas functionally disconnected from the Sound, a Long Island Sound needs assessment will be conducted targeting underserved, underrepresented and environmental justice communities. 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 assistance (e.g., technical, financial, etc.) is needed to help resolve their issues. Engaging EJ leaders, communities and young people in identifying needs, barriers and opportunities will increase representation in Long Island Sound decision making. This may lead to an increase in quantity and quality of access points. Opportunities should be assessed for managed shoreline restoration and public access near these communities. Cultural information on how to best reach and deliver these programs to different audiences will also be collected. By assessing and identifying these needs, LISS will identify and share new and improved policies and practices to increase public involvement along the Long Island Sound shoreline.

Subject to the results of the needs assessment, a Long Island Sound underserved areas program may be designed and developed to address select environmental issues through a culturally aware delivery method. The program will be piloted in a select underserved area, and will be evaluated and revised accordingly. If deemed effective, the program will be expanded to additional underserved areas facing similar environmental issues. This is the ideal action LISS would like to take, but if the needs assessment suggests a different approach then LISS will pursue other actions.

To promote equitable access, appreciation, and understanding of the Long Island Sound for underprivileged and underserved audiences, grant programs, such as the LISFF, will support EJ initiatives. This includes initiatives that connect residents to urban waters, support municipal efforts to restore degraded waterfronts and natural areas, actively protect air and water quality in underserved communities, engage volunteers to help in restoration efforts, and include local community voices in the project development process. 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, NFWF, LISS Stewardship Initiative partners, USFWS, Audubon Connecticut, EPA Region 1 and 2 Environmental Justice offices, local urban environmental organizations.

Funding Sources: LISS, LISFF, EPA, NGOs, and other State and Federal Agencies.

Funding Needs: \$-\$\$\$ /year for projects

Expected Outputs:

- Long Island Sound urban areas needs assessment
- Implementation of recommendations from the needs assessment
- Students and adults involved in Long Island Sound activities in EJ communities
- Restored waterfronts and natural areas as well as wildlife demonstration sites developed throughout the Long Island Sound watershed
- Incorporation of EJ considerations into LISS funded projects and LISS planning documents

Performance Metric(s):

- Number of students and adults in EJ communities involved in recreational or educational experiences relevant to the Sound and its environment
- Number of students and adults in EJ communities who have a greater appreciation of the Sound through experiences as assessed by surveys
- Extent of environmental improvements in EJ communities 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)

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-5

Support or develop tools (e.g., training modules, websites, regulations, best practices, etc.) and conduct region-wide and town-specific workshops to assist municipalities in incorporating environmental justice in projects that implement CCMP actions.

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: The LISS CCMP states that all communities must benefit from programs to protect and restore the Sound and have equal access to the decision-making process. This requires that special efforts target traditionally underserved communities, and that outreach and involvement programs work with community organizations to address their needs through a culturally aware delivery method. Federal, state, local government, and NGO partners should incorporate EJ as an integral part of ongoing work using a variety of approaches.

The action is tailored to support, adapt, promote, and develop tools and conduct workshops to assist municipalities in incorporating EJ in CCMP implementation projects. NYSDEC, CTDEEP, and EPA have Environmental Justice Programs. LISS should promote this work and provide support to existing programs and initiatives. There are other organizations, such as Save the Sound, that provide EJ tools, training, and outreach materials to underserved communities that LISS should partner with to implement this action. Once tools are developed and workshops are conducted, LISS will share these mechanisms, through multiple channels (e.g., social media, online guides, signage, etc.), that guide incorporation of EJ in projects that implement CCMP actions. This will facilitate knowledge sharing so that partners can easily adopt EJ advancing tools.

Cooperators and Partners: NYSDEC, CTDEEP, EPA, NEIWPC, CT and NY Sea Grant Programs. Additional partner organizations and municipalities need to be identified.

Funding Sources: LISS and agency existing funding; LISS, LISFF, EPA, NGO's, and other State and Federal Agencies.

Funding Needs: \$\$—Contracting and consulting services, in-kind services of existing staff

Expected Outputs:

- List of organizations and municipalities that LISS can partner with on EJ efforts
- EJ tools and training
- Adoption of EJ principles by municipalities in their projects and priorities

Performance Metric(s):

- Number of EJ tools and trainings promoted through LISS outreach materials targeted at municipalities
- Number of CCMP implementation projects that incorporate EJ funded by LISS, or supported by other means

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-6

By 2024, develop and implement a 5-year coordinated communications plan that engages multiple audiences (e.g., elected officials and municipalities) in ongoing efforts to improve the health and resilience 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.
Objectives: 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. 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: Expertly and strategically communicating with the public regarding Long Island Sound restoration is imperative to the restoration and conservation process. Achieving the management objectives of the LISS CCMP requires engagement across a large geographic area from a wide variety of stakeholders, including elected and agency officials at all levels of government, business and civic society, as well as an informed citizenry. Developing the plan will begin with an audit of LISS's existing informational materials and distribution formats and interviews with key stakeholders to gain insights on strengths and weaknesses and to discover communications gaps. This action will hire a contractor to work with stakeholders (e.g., federal, state and local agencies, NGOs, business and academic institutions) to help us assess the status and gaps of LISS communications, and identify measurable outcomes, target audiences, key messages, and tools and channels to implement in the 5-year framework.

Cooperators and Partners: NYSDEC/NYSDOS, CTDEEP, NEIWPC, The Nature Conservancy, and CT and NY Sea Grant Programs, with support from Management Conference partners.

Funding Sources: LISS and agency existing funding.

Funding Needs: \$-\$\$\$; In-kind services of existing staff and contractual services

Expected Outputs:

- Understanding communication gaps and barriers to providing information to key stakeholder groups, including evaluating LISS capacity for program delivery
- Identification of key messages
- Strategic communications plan that outlines how to distribute informational materials and messaging, including targeted information to key stakeholder groups
- Key stakeholders receive targeted information about the health of Long Island Sound and management efforts to restore the Sound

Performance Metric(s):

- Number of outreach activities, and distribution of informational materials through various formats
- Number of organizations traditionally underrepresented in environmental policy development are involved in the LISS Management Conference (MC, CAC, work groups)
- Number of briefings and events involving organizations traditionally underrepresented
- An increase in awareness of Long Island Sound ecosystem and watershed health and value assessed through surveys

Expected Timeframe: Ongoing; 2020-2024

Implementation Action: SC-7

Produce informational materials to engage multiple audiences in 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 informational materials to engage multiple audiences in stewardship, including outreach materials to underrepresented populations within the Long Island Sound 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 EJ. A primary focus of this action should be to increase visibility and awareness of existing public access opportunities through multiple channels (social media, online guides, signage, etc.). The materials, formats, and audiences identified in the LISS Communications Plan will be prioritized. This coordinated communication plan will develop LISS partner interviews and focus group summaries, summary report of target audience research, message testing, prioritized list of communication tools and channels, and a 5-year strategic plan including measurable outcomes, partner roles, resource requirements and gaps, action items and progress metrics.

Cooperators and Partners: NEIWPCC, 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
- Print and web-based newsletters are produced, based on the LISS Communications Plan
- 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-8

Develop projects with the Long Island Sound National Estuarine Research Reserve and other 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. 1-3c1: Support collaboration between Long Island Sound Study (LISS) partner organizations including upper basin agencies/partners (USGS, CTDEEP, CTDOA, NYSDEC, MassDEP, SCDHS, etc.) to improve utility of monitoring data and the sentinel monitoring program. 4-1b3: Evaluate, enhance, integrate, and coordinate ongoing monitoring programs. 4-2b2: Identify critical funding needs for protection and restoration projects, science, education, and involvement, and relate these needs to available or new funding sources.

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, including the proposed Long Island Sound National Estuarine Research Reserve (NERR). This action will develop, maintain and share research and monitoring resources and supporting infrastructure to the NERR (WW-39). Some possible methods could include traveling exhibits, community science engagement, interactive websites, mobile applications, web-based games, videos, etc. These projects would provide communities 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, CTDEEP, 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, including with the NERR and the Unified Water Study
- 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
- Number of informational materials and outputs (posts, news releases, etc.) released to the public covering research and science local projects

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-9

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 Public Health (CTDPH) 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, CTDPH, 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, CTDPH, 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 or online materials distributed
- Number of documents provided in different languages covering issues such as safe fish consumption
- 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-10

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 Sea Level Rise (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 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 residents.

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

Funding Sources: LISS program funds.

Funding Needs: \$-\$\$

Expected Outputs:

- Web pages, articles, and social media posts covering climate change related topics
- Campaigns aimed at increasing public awareness about climate change

Performance Metric(s):

- Number of web pages
- Number of postings to social media
- The public has increased understanding of climate change issues and knowledge on how to prepare for climate change as assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-11

Support local volunteer organizations that are working toward the ecological restoration of the Sound and its tributaries.

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: Public participation in environmental stewardship is essential for the restoration and conservation of Long Island Sound and its resources. 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 and its tributaries. Staff will make information about restoration opportunities available through its website and share relevant volunteer opportunities through its social media platforms. The LISS web page includes a “Volunteer Opportunities” page where volunteers can view descriptions of community organizations that conduct relevant environmental volunteer work in Connecticut, New York, and upper basin states.

LISS will provide local organizations technical support for stewardship and volunteer activities, such as the Long Island Sound Coastal Bioblitz. Such programming may include restoration through clean up activities, invasive species monitoring and removal, etc. LISS will also provide local volunteer organizations with grant assistance, such as the LISFF.

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

Funding Sources: LISS, LISFF.

Funding Needs: \$

Expected Outputs:

- Continuously updating LISS “Volunteer Opportunities” webpage

Performance Metric(s):

- Restoration projects and activities completed
- Number of organizations engaged in restoration activities with volunteers
- Number of visitors to the LISS “Volunteer Opportunities” webpage
- Number of volunteer events supported by LISS
- Number of volunteers participating in volunteer opportunities

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-12

Continue 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 support for volunteer projects and other outreach activities in the Long Island Sound watershed, especially at New York and Connecticut Stewardship Areas. This action will allow for the continuation of volunteer and outreach efforts at 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.

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

Expected Outputs:

- Community science educational projects for K-12 and college students, especially in Stewardship Areas
- Interpretive nature walks for the general public

Performance Metric(s):

- Number of volunteers participating in LISS-supported stewardship programs.
- Increase in public perception of the health of Sound assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-13

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 conference for residents of Long Island Sound to learn about progress, challenges, and issues, and to build relationships between the LISS partners, stakeholders, and residents by providing a platform for communication about environmental priorities from a community perspective. Historically, the Summit venue alternates each year between Connecticut and New York. However, new options should be explored as a virtual Summit may be more feasible and impactful. 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: CAC organizations, Management Conference partners, and community groups.

Funding Sources: LISS program funds.

Funding Needs: \$/year

Expected Outputs:

- Long Island Sound Citizens Summit conference
- LISS and its stakeholders receive feedback that help inform environmental decision-making

Performance Metric(s):

- Number of residents and stakeholders that attend the conference
- Residents increase their knowledge about important Long Island Sound issues as assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-14

Promote landscaping guidance, practices and policies to property owners and communities that encourage alternatives to chemical and nutrient-intensive landscaping, including establishment of natural vegetated buffers near waterbodies.

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, landscaping guidance, practices and policies will be promoted to property owners and communities that encourage alternatives to chemical and nutrient-intensive landscaping. Programs will 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 communities to engage in environmentally friendly practices.

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:

- Opportunities and forums for dissemination of sustainable gardening information with diverse audiences
- Knowledgeable master gardeners implementing and sharing sustainable gardening practices to promote clean water in connection to Long Island Sound
- Support professional development of informal and formal educators

Performance Metric(s):

- 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
- Foster individual stewardship and behavior change as assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-15

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, behavior change campaigns, such as those conducted through Community Based Social Marketing (CBSM), 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, and prevention of marine debris. The LISS Communications team will lead this effort by providing information on behavior change via a LISS webpage, workshops, webinars, and other methods to encourage community groups to develop their own behavior change projects.

Cooperators and Partners: NEIWPC, New York Sea Grant, Connecticut Sea Grant, NFWF, other grant programs.

Funding Sources: LISFF.

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 or LISS-supported projects that propose or incorporate CBSM
- Number of LISFF grants or other grant programs 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)

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-16

Develop a Sound-wide campaign to increase the public's connection to and 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: Communities 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 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 EJ. The campaign will increase visibility and awareness of existing public access opportunities through multiple channels (social media, online guides, signage, etc.). 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 in coordination with the strategic Communications Plan 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, social media, and cable television promoting the Sound

Performance Metric(s)

- Increased attendance at public access sites along the Sound, including 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
- Improved awareness and understanding of Long Island Sound as measured through the Public Perception Survey

Expected Time frame: Ongoing; 2020-2024.

Implementation Action: SC-17

Continue and expand efforts such as the Long Island Sound Mentor-Teacher Program to 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 to share 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, environmental economics, geography, 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 Social Science Frameworks, Science Learning Standards, and/or the Next Generation Science 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. The goal of this action is to continue and expand efforts such as the Long Island Sound Mentor-Teacher Program to provide formal and informal K-12 educators with opportunities to learn how to include Long Island Sound instruction in their classrooms.

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
- Updated Educational Resources Catalogue on LISS website

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 Workshops
- Number of teachers that incorporate the teaching of Long Island Sound in their classrooms as assessed through surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-18

Support and 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 continue these experiences, which are important in maintaining and enhancing the public's appreciation of the Long Island Sound, the LISS Communications Team will support and encourage informal education activities. 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
- Updated Educational Resources Catalogue on LISS website

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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-19

Support programs and opportunities that promote in-the-field and hands-on learning through classroom and informal activities.

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: Participating in in-the-field and hands-on learning through classroom and informal activities enhances experiences in the Long Island Sound from a new perspective and an increase use, appreciation and understanding of its resources. Special focus should be given to making such opportunities especially available to and accessible for underserved communities, including those in urban and inland settings, who may otherwise have limited access to on-the-field education. There are a variety of informal education organizations, in both Connecticut and New York, that provide on-the-water experiences for the public through boat tours or outreach/education events. Events 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 with limited experience on the water. Educational materials could be created specific to these events, 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.

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: LISFF, funding associated with tourism in Connecticut and New York.

Funding Needs: \$\$

Expected Outputs:

- Events that provide in-the-field and hands-on opportunities, both “on-the-water” and land-based

Performance Metric(s):

- Number of participants
- Number and diversity of organizations that participate in the event(s) or conduct such activities
- Increase in public awareness of Long Island Sound as assessed by surveys

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-20

Provide support 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: This action will provide support to municipalities on low-impact development (LID) and green infrastructure (GI). This includes supporting LID/GI through focusing on vegetated buffers, living shorelines, bioretention, and pervious pavement. 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: LISFF.

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

Expected Outputs:

- Training workshops
- Demonstration BMPs installed in conjunction with training workshop
- Increased dissemination of knowledge of BMP techniques

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
- Number of projects incorporating LID/GI

Expected Timeframe: Ongoing; 2020-2024.

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, LISFF.

Funding Needs: \$-\$\$/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

Expected Timeframe: Ongoing; 2020-2024.

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, improve water quality and steward healthy habitats and resilient communities.

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 Sound-wide 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.

By using the best available social science research methods, this action will help understand the public's role in the Long Island Sound ecosystem and apply that information to help support campaigns to reduce pollution, improve water quality and steward healthy habitats and resilient communities. 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-23

Develop tools (e.g., training modules, websites, regulations, best practices, etc.) and conduct region-wide and town-specific workshops to assist municipalities 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 is focused on energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water; and 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 develop tools (e.g., training modules, websites, regulations, best practices, etc.) and conduct region-wide and town-specific workshops to assist municipalities in the development of sustainability and resiliency plans and their integration into comprehensive plans. Materials and workshops will include approaches for assessing risks and vulnerabilities, such as the use of GI approaches and developing strategy options that support sustainable and resilient wastewater and stormwater infrastructure design. Materials and workshops 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, Comprehensive Plan Funding Sources, EPA Smart Growth, Brownfields Wide Area Planning.

Funding Needs: \$-\$\$

Expected Outputs:

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

Performance Metric(s):

- Completed training modules, handbook, website and, or other materials
- Number of municipalities with sustainability and resiliency plans

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-24

Support community development, adoption, and implementation of new or updated Municipal Sustainability Plans and 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. 4-3b4: At five-year intervals refine implementation actions and priorities by incorporating and integrating new information (including emerging issues) relating to science and management.

Project Description/Background: This action will support community development, adoption, and implementation of new or updated Municipal Sustainability Plans and Coastal Resiliency Plans.

Sustainability planning is focused on energy and water use, water quality, natural infrastructure and sustainable land use practices, water dependent uses, and access to the water, and will form the basis of community 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.

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 (e.g., Green Infrastructure) 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, 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, FEMA—community rating system, TNC, Connecticut Institute for Resilience and Climate Adaptation, HUD-DOT Partnership for Sustainable Communities.

Funding Sources: Comprehensive Plan Funding Sources, EPA Smart Growth, Brownfields Wide Area Planning, Cleaner Greener programs in New York, HUD, HUD-DOT Partnership for Sustainable Communities, FEMA.

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
- Resiliency Plans for each municipality or planning area linked to comprehensive plans, sustainability plans, and other guiding municipal and regional planning documents

Performance Metric(s):

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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-25

Develop guidance for assessing the benefits and costs of sustainability activities and economic development, including protection of ecosystem function versus infrastructure protection, 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: 3-4a: 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. 3-4b3: Balance waterfront recreational, commercial, and industrial uses according to sustainability and resiliency plans.

Project Description/Background: Developing a guidance for assessing the benefits and costs of sustainability activities and economic development is important for the future development of effective sustainability and resiliency plans and programs. 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.
- Incorporate the protection of ecosystem function versus infrastructure protection.

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, 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-26

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 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 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
- Model legislation for siting new infrastructure

Performance Metric(s):

- Inventory of vulnerable infrastructure
- Proposed legislative language for appropriate jurisdiction

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-27

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 (<https://www.epa.gov/green-infrastructure/benefits-green-infrastructure>). 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. This action will implement standards, best practices, and educational materials for GI/LID planning and implementation. 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, 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-28

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 remediate and sustainably develop abandoned and underutilized sites (brownfields), including obtaining and providing 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

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action SC-29

Pursue further study and support for beneficial use and other alternatives to open water placement of dredged material.

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: The Long Island Sound Dredged Material Management Plan (DMMP) was developed to be the comprehensive plan for the management of dredged material for Long Island Sound federal dredging activities (https://www.epa.gov/sites/production/files/2016-11/documents/elis_fseis_-_full_report_with_appendices_submitted_04nov16.pdf). 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. With FY2020 funds, LISS has funded CTDEEP \$150,000 to pursue further study and support for beneficial use and other alternatives to open water placement of dredged material in Long Island Sound. The project will inventory potential beneficial use sites in Connecticut, screen criteria to link potential projects to appropriate sites focusing on coastal resource restoration approaches, conduct a case-study examination of at least one site, and develop a project website to deliver outputs to the public and Long Island Sound dredged material regulators.

Cooperators and Partners: LISS, USACE NAE and NYD, EPA Regions 1 and 2, NOAA, NYSDOS, NYSDEC, CTDEEP, CTDOT, and RICRMC.

Funding Sources: LISS, USACE

Funding Needs: \$\$\$

Expected Outputs:

- Increased knowledge about beneficial use of dredged material in the Long Island Sound
- Completed inventory of potential beneficial use sites in Connecticut
- Completed case-study examination of at least one potential beneficial use site
- Completed project website

Performance Metric(s):

- Number of beneficial use projects

Expected Timeframe: Discrete; 2020-2024.

Implementation Action SC-30

Provide technical and financial assistance to municipalities to implement sustainable and resilient community projects.

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 provide technical and financial assistance to municipalities to implement sustainable and resilient community projects.

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, NYSDEC.

Funding Needs: \$

Expected Outputs:

- Sustainable and resilient community projects

Performance Metric(s):

- Number of municipalities implementing sustainable and resilient community projects

Expected Timeframe: Ongoing; 2020-2024.

Implementation Action: SC-31

Support planning and implementation to increase the number of points and the length of the Sound's shoreline and rivers that provide equitable public access while also protecting and balancing the health and resilience of sensitive wildlife habitats and breeding areas.

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: The Sound has over 580 miles of coastline and coastal view-scapes that are available to an estimated twenty million residents within 50 miles of the shoreline. In order for these sites to be accessible by all members of the Long Island Sound community, public access must be increased. Public access may include any site that is open to the public for boating, swimming, fishing, hiking, walking, or any other outdoor activity along the shoreline. In many areas around the Long Island Sound watershed, residents are deprived of access due to physical, policy or practice, affordability, and knowledge barriers. Additionally, there is a lack of geographic and demographic representation along the Long Island Sound coastline. 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 comes 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 Long Island Sound shoreline, this public trust resource would be for all the public.

To ensure people's ability to appropriately use and appreciate the Sound, LISS will support planning and implementation to equitably increase the number of access points and the length of the Sound's shoreline and rivers accessible by the public while also protecting and balancing the health and resilience of sensitive wildlife habitats and breeding areas. 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 the Sound, (2) research and 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 the Sound via New York Sea Grant. Additionally, implementation of the needs assessment (see SC-4) will identify barriers and opportunities to increase quantity and quality of access points that will be incorporated in the plan. Through this plan, LISS will identify and share mechanisms to effectively increase public access points along the shoreline, including, improving policies and practices, identifying funding streams, and reviewing other states' approaches to public access (e.g., California and Hawaii).

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
- Number of supported public access projects
- Number of improved hiking/walking trails, shoreline access, boating launches, fishing sites

Expected Timeframe: Discrete; 2020-2024.

Implementation Action: SC-32

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: This action will encourage the sustainable use of natural coastal areas, including Long Island Sound Stewardship Areas, through support of sustainable blueways, bikeways, and greenways. The action will also include educating the public 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 EJ. Additionally, the needs assessment (see SC-4) will research and engage EJ leaders, communities and young people in identifying needs, barriers, and opportunities to increase quantity and quality of access points that support sustainable use of blueways, bikeways, and greenways. When complete, LISS will identify and share mechanisms to increase public access, while encouraging the sustainable use of natural coastal areas.

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

Funding Sources: LISFF, 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

Expected Timeframe: Ongoing; 2020-2024.