



INVASIVE SPECIES
MANAGEMENT
LONG ISLAND

2025 - 2030

Strategic Plan

Long Island Invasive Species
Management Area





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Executive Summary

Invasive species are non-native species that cause harm to the environment, the economy, or human health. Managing these threats is critical to protecting Long Island and New York City's communities and ecosystems.

The Long Island Invasive Species Management Area (LIISMA) leads collaborative efforts to prevent, detect, and manage invasive species across Staten Island, Brooklyn, Queens, and Nassau and Suffolk counties. Hosted by the Long Island Native Plant Initiative, LIISMA coordinates regional partnerships, science-based strategies, and education programs to address invasive species challenges.

Established in 2001 as the Long Island Weed Management Area, LIISMA has expanded its scope and impact to cover a broad range of invasive species challenges.

LIISMA is one of eight Partnerships for Regional Invasive Species Management (PRISMs) in New York State, working alongside government agencies, non-profits, researchers, and community members.

LIISMA is funded by the New York State Environmental Protection Fund, as administered by the New York State Department of Environmental Conservation. This support enables LIISMA to provide planning, technical assistance, training, and targeted education and outreach to partners across the region, strengthening collective efforts to prevent, suppress, contain, or eradicate invasive species.



Strategic Focus

The 2025–2030 LIISMA Strategic Plan outlines key priorities and goals to strengthen invasive species prevention and management:

- Cultivating partnerships to align efforts and expand regional collaboration.
- Preventing the introduction and spread of invasive species through proactive and focused strategies and education.
- Enhancing early detection and rapid response for new and emerging invasive species.
- Supporting and conducting invasive species surveys, management, and monitoring at priority conservation areas and other high-priority sites.
- Supporting ecological restoration to improve resilience and protect native species and ecosystems.
- Incorporating climate adaptation strategies into invasive species management.
- Promoting community science and academic research to advance knowledge and engagement.
- Informing policy and resource development to support sustainable funding and decision-making.

Looking Ahead

The 2025–2030 LIISMA Strategic Plan provides a roadmap for strengthening invasive species prevention and management while fostering innovation and collaboration. By engaging partners, empowering volunteers, leveraging science, and increasing awareness and knowledge among professionals, key stakeholders, and the public, LIISMA works to reduce the threat of invasive species and protect local ecosystems across Long Island and New York City.



Introduction

The Long Island Invasive Species Management Area (LIISMA) is hosted by the Long Island Native Plant Initiative (LINPI), a 501(c)(3) non-profit organization dedicated to protecting the region's native plants and ecosystems. LINPI promotes using genetically local native plant material through seed collection, seed banking, plant propagation, and education. Polly Weigand is LINPI's founder and Executive Director, and Greg Lowenthal is the President of the Board of Directors.

Recognizing invasive species as one of the greatest threats to the region's economy, biodiversity, ecosystem function, and human health, LINPI leads efforts to manage these harmful species and restore native plant species for broader conservation goals.

In 2022, LINPI was awarded its second five-year contract with the New York State Department of Environmental Conservation (NYSDEC) to host LIISMA from July 1, 2022, to December 31, 2026. Funding for LIISMA is provided by the New York State Environmental Protection Fund (EPF), as administered by NYSDEC.

LIISMA owes much of its success to the expertise and dedication of its staff: Bill Jacobs, LIISMA co-founder and Program Manager; Abby Marino, Conservation Area Manager; Melody Cerniglia, Early Detection and Rapid Response Manager; and Kassidy Robinson, Field Projects and Outreach Manager. As Bill Jacobs retires in May 2025 after 35 years in conservation, Abby Marino becomes the LIISMA Program Manager, and Kassidy Robinson becomes the Conservation Area Manager.

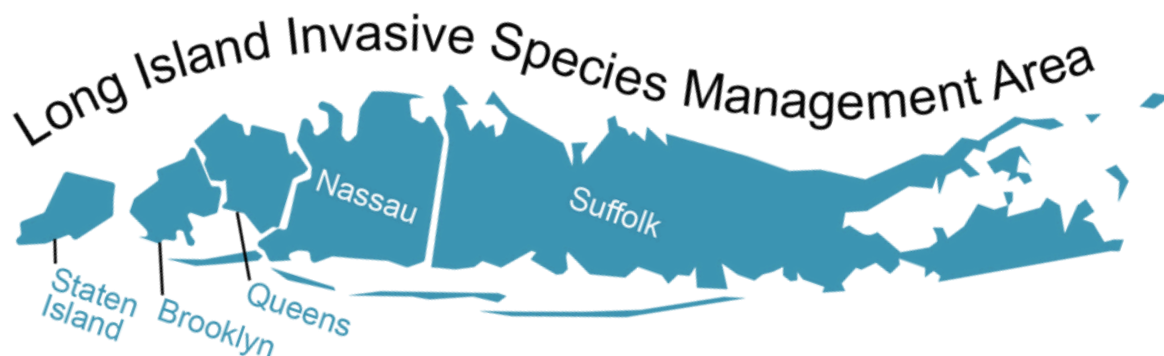
We extend our gratitude to former LIISMA staff members, including Dr. Marilyn Jordan, Kathy Schwager, Steve Young, Steven Pearson, Luke Gervase, Caroline Schnabl, Lindsay Charlop, Haley Gladitsch, Jacquelyn Briggs, Cara Fernandes, and Katharine Stirber, whose contributions laid the foundation for our work. Their efforts have helped shape LIISMA into the effective organization it is today.



History

In 2001, a group of Long Island's conservation land managers formed a steering committee to establish the Long Island Weed Management Area (LIWMA). Founding committee members included representatives from more than 15 federal, state, county, and town government agencies and non-governmental organizations. The Long Island Chapter of The Nature Conservancy (TNC) administered and funded LIWMA. Bill Jacobs, TNC's Invasive Species Program Director, served as its first coordinator, followed by Kathy Schwager in 2006.

In 2005, LIWMA changed its name to the Long Island Invasive Species Management Area (LIISMA) to include invasive plants, pests, and pathogens. In 2010, LIISMA's leadership was transferred to the New York Natural Heritage Program (NYNHP), a TNC program at the time. Steve Young, NYNHP's Chief Botanist, became the interim LIISMA coordinator. In 2012, the sponsorship of NYNHP and LIISMA was transferred to the SUNY College of Environmental Science and Forestry (ESF). In 2017, an additional transfer of leadership occurred when LINPI assumed the responsibility of coordinating LIISMA, with Steve Pearson and Bill Jacobs serving as LIISMA Program Managers.





Mission

LIISMA's mission is to reduce the threat of invasive species to the environment, economy, and human health and protect local ecosystems on Long Island and in New York City by cultivating collaborative partnerships with diverse stakeholders.

Vision

LIISMA is the trusted leader and coordinator for invasive species prevention and management on Long Island and in New York City. LIISMA envisions a future in which high-priority conservation areas, native species, and ecosystems are protected or restored, while supporting the economy and human health. Partners have the resources and knowledge to prevent invasive species introductions, respond rapidly to new detections, and manage invasive species. Awareness and engagement among key stakeholders, including landowners, resource managers, and community members, are increased to enhance invasive species prevention and management efforts.

Strategic Goals

Goal 1: Cultivate and Coordinate Engaged, Collaborative Partnerships.

Goal 2: Prevent the Introduction and Spread of Invasive Species.

Goal 3: Rapidly Detect and Respond to New and Emerging Invasive Species.

Goal 4: Support and Conduct Invasive Species Surveys, Management, and Monitoring at Priority Conservation Areas and other high-priority sites.

Goal 5: Support and Conduct Ecosystem Restoration and Enhance Resilience.

Goal 6: Incorporate Climate Adaptation and Mitigation Strategies.

Goal 7: Support Research and Community Science.

Goal 8: Inform and Support Policy and Resource Development.



Goal 1: Cultivate and Coordinate Engaged, Collaborative Partnerships.

1) Coordinate LIISMA partner invasive species prevention and management activities.

- a. Collaborate with various stakeholder groups, community leaders, the New York State Invasive Species Advisory Committee, and other PRISMs and partners under the direction of the NYSDEC Invasive Species Coordination Section (ISCS).
- b. Facilitate the sharing of information and resources among partners to enhance collaborative invasive species management efforts in the Long Island and New York City region.
- c. Maintain at least four full-time positions: PRISM Director (LIISMA Program Manager), EDRR Manager, Conservation Area Manager, and Education and Outreach Manager.

2) Enhance LIISMA's capacity by securing additional funding and expanding staff to manage invasive species effectively.

- a. Identify and pursue funding opportunities, as appropriate, to fund additional full-time staff and internships, focusing on key areas such as Priority Conservation Areas, EDRR, and Education and Outreach.
- b. Develop partnerships with academic institutions and governmental agencies to support the recruitment and training of interns and staff dedicated to LIISMA's invasive species management efforts.
- c. Develop long-term staffing recommendations to increase LIISMA's workforce incrementally, enhancing its capacity to expand invasive species management activities across program areas.



3) Integrate proactive and focused education and outreach into all strategies to enhance partner and stakeholder engagement, knowledge-sharing, and collaborative action.

- a. Develop tailored educational materials and outreach campaigns that align with each partnership strategy, ensuring all collaborators are well-informed about invasive species issues and solutions.
- b. Incorporate regular training opportunities and public awareness initiatives into partnership activities, fostering a shared understanding and commitment to invasive species prevention and management.
- c. Align partner efforts with shared priorities by identifying and communicating how invasive species management aligns with partner and stakeholder goals, such as protecting biodiversity, enhancing the economy and human health, or improving recreational opportunities.
- d. Share monitoring results with stakeholders, emphasizing success stories and lessons learned.

4) Provide guidance and technical assistance to key partners to support the development and implementation of invasive species management plans.

- a. Offer guidance, training, and other assistance to key partners to assess their needs, identify priorities, and tailor management plans, including site visits.
- b. Organize, host, co-host, or assist with training sessions and workshops for key partners on designing, implementing, and monitoring invasive species management plans.
- c. Work with landowners and resource managers to create guided, phased invasive species management plans, paired with resources like implementation grants and subcontracts.

5) Expand engagement and support for local parks departments and other governmental agencies in managing invasive species.

- a. Provide training and resources for parks and other agency staff on identifying and managing high-priority invasive species.

6) Increase interagency collaboration at municipal, state, regional, and federal levels.

- a. Organize at least one annual coordination meeting to align efforts and strategies among diverse stakeholders. This may be a topic of a LIISMA partners meeting or separate meetings to ensure that key stakeholders are engaged.

7) Promote LIISMA's expertise and leadership in invasive species coordination and management.

- a. Develop informational materials and programs highlighting LIISMA's resources and services to partners.



8) Facilitate community-building opportunities and gain new partners for the invasive species management network.

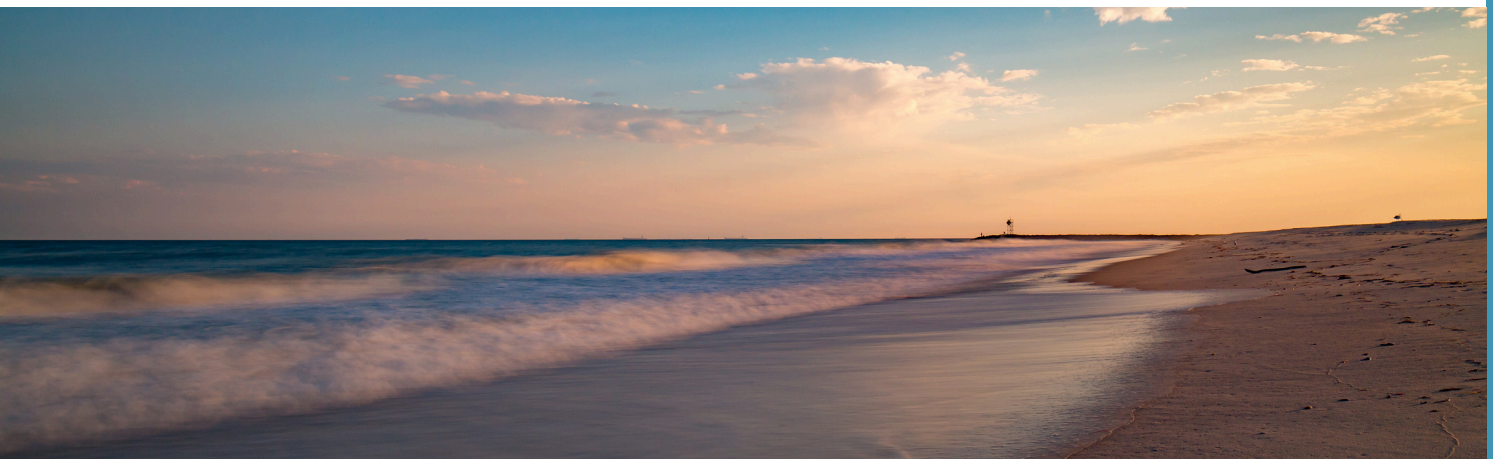
- a. Host quarterly partner meetings, workshops, webinars, and biennial symposium to foster knowledge exchange and stakeholder networking.
- b. Create opportunities for partners to participate in decision-making processes, such as an advisory committee, strategy sessions, and individual meetings with key partners.
- c. Support the NYS Invasive Species Council's regular invasive species conference or alternative partner conference (e.g., annual Cornell In-Service) through planning, presentations, contributed papers, posters, and workshops.

9) Engage partners through regular communication and demonstrate commitment to mutual success.

- a. Schedule check-ins with key partners to understand their needs and provide tailored support, such as surveys in newsletters.
- b. Develop and maintain consistent communication channels like the monthly e-newsletter and LIISMA website.
- c. Develop a real-time data and resource-sharing platform, such as a shared online hub or portal linked through the LIISMA website.

10) Collaborate with conservation professionals and state agencies to streamline licensing and permitting for professional resource managers and agencies.

- a. Meet with state agencies, conservation professionals, and resource managers to identify barriers and inefficiencies in the current licensing and permitting processes.
- b. Develop opportunities to improve workflows for invasive species management.
- c. Collaborate with state agencies to create and share clear, easy-to-follow guidance for obtaining necessary licenses and permits for invasive species management.
- d. Establish an expedited pathway for Partnerships for Invasive Species Management (PRISMs) to facilitate quicker permitting and ensure that work is overseen and documented.





11) Integrate Indigenous Peoples, including the Shinnecock Nation and Unkechaug Nation, into collaborative partnerships to strengthen invasive species management and protect important cultural and ecological sites and resources.

- a. Cultivate partnerships with the Shinnecock Nation, Niamuck Land Trust (NLT), Unkechaug Nation, and other Indigenous communities to co-create strategies for managing invasive species and restoring ecosystems. Ensure that cultural values and Traditional Ecological Knowledge (TEK) are integrated into decision-making, management, and action plans.
- b. Facilitate joint meetings and workshops with the Shinnecock Nation, Unkechaug Nation, and other Indigenous stakeholders to strengthen communication, share knowledge, and identify collaborative opportunities for managing invasive species and protecting culturally and ecologically significant resources while ensuring a balanced approach that respects medicinal plants and other cultural values.

12) Enhance partnerships with freshwater and marine professionals, industry representatives, and other stakeholders to address aquatic invasive species.

- a. Support and promote the Long Island-Metro Aquatic Invasive Species Task Force (LIMAIS).
- b. Collaborate with freshwater and marine organizations and industry representatives (e.g., pet trade) to identify priority aquatic invasive species and develop protocols and actions for data collection, prevention, and management while maintaining a supportive role and providing guidance.
- c. Participate in the Peconic Estuary Partnership and similar regional initiatives.

13) Recognize and celebrate partner contributions and success.

- a. Implement an annual recognition program to celebrate partner achievements and contributions to invasive species management.
- b. Share partner success stories through reports, social media, and the monthly e-newsletter to inspire and motivate others.
- c. Support those involved in invasive species removal, help them map invasive species, and give them credibility by lending a stamp of approval to projects aligned with LIISMA's regional invasive species goals and strategies, as appropriate.



Goal 2: Prevent the Introduction and Spread of Invasive Species.

14) Collaborate with state and local government agencies and elected officials to strengthen and update prohibited and regulated lists.

- a. Partner with NYSDEC to periodically review and update the Part 575 regulated and prohibited species list within the next two years.
- b. Work with stakeholders to ensure local invasive species lists are updated and accurate.
- c. Educate elected officials, government agencies, and policymakers to help decrease the number of invasive species allowed to be propagated and sold.

15) With partners, monitor and manage key pathways of invasive species introduction.

- a. Collaborate with partners to identify, assess, monitor, and mitigate natural and human-caused pathways of introduction.
- b. Conduct targeted outreach campaigns for introduction pathways in horticulture, agriculture, transportation, construction, pet trade, aquaculture, and the food industry.
- c. Develop best practice guides for pathway management, including strategies for common vectors like landscaping, vehicles, topsoil, watercraft, hiking boots, and recreational equipment.
- d. Host stakeholder meetings to align priorities on invasive species regulation and pathway management.
- e. Explore partnerships with organizations operating in high-incidence areas for invasive species introductions, such as the New York City Department of Parks and Recreation (NYC Parks), New York City Department of Environmental Protection (NYCDEP), Lower Hudson PRISM, and the Prospect Park Alliance, to share data, coordinate response plans, and co-host events or training sessions for conservation organizations on invasive species management.





16) Leverage horizon scanning and impact assessments to prepare for emerging threats.

- a. Utilize, develop, and maintain a regional horizon scanning framework to identify and prioritize potential invasive species threats based on pathways of introduction and impacts on the environment, economy, or human health.
- b. Develop collaborative partnerships with the RISCC Management Network and the U.S. Geological Survey to address risk assessment.

17) Promote native plant species, particularly local genotypes, to enhance ecosystem resistance to invasive species introduction.

- a. Partner with local organizations and nurseries to encourage native plant use in landscaping, gardening, and restoration projects.
- b. Consider non-invasive, non-native resistant varieties and hybrids that may be more sustainable than planting susceptible native species in some instances, where appropriate (e.g., American chestnut hybrid).
- c. Encourage the development of a native plant toolkit or planning tool for landscapers, landowners, gardeners, and conservation professionals.
- d. Support the cultivation of local genotypes by native plant growers, such as the Long Island Native Plant Initiative (LINPI).

18) Install and maintain infrastructure to reduce invasive species spread.

- a. Install boot brush stations and signage at high-traffic trailheads. This may include obtaining grant or contract funding.
- b. Utilize boat cleaning stations at key water access points.
- c. Install and maintain signage, including signs that discourage waterfowl feeding and inform of the harm it causes.



19) Develop and collaborate on targeted education and training campaigns for invasive species prevention, including New York Invasive Species Awareness Week.

- a. Communicate in a positive, engaging, and fun way through op-eds, media interviews, social media, contests, and more.
- b. Create tailored educational materials (e.g., brochures, flyers, online content) for high-risk groups such as gardeners and boaters, focusing on species identification and prevention techniques.
- c. Maintain an outreach campaign (e.g., social media, print, webinars, workshops) to raise awareness about the risks of invasive species and provide actionable steps for preventing their introduction and spread.
- d. Implement periodic training sessions on invasive species identification, prevention, and proper disposal methods for industry professionals and resource managers (e.g., landscapers, nursery staff, marinas, and organizational and agency staff).
- e. Collaborate with existing educational institutions, schools, and programs, particularly Cornell Cooperative Extension, to ensure uniformity of messaging, conserve limited educational resources, and avoid duplication of effort.
- f. Collaborate with educational institutions and environmental organizations to design and implement summer programs, such as the "Day in the Life of a River" event, focusing on hands-on experiences with invasive species and their impact on local ecosystems.
- g. Establish partnerships with youth programs and schools to integrate invasive species awareness into existing ecology and environmental science curricula.
- h. Increase public and partner awareness of the LIISMA website. Include resources on invasive species identification and prevention.
- i. Provide periodically updated pamphlets and other information for identifying EDRR species and where and when to find them.
- j. Educate the public on the necessity for strategically preserving land, planting natives, and managing invasive species.
- k. Frame invasive species issues within broader conservation issues for wider public and partner engagement.
- l. Regularly update education and outreach materials and encourage partners to distribute them frequently.

20) Measure the success of educational initiatives in achieving goals.

- a. Track the list of educational programs offered, events attended, and materials produced. Quantify the number of participants in attendance.
- b. Develop reporting metrics and evaluate the effectiveness by collecting participant evaluations and other appropriate methods.
- c. Develop and deliver education and outreach materials utilizing standardized statewide formats and materials.



Goal 3: Rapidly Detect and Respond to New and Emerging Invasive Species.

21) Utilize EDRR methods for high-priority species that can feasibly be eradicated, suppressed, or contained.

- a. Focus on Tier 1 and 2 species for regional EDRR, coordinating with problematic Tier 2, 3, and 4 species efforts within Priority Conservation Areas (PCAs).
- b. Have staff dedicated to surveying and monitoring Tier 1 and 2 species.
- c. Collaborate with partners, community scientists, volunteers, and other stakeholders to survey and monitor Tier 1 and 2 species.
- d. Utilize the New York State Invasive Species Tier system to guide management efforts and ensure the list remains current.
- e. Ensure that EDRR efforts align with New York State and LIISMA Tier Ranking Definitions, prioritizing species based on their impacts, abundance, distribution, and feasibility of control (suppression, containment, or eradication).
- f. Following LIISMA Tier Ranking Definitions, prioritize EDRR on Tier 2 species with three or fewer known populations, as these may be most likely to be feasibly eradicated within the LIISMA region.
- g. Develop and utilize tools to prioritize invasive species management actions at fine spatial scales. Adopt a tier-ranking methodology for local sites.
- h. Maintain tier or invasive species lists for local reference to help landowners prioritize management.
- i. Implement a regular horizon scanning process to identify emerging invasive species and assess their potential impact on priority ecosystems.
- j. Broaden the list of Tier 1 species by integrating priorities from neighboring PRISMs and other areas to ensure increased monitoring of encroaching species and facilitate mutual alerts and coordinated responses.
- k. Support and conduct EDRR for new species across private and public ownership boundaries.
- l. Identify and use phenology to determine when to be at a site to remove plants before seeds appear, as needed.





22) Establish a New York PRISM EDRR Coordinators Team to enhance collaboration, streamline responses, and improve the PRISMs' management of early detection species.

- a. Organize regular meetings for PRISM EDRR coordinators to share updates, discuss challenges, and develop coordinated response strategies for emerging invasive species threats.
- b. Create a centralized communication platform for PRISM EDRR coordinators to facilitate real-time information sharing and rapid resource mobilization during invasive species outbreaks.
- c. Coordinate with and under the leadership of NYSDEC ISCS.

23) Support, lead, and help coordinate seasonal rapid response teams.

- a. Collaborating with partners, coordinate and support seasonal response teams by providing training, resources, and technical assistance to ensure effective early detection and rapid response (EDRR) for new and emerging invasive species.
- b. Encourage partners to focus on EDRR and share educational resources on why more education and resources on EDRR should be communicated and established as a high priority.
- c. Establish a streamlined communication and coordination system for seasonal teams to monitor priority sites, assess threats, and implement targeted control measures.

24) Promote iMapInvasives and iNaturalist to monitor and report high-priority invasive species.

- a. Increase awareness and training for stakeholders (e.g., community scientists, land managers, volunteers) on using iMapInvasives and iNaturalist to report new sightings of invasive species and contribute to early detection efforts.
- b. Organize training sessions on invasive species identification, monitoring, management, and/or prevention. Provide iMapInvasives training to volunteer monitoring networks.
- c. Incorporate iMapInvasives data collection tools to the fullest extent possible. Compile a list of volunteer activities and hours contributed to PRISM projects.
- d. Collaborate with community organizations, educational institutions, and environmental groups to integrate iMapInvasives and iNaturalist into local conservation programs and promote their data collection and reporting use.
- e. Incentivize the use of iMapInvasives and iNaturalist. Highlight top contributors at partner meetings, on the LIISMA website, and in the LIISMA e-newsletter.
- f. Recognize individuals or groups contributing significantly to monitoring invasive species and reporting with an annual award or certificate.
- g. Assist key partners with surveying efforts and provide consultation on invasive species removal.



25) Establish and implement EDRR protocols.

- a. Develop an “EDRR radar” spreadsheet and GIS application with maps, including data from iMapInvasives and iNaturalist.
- b. Develop EDRR protocols that outline the steps for detection, identification, assessment of extent and threat, and immediate control actions, focused first on Tier 1 and 2 species.
- c. Establish a communication network to notify stakeholders (e.g., field staff, government agencies, and partners) immediately upon identifying a high-priority species and communicate the urgency of management.
- d. Emphasize containment and exclusion of invasive species from areas less affected by invasive species, focusing on the most biodiverse and least disturbed regions of LIISMA and the state.
- e. Expand community science programs with partners to empower volunteers to monitor high-priority invasive species regionally and within PCAs, supporting EDRR and long-term management goals.

26) Build capacity for rapid response through partner training and resources.

- a. Collaborate with partners to secure funding and resources in advance, including rapid response funds, grants, personnel, equipment, and materials, to quickly mobilize when an invasive species threat is detected.
- b. Provide training on identification, reporting, and rapid response techniques of emerging invasive species for key stakeholders, volunteers, resource managers, and industry professionals.
- c. Provide hands-on training on emerging and early detection species, including live or preserved samples.





Goal 4: Support and Conduct Invasive Species Surveys, Management, and Monitoring at Priority Conservation Areas and other high-priority sites.

27) Prioritize invasive species prevention, surveys, management, and monitoring by site, species, and invasion pathway.

- a. Focus surveying, management, and monitoring efforts on established PCAs, including the 12 Invasive Species Prevention Zones (ISPZs), six Invasive Species Management Complexes (MCs), and Natural Heritage sites (e.g., Sayville Grassland and Hempstead Plains).
- b. Prioritize surveys, management, and monitoring on sites with high biodiversity, rare species, or critical ecosystem functions (e.g., wetlands, riparian areas).
- c. Focus surveying, management, and monitoring efforts on areas within and around PCAs where invasive species are likely to be introduced, spread, or threaten conservation targets (e.g., rare species, rare ecological communities, and recreational resources).
- d. Develop strategic plans for MCs, followed by management plans for MCs and ISPZs, in collaboration with partners.
- e. Prioritize invasive species using the New York State Invasive Species Tier system and related assessment methodology.
- f. Engage partners to prevent and manage invasive species that threaten conservation targets, focusing first on Tier 1 and 2 species.
- g. With partners, support the management of select problematic Tier 3 and 4 invasive species at PCAs and other sites where invasive species threaten conservation targets and control is feasible or otherwise endorsed by the state (e.g., *Pueraria montana*, *Ludwigia peploides*, and *Lepidium latifolium*). LIISMA provides essential information, training, and planning assistance.
- h. Develop a reference guide to local invasive species for municipal and other partners. Include native lookalikes.
- i. Utilize the Invasive Plant Management Decision Analysis Tool (IPMDAT) as needed.



28) Grow the PCA program by training volunteers and other partners to survey, manage, and monitor high-priority invasive species at ISPZs, MCs, and buffer zones.

- a. Coordinate access permissions and plans with landowners and agencies.
- b. Recruit, train, and equip diverse groups of volunteers to monitor and manually remove invasive plant species within PCAs, ISPZs, MCs, and buffer zones, primarily relying on and assisting the volunteer programs of partner organizations.
- c. Expand the PCA program by building partnerships with local community groups, schools, and environmental organizations to increase volunteer participation, outreach, and awareness of invasive species management in and around PCAs.
- d. Increase management and surveying capacity through volunteer and partner workdays, with LIISMA providing assistance and support in collaboration with partners.
- e. Develop and implement a volunteer training curriculum covering invasive plant identification, monitoring, manual control techniques, and safety practices.
- f. Develop volunteer job descriptions.

29) Provide training for resource managers and other key partners on using specialized tools and techniques to manage invasive plants.

- a. Conduct hands-on workshops to train resource managers on using tools such as weed wrenches, specialized digging tools, and cutting implements to remove invasive plants' root systems, including runners and rhizomes. This includes having partners lead the workshops.
- b. Develop and distribute instructional materials, including guides and videos, on best management practices (BMPs) for invasive species management. This will ensure that resource managers understand the long-term maintenance needed to prevent regrowth.
- c. Employ a broader range of management tools, like herbicides and weed torching.
- d. Identify processes and opportunities for pesticide technicians to gain herbicide application experience.





30) Encourage partners to record survey and management efforts in iMapInvasives.

- a. Host, co-host, or support regular training sessions and webinars to educate partners on using iMapInvasives and to train new iMapInvasives trainers. Demonstrate how to input survey data, management data, and project outcomes. Promote in newsletters.
- b. Provide technical support and resources, such as a step-by-step guide and one-on-one assistance, to partners who may need help using iMapInvasives, reducing barriers to participation and ensuring data quality.
- c. Encourage partners to utilize iMapInvasives tutorial videos and attend iMapInvasives meetings.
- d. Establish periodic review processes to analyze data entered into iMapInvasives, share insights with partners, and identify opportunities for improving monitoring practices.
- e. Collaborate with iMapInvasives staff to integrate additional features or support services that align with partner needs and regional priorities.

31) Increase awareness of invasive species, impacts, and solutions among community members in and around PCAs.

- a. Host, co-host, or assist with community workshops, guided walks, and hands-on demonstrations within PCAs to engage residents and showcase practical methods for identifying and managing invasive species on their properties.
- b. Collaborate with local organizations to integrate invasive species education into their programs and encourage participation in PCA-focused stewardship activities.





Goal 5: Support and Conduct Ecosystem Restoration and Enhance Resilience.

32) Support and implement restoration projects that prioritize native species and ecosystems and improve resilience against invasive species and climate change.

- a. Utilize native plant species, especially local genotypes, in sensitive or rare communities and ecologically appropriate restoration techniques to increase habitat resilience and reduce future invasions.
- b. Develop monitoring protocols to track the success of restoration projects, including indicators of biodiversity, ecosystem health, and invasive species containment, suppression, or eradication.
- c. Work with landowners and resource managers to create integrated plans for invasive species management and ecological restoration.
- d. Adapt restoration practices based on ongoing monitoring to improve resilience and prevent reinvasion by invasive species.
- e. Engage local communities, volunteers, and community scientists in monitoring and maintaining restored ecosystems, focusing on invasive species detection and management.

33) Integrate deer exclusion fencing and other herbivore management measures into invasive species management and restoration projects to protect native vegetation and enhance habitat resilience, as needed.

- a. Assess and prioritize sites where deer exclusion fencing would support invasive species management and native plant restoration, focusing on areas with high deer browse pressure and ecological significance.
- b. Collaborate with partners, land managers, and researchers to evaluate the effectiveness of deer exclusion fencing in reducing invasive species establishment and promoting native species recovery.

34) Develop and implement measures of success that evaluate the protection and recovery of native species and ecological communities through invasive species management efforts.

- a. Establish baseline data for native species populations and ecological community health in areas prioritized for invasive species management.
- b. Develop and refine metrics to quantify the positive impacts of invasive species management, such as increases in native biodiversity, improved habitat quality, and resilience of ecological communities.
- c. Incorporate additional measures of success, such as improved ecosystem services and reduced spread of invasive species to adjacent areas.



Goal 6: Incorporate Climate Adaptation and Mitigation Strategies.

35) Provide awareness around new and emerging threats due to shifting ranges and climate change.

- a. Develop and distribute educational materials and programs, including webinars and fact sheets, highlighting the potential effects of climate change on the spread of invasive species, focusing on species likely to shift their ranges into new areas.
- b. Collaborate with climate change and invasive species experts to organize outreach events and workshops that increase awareness of new invasive species threats, emphasizing the role of climate change in altering species distributions and ecosystems.
- c. Promote upcoming events and webinars in the newsletter, like events of the RISCC Network.
- d. Have a resource/research corner where we highlight climate change and invasive species research.

36) Integrate climate change mitigation into invasive species management plans to reduce the spread and impact of invasive species affected by climate change.

- a. Assess and incorporate climate change projections into invasive species management plans, identifying species and ecosystems most at risk due to temperature shifts, altered precipitation patterns, and other climate factors.
- b. Develop a better understanding with regional partners of what is on the move and what to look for regarding specific species pathways and climate patterns.
- c. Implement restoration practices that focus on increasing ecosystem resilience to invasive species, such as promoting native plant species that are better adapted to changing climate conditions.
- d. Develop adaptive management strategies for invasive species that account for climate change.





Goal 7: Support Research and Community Science.

37) Promote community science applications such as iNaturalist, iMapInvasives, and eBird to enhance the early detection of invasive species and foster stronger collaboration between the public and professional resource managers.

- a. Conduct outreach campaigns highlighting the role of community science applications in invasive species monitoring and the benefits of public participation.
- b. Develop and share engaging educational materials and programs (e.g., videos, guides, workshops, webinars) that effectively demonstrate how to use these applications.
- c. Organize challenges or events (e.g., iNaturalist Bioblitz) that gamify the use of these tools while contributing valuable data.

38) Monitor and research medium-to-low-priority potentially invasive species (Tier M or 5) to better understand their potential impacts on the environment, economy, and human health.

- a. Depending on need, capacity, and management feasibility, monitor and study medium-to-low-priority non-native species with limited data on their invasiveness or ecological impacts (Tier M).
- b. Collaborate with academic and research institutions to study the behavior, distribution, and potential impacts of select Tier M species of concern.



39) Increase monitoring and management capacity through training students, community scientists, volunteers, and landowners.

- a. Support training that equips participants with skills in invasive species identification, monitoring techniques, and management practices tailored to their specific roles and landscapes.
- b. Provide community scientists, volunteers, and landowners access to resources, workshops, and expert consultations to effectively enhance their ability to detect and manage high-priority invasive species on their properties.
- c. Collaborate with academic institutions and researchers to advance scientific understanding of invasive species, their impacts, and effective monitoring and management solutions.
- d. Cooperate with the New York Invasive Species Research Institute (NYISRI), NYSDEC, and NYSAGM to identify research needed for prevention, early detection, rapid response, management, and monitoring of invasive species.
- e. Support academic research through data sharing, access to PCAs and other priority sites, and logistical assistance for fieldwork and experiments.
- f. Collaborate with botanists, ecologists, and invasive species specialists to conduct risk assessments for select invasive species, focusing on their potential to invade native ecosystems, particularly Tier M species.
- g. Promote the dissemination of research findings by organizing or participating in conferences and webinars that connect academic discoveries with practitioners and policymakers.
- h. Facilitate partnerships between academic researchers and resource managers to identify research priorities and conduct field studies that address critical invasive species challenges.
- i. Collaborate with academic institutions and conservation organizations to create and implement long-term monitoring protocols that assess recovery trends in native species and ecosystems post-management.

40) Collaborate with academic researchers and other partners to study indicator species that signal the presence or potential invasion of invasive species.

- a. Work with academic institutions, such as Cornell University, to help create pilot studies in PCAs to test the effectiveness of indicator species in assessing invasive species impacts to inform management actions.

41) Adapt invasive species management strategies and BMPs to incorporate new research, data, management options, and environmental changes.

- a. Regularly review and evaluate the latest scientific studies and technological advancements to update BMPs.
- b. Cultivate partnerships with academic institutions and researchers to develop and test innovative management techniques.
- c. Participate in biocontrol research and implementation, such as for swallowwort.



Goal 8: Inform and Support Policy and Resource Development.

42) Educate policymakers and funders about invasive species issues and the benefits of strategic management to inform evidence-based decision-making.

- a. Convene stakeholder meetings or working groups to compile and prioritize resource needs and gaps, focusing on critical areas such as monitoring, restoration, and early detection programs.
- b. Include key resource needs, success stories, and areas where additional funding could yield significant results in LIISMA annual reports. Distribute annual reports to policymakers, funders, and other partners.

43) Promote awareness of policies and programs that support invasive species management.

- a. Create and maintain an online hub or toolkit on the LIISMA website that outlines relevant policies, funding opportunities, and best practices to support partner and community engagement.

44) Enhance awareness and inform municipal decision-makers and staff on invasive species impacts, funding opportunities, and resource-efficient management approaches to support informed policy and resource allocation decisions.

- a. Develop and distribute clear, accessible educational materials for municipal officials and staff, highlighting the ecological, economic, and human health impacts of invasive species, connecting management efforts to public concerns such as financial liabilities, infrastructure damage, and long-term cost savings.
- b. Educate agency staff and leadership on the challenges of balancing public concerns with resource allocation decisions, including how certain invasive species, such as bamboo, may dominate public attention while other significant threats remain overlooked.
- c. Guide strategies to address agency staffing shortages for invasive species management, including leveraging partnerships, volunteer programs, grant-supported projects, and governmental funding opportunities, while sharing examples of municipalities successfully securing resources for dedicated invasive species staff positions.



45) Increase awareness of funding opportunities for partners.

- a. Identify and share external grant opportunities, government funding programs, and private foundation resources.
- b. Collaborate with state agencies to develop and promote competitive grant programs or subcontract opportunities that enable partners to secure funding for invasive species projects.
- c. Promote and share information about grants and subcontracts to help landowners and resource managers develop and implement invasive species management plans.





Conclusion

The LIISMA 2025-2030 Strategic Plan provides a clear and actionable framework for preventing, detecting, and managing invasive species while enhancing ecosystem resilience across Long Island and New York City. By cultivating partnerships, leveraging science, and engaging stakeholders, LIISMA aims to strengthen regional coordination and maximize on-the-ground impact.

The success of this plan depends on ongoing collaboration, adaptive management, and strategic resource allocation. As new challenges and opportunities emerge, LIISMA will remain flexible, data-driven, and committed to protecting the environment, the economy, and human health, while restoring local ecosystems and strengthening resilience against the impacts of invasive species.



Appendix A: Methodology

LIISMA staff took a methodical approach to strategic planning, working as a team to assess the current LIISMA program and engaging stakeholders to solicit input through a modified Group Concept Mapping (GCM) exercise. The insights gathered from this process played a key role in informing the LIISMA 2025-2030 Strategic Plan.

The planning process started early in 2024 as LIISMA staff identified the “target populations,” or stakeholders, for the program’s efforts. Key stakeholders included federal, state, regional, and local government agencies, non-governmental organizations, resource managers, educators, scientists, volunteers, community members, and the general public.

LIISMA staff then reflected on the current stakeholder communication strategies, the resources provided, and future directions for helping stakeholders achieve their invasive species management goals.

Next, staff continued the strategic planning process by analyzing LIISMA’s strengths, weaknesses, opportunities, and threats, commonly known as a SWOT analysis. Identified strengths include the high level of expertise and experience of staff and partners. Weaknesses include limited capacity and resources for managing invasive species across the region.

Following the SWOT analysis, LIISMA staff commenced a Group Concept Mapping (GCM) exercise with stakeholders over two survey questionnaires. GCM organizes the group’s ideas and represents those ideas visually in a series of interrelated maps, first by soliciting statements, then ranking the statements, and lastly sorting the statements into theme groups.

The first questionnaire, released in June 2024, asked participants to answer the question, “One specific invasive species priority in LIISMA over the next five years is: __”. Participants were able to list multiple answers. Forty participants listed 93 priorities, ranging from increased education and training, and prioritizing invasive species for management and conservation areas for protection, to strengthening collaborative partnerships among diverse governmental and non-governmental organizations. LIISMA staff edited answers for clarity and combined some responses to reduce redundancy, reducing the number of statements to 57.

The second questionnaire, released in August 2024, asked participants to rank these 57 statements according to importance, urgency, and feasibility. Sixteen respondents completed the strategic ranking exercise.

Lastly, each of the four LIISMA staff members sorted the 57 statements into groups based on theme. LIISMA staff then used the open-source software RCMMap (Bar, 2017) to analyze the statement ranking and sorting, bringing together the ideas of many individual stakeholders.

The RCMMap program sorted the statements into eight groups based on statistical analysis of how each LIISMA staff member sorted the statements. The number of clusters was determined by the user in settings. LIISMA staff then developed goal statements and adjusted statements to create strategic plan goals, strategies, and objectives. These were shared with key partners for review. Comments were incorporated into the final plan documented here.



Appendix B: Partner Survey Results

Sorting

This section shows the 57 statements submitted by stakeholders, sorted into groups by RCMAP based on the sorting responses from LIISMA staff members. Statements are numbered by their statement ID.

Group 1: Planning

1. Develop an advisory panel of experts to provide strategic and management guidance, specialized knowledge, and stakeholder engagement support.
5. Funding for subcontract projects
16. Have a seasonal strike team and a larger budget
23. Encouraging partner groups to get management and survey efforts recorded in iMapInvasives
24. Lobby for increased management in local government (towns, counties, state entities)
27. Increase funding opportunities for partners.
40. Work with other conservation professionals and NYSDEC to identify path for clearer licensing and permitting for conservation agencies.
57. Tools for prioritization of invasive species management actions, at fine spatial scales.

Group 2: Public Engagement

2. Broaden communication channels through garden centers, schools (from middle school up), op-eds, media interviews, social media, photo/video/music/poetry slams, and contests.
7. Develop comprehensive communications strategies custom tailored to each set of stakeholders. Make communications positive, engaging, interesting, attractive, and fun. Suggest actions that are very doable.
12. Identify priority locations, make the public aware of invasives and what they can do to help.
17. Continue to educate the public on the necessity for preserving land, planting natives, and eradicating invasives.
20. Provide accurate information to the public, including control methods and impacts, and update the list of invasive species and do not sell list.
35. Community Outreach to make public more aware of the LIISMA website
37. Frame invasive species issues within broader conservation issues for broader public involvement.
38. Host more events/content surrounding community science movements at central locations - maybe a collection on iNaturalist, or more events at parks throughout Long Island for things like invasive plant removal.
46. Provide outreach and awareness on new invasive threats.
51. Work to increase awareness of invasive species, impacts, and solutions among community members and homeowners in the area.

Group 3: Partner Assistance

- 3. Work with marine professionals and enthusiasts to get a better sense of what marine invasives we should be concerned about and how to collect more data
- 22. Promote partner engagement and capacity with parks departments. Help with identification of the most common invasive plants.
- 29. Sharing management information and teach best management practices, share results of projects and techniques, distribute new information to partners
- 30. Foster stronger relationships with organizations that are related to areas with high incidence of new invasive species.
- 31. Supporting those involved in invasive removal help them to map invasives , give them credibility by lending your stamp if approval to projects .
- 36. Provide assistance to land managers and other groups that seek aid in developing successful invasive species management.
- 39. Increased education for politicians and those involved in policy making to help decrease the amount of invasives allowed to be propagated and sold.
- 42. Increase collaboration in partnerships among diverse organizations at municipal, state, and federal levels
- 43. Work with land owners and managers to create guided phased invasive species management plans, paired with resources for implementation grants.
- 50. Assist with surveying efforts and provide consultation on invasive removal.

Group 4: Prevention and EDRR

- 4. Work with DEC to put out a new Prohibited list as soon as possible
- 10. Integrate tier lists with priorities from other states
- 14. Have a person just dedicated to surveying for and following leads for Tier 1 and 2 species.
- 28. Providing awareness around new and emerging threats due to shifting ranges and climate change.
- 32. Mitigate and understand pathways of introduction. Targeted outreach based on the most likely pathways (nurseries, residents)
- 33. Utilize early detection and rapid response methods for high-priority species that can feasibly be contained or eradicated
- 45. Prevent reintroduction of invasive species
- 49. Horizon scanning and impact assessment of tier M species
- 52. Prevention of invasive species spread through installed boot brush stations and watercraft cleaning
- 56. Early detection and rapid response of new species including across boundaries of private and public ownership.

Group 5: Partner Building

- 6. Educate parks staff, NGOs, and volunteers on the damage that invasive plants can cause, invasive species identification, reporting, and removal.
- 8. Build LIISMA reputation of invasive species expertise to enable invasive species management with partners.
- 9. Promote native plant species for restoration projects and in landscaped settings
- 13. Increase management capacity through training students, community scientists, volunteers, landowners, and forest owners
- 19. Increase awareness of invasive species among developers, landscape designers, and landscapers
- 25. Increasing management and surveying capacity through volunteer and partner workdays
- 48. Bringing the invasive species community together through meetings, webinars, etc.

Group 6: Conservation Areas

- 11. Assess and prioritize high-impact, high-risk species that threaten conservation targets, such as endangered species or valuable ecosystems.
- 18. Manage invasive species to protect rare species locations and high priority areas
- 26. Emphasize containment of/exclusion of invasive species from Suffolk County, even when regionally widespread.
- 47. Maintaining tier list/invasive species list for local reference to determine status of invasive species to help landowners prioritize management
- 53. Continue to grow the conservation areas program, such as by using volunteers to monitor and manually manage invasive plants at ISPZs, management complexes, or buffer zones.

Group 7: Management

- 15. Identify and use phenology to determine when to be at a site to remove plants before seeds appear.
- 34. Use devices to control runners, rhizomes, and/or dig deeply to remove all parts of roots of invasive plants
- 41. More invasive species removals and delineations
- 44. Broader range of management tools like herbicide and weed torching for LIISMA staff, identify process for technicians to gain herbicide experience.
- 54. Build authority/influence to carry out invasive species management at the town and county level.

Group 8: EDRR Outreach

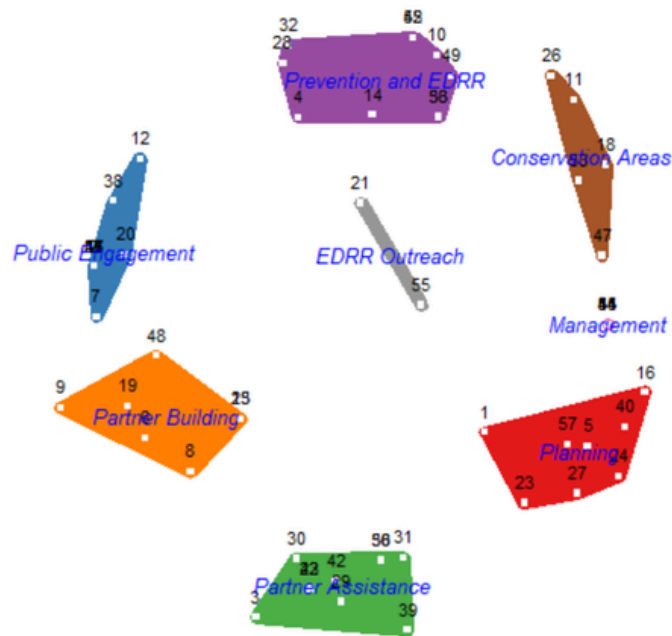
- 21. Hands-on training of early detection species (with live or preserved samples)
- 55. Increase management of high priority species by facilitating training/work days



Figures

Clusters (polygons)

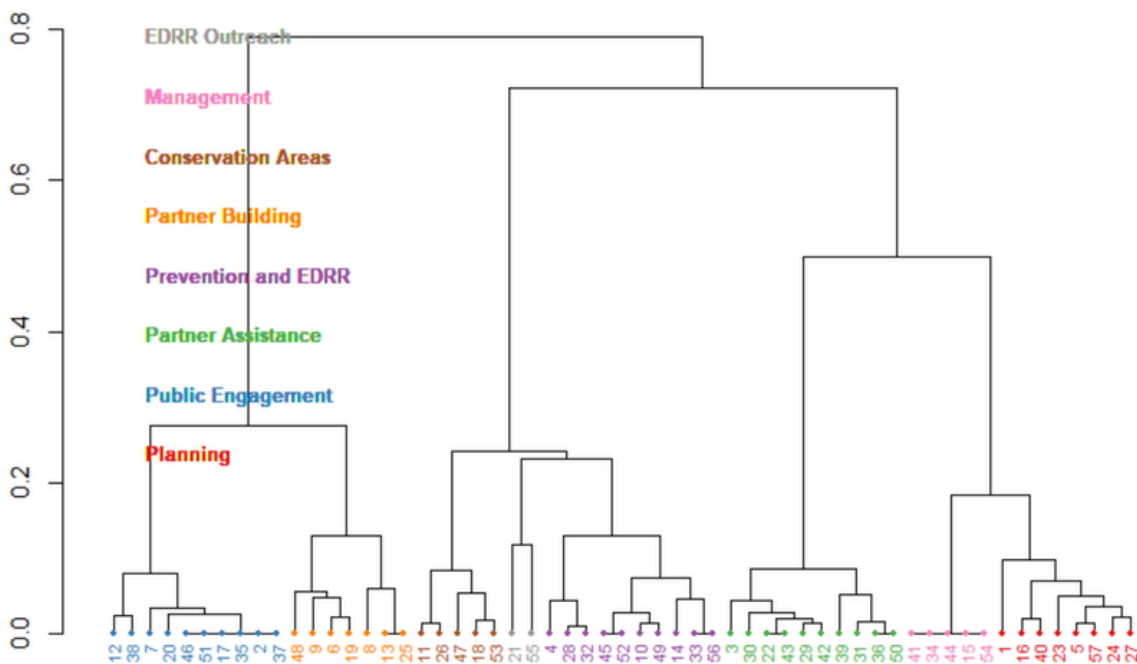
The RCMAP program displays a two-dimensional plot, with statement points (represented by statement number) grouped into clusters. Statement points that are closer to each other are more similar, or in other words, the statements were more likely grouped together when the LIISMA team sorted them. Groups that are closer together are also more similar - for example, Public Engagement is more similar to Partner Building than it is to Conservation Areas.



Dendrogram

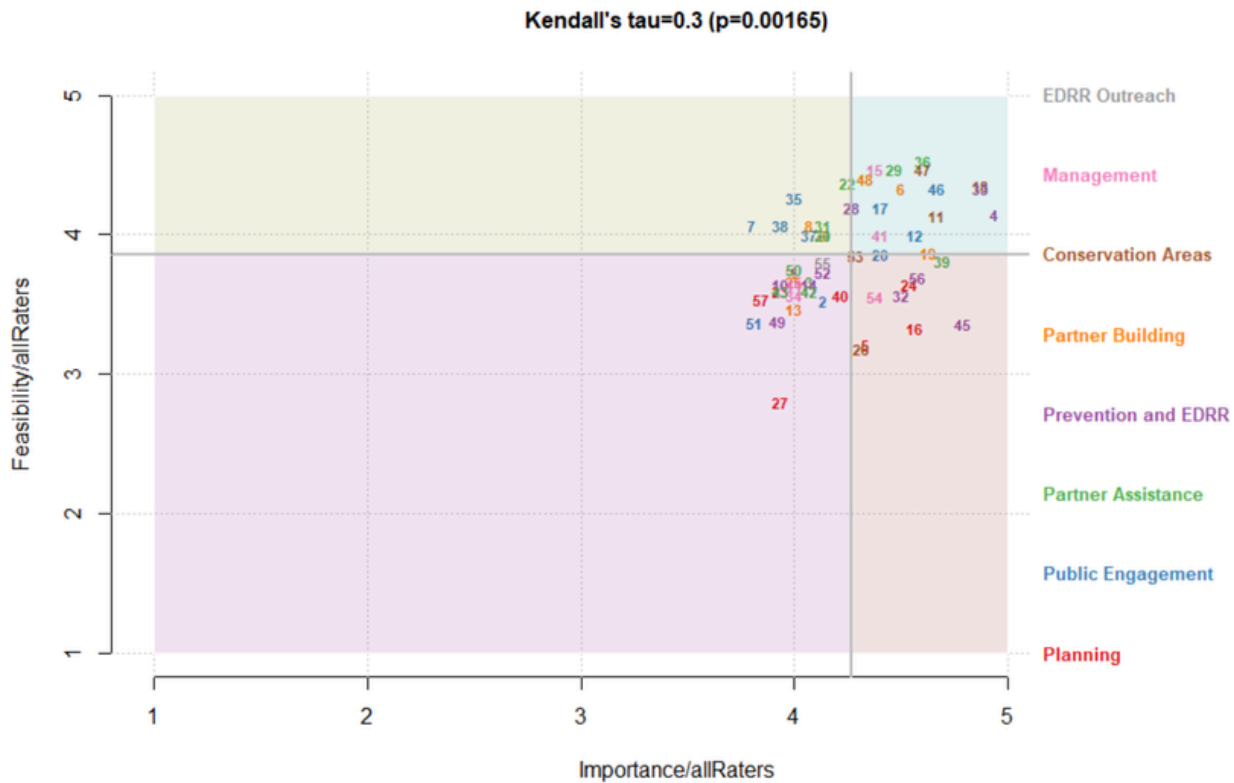
This plot depicts relatedness among statements (numbered along the x axis), grouped into colored clusters. From this we can see that statements in the Management cluster (pink) were highly related, meaning they were likely put in the same group by all LIISMA sorters. Similar findings are true for statements 46-37 in Public Engagement (blue).

We can also see that the Public Engagement and Partner Building cluster are closer to each other than other clusters. Likewise, Conservation Areas, EDRR Outreach, and Prevention and EDRR all occur on the same branch and are closely related. That leaves the more programmatic items of Partner Assistance, Management, and Planning to its own branch.



Go-Zone

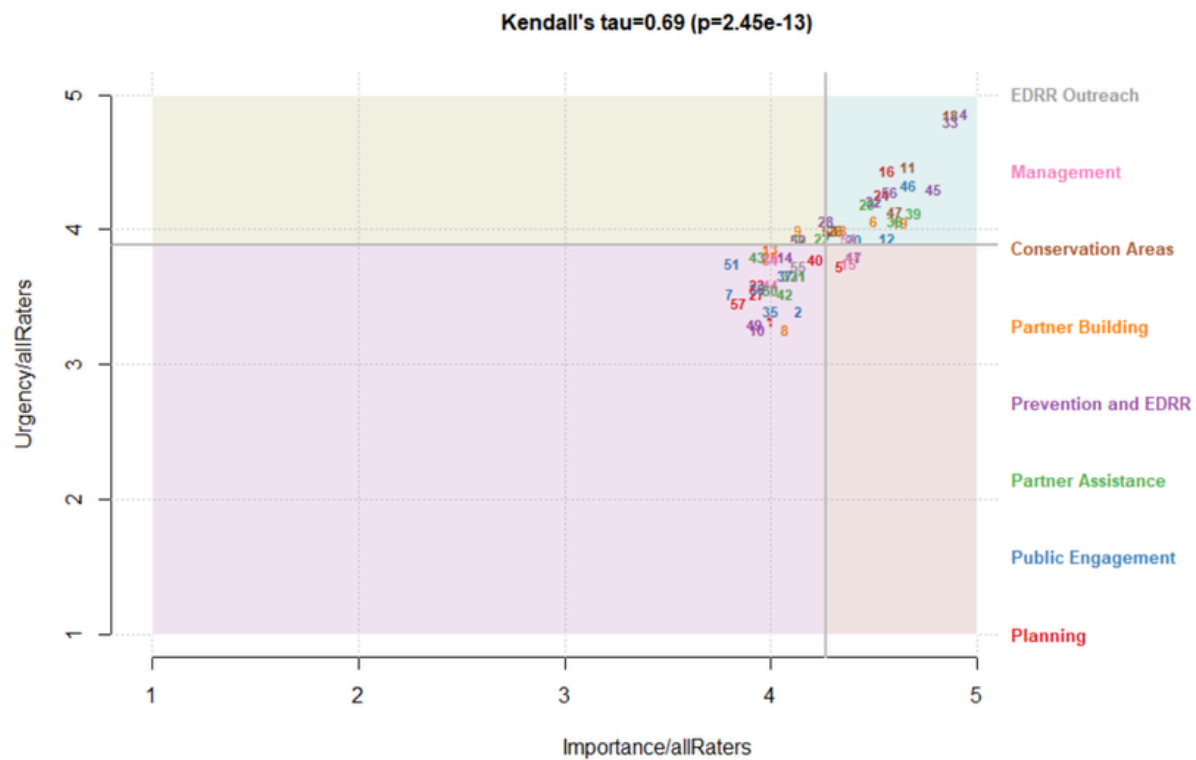
Importance vs. Feasibility: This plot shows how all respondents ranked the statements in terms of importance (x axis) and feasibility (y axis). Each statement is represented by its statement number. Points in the upper-right corner are considered highly important and also very feasible. Each point is also colored by the cluster to which it belongs, allowing to see which clusters rate higher on each dimension.



Go-Zone

Importance vs. Urgency: Statements 4, 18, and 33 are ranked the most important and urgent.

- 4: Work with DEC to put out a new Prohibited list as soon as possible
- 18: Manage invasive species to protect rare species locations and high priority areas
- 33: Utilize early detection and rapid response methods for high-priority species that can feasibly be contained or eradicated



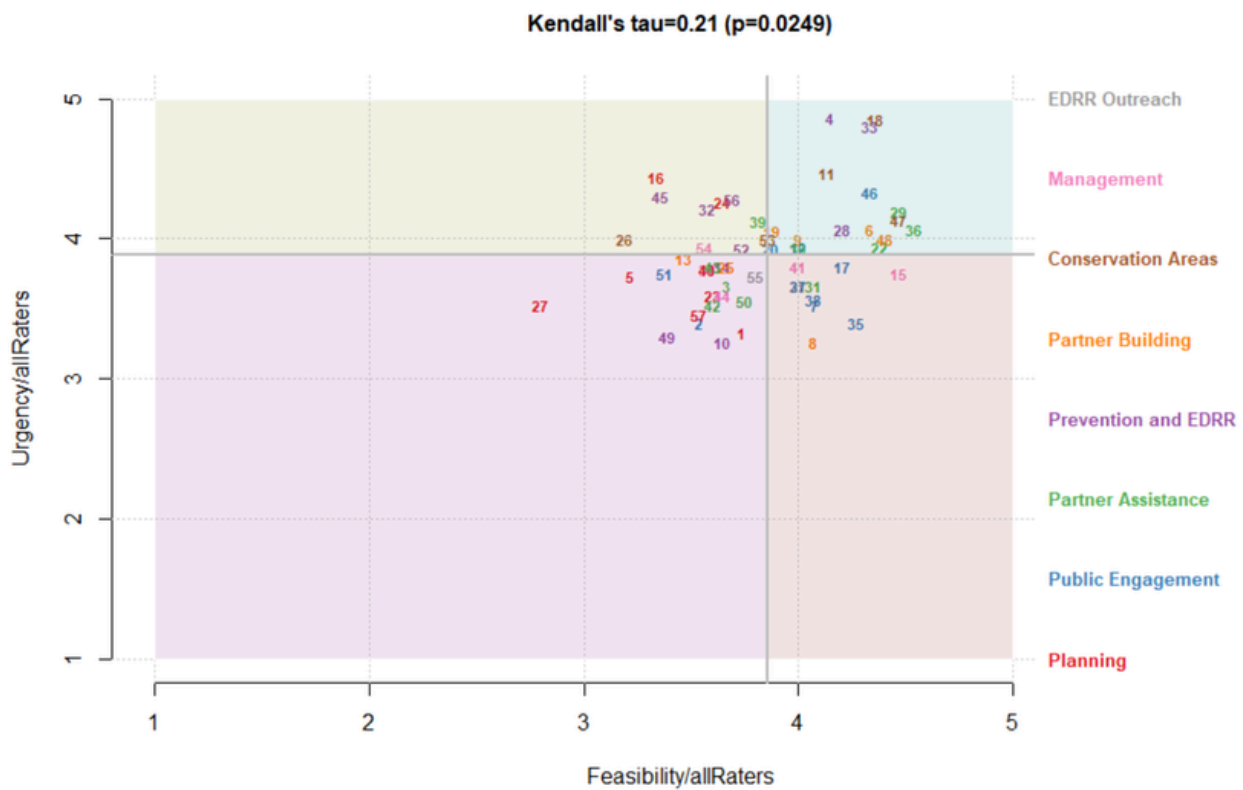
Go-Zone

Feasibility vs. Urgency: Statements 4, 18, and 33 are still ranked the most feasible and urgent.

- 4: Work with DEC to put out a new Prohibited list as soon as possible
- 18: Manage invasive species to protect rare species locations and high priority areas
- 33: Utilize early detection and rapid response methods for high-priority species that can feasibly be contained or eradicated

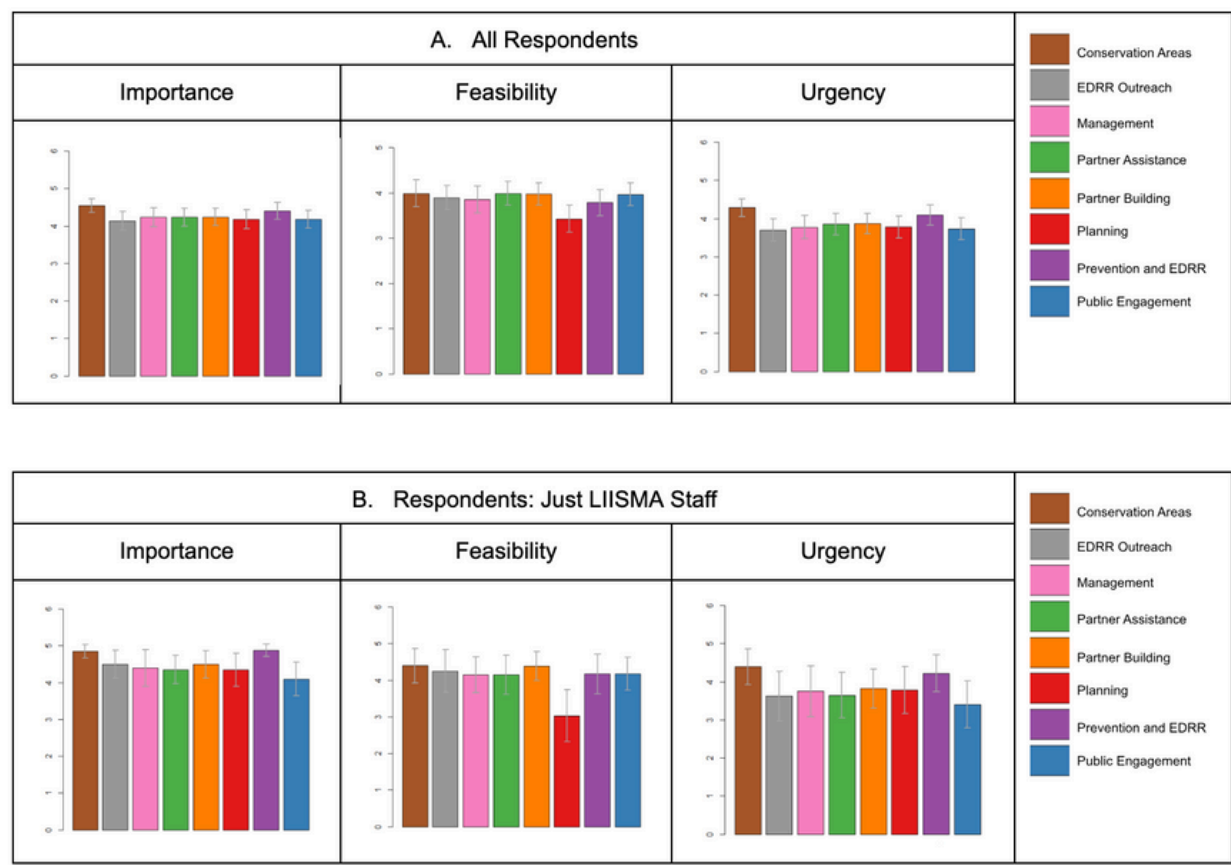
Statements in the planning group (red) tend to have a lower feasibility.

Statement 27 is ranked low feasibility and low urgency: Increase funding opportunities for partners.



Cluster Rating (Bar Chart)

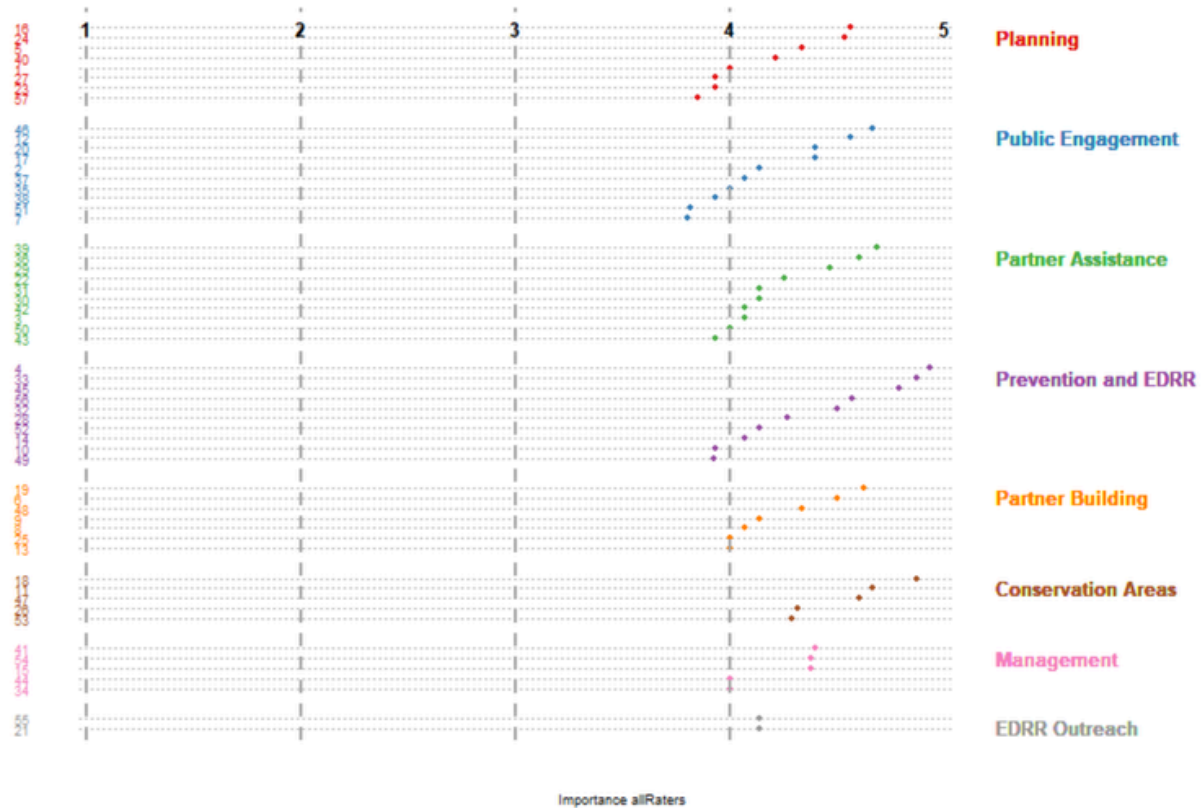
This shows the average rating of importance, feasibility, and urgency per cluster group by all respondents (A), followed by just LIISMA staff respondents (B).
Conservation Areas and EDRR clusters tend to stand out as higher urgency.
The Planning cluster tends to come out lower on feasibility.



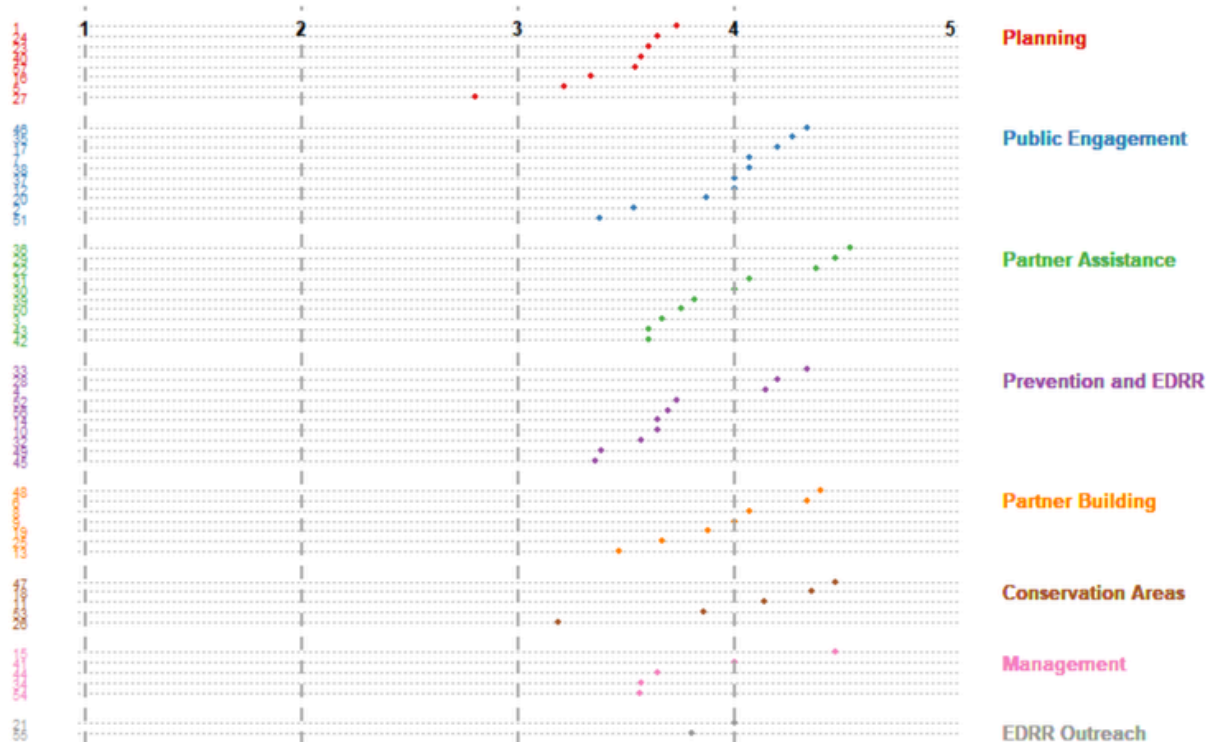
Statement Rating

These figures show the average rating of each statement, listed by statement number. Points are shown on a 1-5 scale by cluster, and within each cluster they are shown in increasing rating order (from bottom to top).

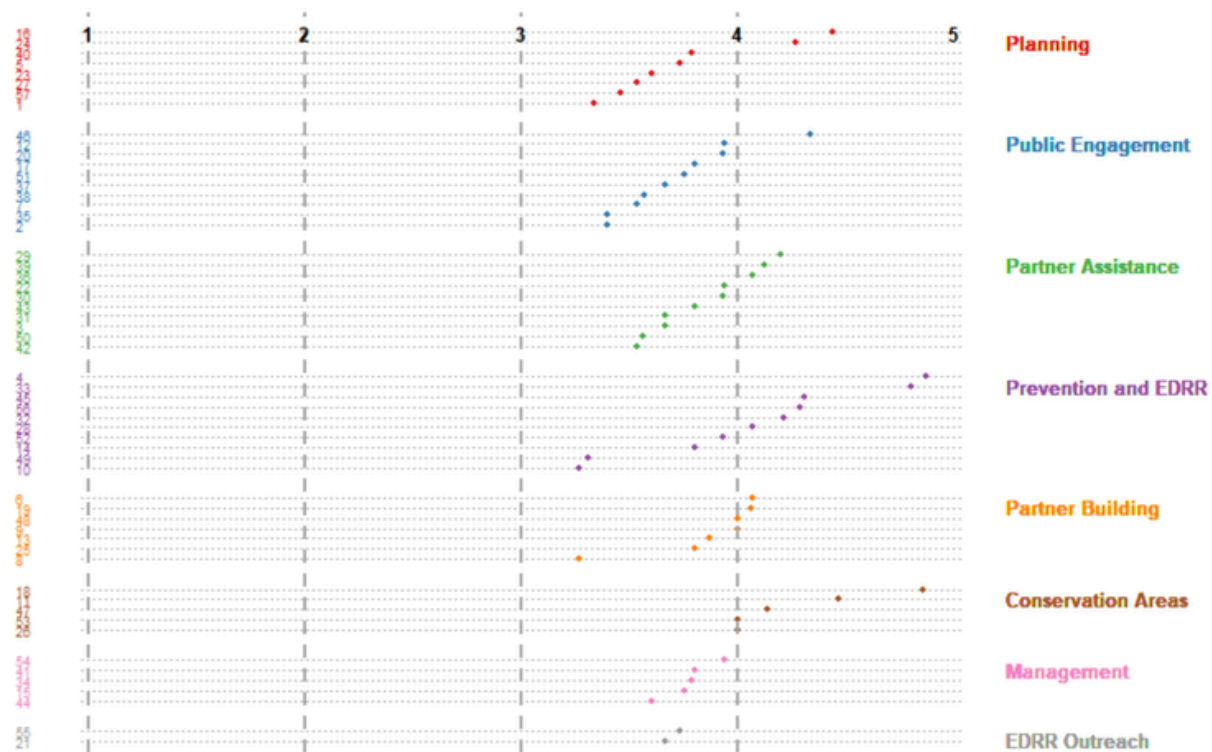
Importance



Feasibility



Urgency



Statistical Analyses

Anova: There are significant differences in feasibility ($p < 0.001$) and urgency ($p < 0.01$) between the eight clusters.

Tukey Test: Digging into this further, the Tukey test compares each cluster to every other cluster. From this we see that for feasibility, Cluster 1 (Planning) is scored significantly less feasible than several other clusters (Cluster 2, $p < 0.001$; Cluster 3, $p < 0.001$; Cluster 5, $p < 0.001$; Cluster 6, $p < 0.01$). We can also see that for urgency, Cluster 1 (Planning) scored significantly less urgent than Cluster 6 (Prevention and EDRR) ($p < 0.05$).



Appendix C: References and Informational Resources

Adirondack Park Invasive Plant Program (APIPP)

<https://adkinvasives.com/>

American Fisheries Society

<https://fisheries.org/>

Audubon

<https://ny.audubon.org/about-us/centers-sanctuaries-chapters>

Bar, Haim, and Lucas Mentch. 2017. "RCmap, an Open-Source Software for Concept Mapping."

Evaluation and Program Planning 60: 284-92.

doi:10.1016/j.evalprogplan.2016.08.018

<https://haimbar.github.io/RCMap/#Introduction>

Capital Region PRISM

<https://www.capitalregionprism.org/>

Catskill Regional Invasive Species Partnership (CRISP)

<https://www.catskillinvasives.com/>

Center for Invasive Species and Ecosystem Health (Invasive.org)

<https://www.invasive.org/>

Central Pine Barrens Commission

<https://pb.state.ny.us/central-pine-barrens/>

Cooperative Agricultural Pest Survey (CAPS)

<https://www.aphis.usda.gov/plant-pests-diseases/caps>

CWMA Cookbook: A Step-by-Step Guide on How to Develop a Cooperative Weed Management Area in the Eastern United States

<https://bugwoodcloud.org/resource/files/6254.pdf>

Cornell College of Agriculture and Life Sciences

<https://cals.cornell.edu/new-york-state-integrated-pest-management/eco-resilience/invasive-species>

Cornell Cooperative Extension of Nassau County

<https://ccenassau.org/>

Cornell Cooperative Extension of Suffolk County

<https://ccesuffolk.org/>

Finger Lakes PRISM

<https://fingerlakesinvasives.org/>

Friends of Hempstead Plains

<https://www.hempsteadplains.org/>

EDDMapS (Early Detection and Distribution Mapping System)

<https://www.eddmaps.org>

Great Lakes Phragmites Collaborative

<https://www.greatlakesphragmites.net/>

iBiocontrol

<https://www.ibiocontrol.org/>

iMapInvasives

<https://www.imapinvasives.org>

iNaturalist

<https://www.inaturalist.org>

Invasive Plant Atlas of the United States

<https://www.invasiveplantatlas.org/>

Long Island-Metro Aquatic Invasive Species Task Force (LIMAS)

<https://liisma.org/resilientli22-about/projects-working-groups/limais/>

Long Island Native Plant Initiative (LINPI)

<https://www.linpi.org/>

Long Island Invasive Species Management Area (LIISMA)

<https://www.liisma.org>

Long Island Sound Study

<https://longislandsoundstudy.net/>

Lower Hudson PRISM

<https://www.lhprism.org/>

Mid-Atlantic Invasive Plant Council

<https://maipc.org/>

Mid-Atlantic Panel on Aquatic Invasive Species

<https://www.midatlanticpanel.org/>

Nassau BOCES

<https://outdoor.nassauboces.org/>

National Environmental Coalition on Invasive Species (NECIS)

<http://www.necis.net/>

National Invasive Species Council (NISC)

<https://www.doi.gov/invasivespecies>

National Park Service, Fire Island National Seashore

<https://www.nps.gov/fiis/index.htm>

Native Plant Trust, Go Botany

<https://gobotany.nativeplanttrust.org/>

Natural Areas Conservancy

<https://naturalareasnyc.org/>

New York City Department of Environmental Protection

<https://www.nyc.gov/site/dep/environment/invasive-species.page>

New York City Department of Environmental Protection, Invasive Species Management Strategy (2022)

https://www.nyc.gov/assets/dep/downloads/pdf/about/filtration-avoidance-determination/fad_4.8_invasive_species_strategy_03-22.pdf

New York City Department of Parks & Recreation

<https://www.nycgovparks.org/>

New York Flora Atlas

<https://newyork.plantatlas.usf.edu/>

New York Invasive Species Research Institute (NYISRI)

<https://www.nyisri.org/about-us/new-york-invasive-species-network/>

New York State Aquatic Invasive Species

Management Plan (2015)

https://extapps.dec.ny.gov/docs/fish_marine_pdf/nysaisplan15.pdf

New York State Department of Agriculture and Markets (NYSAGM)

<https://agriculture.ny.gov/>

New York State Department of Environmental Conservation (NYSDEC)

<https://www.dec.ny.gov>

NYSDEC Bureau of Pesticides Management - Information Portal

<https://extapps.dec.ny.gov/nyspad/>

NYSDEC Rapid Response for Invasive Species:

Framework for Response (2016) (EDRR)

https://extapps.dec.ny.gov/docs/lands_forests_pdf/isrrprogrampolicy1.pdf

New York State Department of Parks, Recreation, and Historic Preservation

<https://parks.ny.gov/>

New York State Invasive Species Information

<https://nyis.info/>

New York State Invasive Species Comprehensive Management Plan (2018)

https://extapps.dec.ny.gov/docs/lands_forests_pdf/iscmpfinal.pdf

New York State Invasive Species Tiers

<https://www.nynhp.org/invasives/species-tiers-table/>

New York Natural Heritage Program (NYNHP)

<https://www.nynhp.org/>

NOAA Fisheries, Invasive and Exotic Marine Species

<https://www.fisheries.noaa.gov/insight/invasive-and-exotic-marine-species>

North American Invasive Species Management Association (NAISMA)

<https://naisma.org/>

North American Invasive Species Network (NAISN)

<https://www.naisn.org/>

Northeast Regional Invasive Species and Climate Change (RISCC) Network

<https://www.risccnetwork.org>

Northeastern IPM Center

<https://www.northeastipm.org/index.cfm>

North Shore Land Alliance

<https://northshorelandalliance.org/education/>

Peconic Estuary Partnership (PEP)

<https://www.peconicestuary.org/>

Peconic Land Trust

<https://peconiclandtrust.org/>

Quogue Wildlife Refuge

<https://quoguewildliferefuge.org/>

Save the Great South Bay

<https://savethegreatsouthbay.org/take-action/advocacy/>

Seatuck Environmental Association (Seatuck)

<https://seatuck.org/>

SLELO PRISM

<https://www.sleloinvasives.org/>

SUNY College of Environmental Science and Forestry (ESF)

<https://www.esf.edu/>

The Nature Conservancy (TNC)

<https://www.nature.org>

Third House Nature Center

<https://www.thirdhousenaturecenter.org/>

Trout Unlimited, Long Island

<https://www.longislandtu.org/projects>

United States Department of the Interior Invasive Species Strategic Plan 2021-2025

<https://www.doi.gov/sites/doi.gov/files/doi-invasive-species-strategic-plan-2021-2025-508.pdf>

USDA National Invasive Species Information Center (NISIC)

<https://www.invasivespeciesinfo.gov>

USDA APHIS Plant Protection and Quarantine (PPQ)

<https://www.aphis.usda.gov/plant-protection-quarantine>

USDA APHIS Wildlife Services (WS)

<https://www.aphis.usda.gov/wildlife-services>

US Fish and Wildlife Service

<https://www.fws.gov/office/long-island-ecological-services>

US Geological Survey (USGS)

<https://www.usgs.gov>

Western New York PRISM

<https://www.wnyprism.org/>

Western Suffolk BOCES

<https://www.wsbores.org/instructionsupport/outdoor-environmental-education-program/>