



Capital Region PRISM

Partnership
for Regional Invasive Species
Management

2020 Annual Report



Capital Region PRISM Partnership for Regional Invasive Species Management

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Cornell Cooperative Extension Saratoga County



Department of
Environmental
Conservation



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and Markets



The numerous partner organizations and their representatives who contribute their expertise, time and resources to the development and success of the Capital Region PRISM.

Copy of this report can be obtained from the Capital Region PRISM website:

www.capitalregionprism.org

Front Cover:

Flowering rush (*Butomus umbellatus*), Wineberry (*Rubus phoenicolasius*) Common frogbit (*Hydrocharis morsus-ranae* L.)

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Partnership for Regional Invasive Species Management of the Capital Region

The 2020 work year presented un-precedented challenges and adversity that the Capital Region Partnership for Regional Invasive Species Management (PRISM) was able to persevere through while executing the annual 2020 work plan. The PRISM, hosted by the Cornell Cooperative Extension of Saratoga County and funded through the New York State Department of Environmental Conservation, was deemed essential in the agencies work efforts. The PRISM administered and delivered on both the prime contract for the Partnership for Regional Invasive Species Management (PRISM) C# 010340 and the Hudson and Mohawk River Valleys Aquatic Invasive Species Spread Prevention Program (AISSPP) C# 011280 on behalf of the New York State Department of Environmental Conservation.

To ensure PRISM contract deliverables were met, action items were shifted to a stronger focus on field work. As a result, early detection and rapid response efforts were increased for both terrestrial and aquatic work. Prevention, education, and outreach strategies were still present but these deliverables saw a significant change in the delivery method of programming. Safety plans were drafted and adopted for both in the office and the field. Remote work locations were established, and employee health and safety protocols were paramount in proceeding with work efforts. The PRISM and Cornell Cooperative Extension of Saratoga County worked diligently to adapt to the changing environment in 2020. In addition, the PRISM took austerity measures and aimed to reduce the financial burden on the State of New York by pausing work programs and postponing projects to the next fiscal year.

Regardless of the circumstances of 2020, the accomplishments in the PRISM were numerous. The 2020 work plan was executed and many objectives were met that aligned with the goals of the Capital Region PRISM Strategic Plan. In summary, 34 of 38 strategies from the 2020 work plan were deployed for an 89% success rate. For example, the aquatic invasive species program developed and deployed a method for prioritizing lake surveys, which resulted in more early detections of water bodies than in prior years. The terrestrial program deployed a more robust approach to monitoring treated sites and observed significant reductions in infestations. An invasive species management plan and a treatment reporting tool were designed and utilized which resulted in more efficient and cost-effective works. Both tools emphasize treatment and restoration calendars to guide reasonable work efforts.

One of the PRISM's greatest accomplishments in 2020 was the services that we were able to deliver to our partners. The PRISM staff is proud to have aided partners in navigating a successful, yet challenging, year. The PRISM provided resources in the form of safety protocols, management expertise, while providing boots on the ground to directly assist partners in executing invasive species works that would not have occurred without our interventions. At the same time the PRISM recognizes The New York State Department of Environmental Conservation, especially the Invasive Species Coordinate Unit, the Cornell University Cooperative Extension Network, and our numerous partners who aided us in achieving our goals in 2020. The hard work, hours, and thoughtful decisions shared in the interest of the PRISM helped keep our programs viable. We are truly grateful.

The PRISM was active in their second year with a focused approach towards the management of invasive species when conducting early detection, rapid response, and control strategies. The team revised and continued to survey in Priority Conservation Areas (PCA's) and developed a pilot program for surveying Priority Water Bodies (PWB's) across the Capital Region for surveys and management. PCA's and PWB's are areas that are ecologically significant and are at a high risk of invasion. PCA's and PWB's have been identified in the eleven counties making up the Capital Region PRISM. Both terrestrial and aquatic priority areas will be visited on a yearly schedule, with secondary prioritized regions on a biennial or triennial rotational schedule.

The tier list was updated with the help of the New York Natural Heritage Program. The terrestrial tier list was finalized in March, following input and revisions from the Conservation Committee, and the aquatic tier list is currently undergoing the same process. The tier list updates utilize the statewide tier list that is set to be finalized in 2021 but is adjusted to specifically reflect populations and threats within the Capital Region.

The PRISM conducted combined 78 surveys in both the Aquatics and Terrestrial realms in 2020. The Priority Conservation List was finalized in 2020, bringing the number of sites to be surveyed up to 25, within a two-year period. In 2020, 15 of the PRISM's PCA's were surveyed through staff and partner efforts. In addition to the PCA's 34 secondary sites were assessed. A total of 27 PWB's were surveyed with seventeen surveys completed by staff and ten sites surveyed by a sub-contractor (Adirondack Research). Two additional water bodies were surveyed by a partner organization. At least one site was surveyed in each of the PRISM's eleven counties. The total terrestrial surveyed area for PCA's in 2020 was 3,113 acres. All terrestrial sites PCA's and secondary locations accounted for 4,587 acres. The AIS team surveyed a total of 3,374 acres of water. Together an estimated 7,961 acres were surveyed in the Capital Region PRISM for invasive species.

Three areas surveyed that garnered considerable attention were the Invasive Species Prevention Zone at Moreau Lake State Park, Grafton Lake State Park, and The Lake George Wild Forest. These three areas had a combined estimate of 1000 acres surveyed both on the land and in the water and received various treatment and removal efforts. Between the two state parks the AIS team surveyed 6 lakes covering 328 acres total and 16 miles of river shoreline. A total of 906 acres were surveyed in the Invasive Species Prevention Zone (ISPZ) alone.

The first major infestation of hemlock woolly adelgid in the Adirondack Park was also confirmed in July. The Capital Region PRISM, under the direction of the NYSDEC, APIPP, and a small host of other local partners, mobilized an intensive survey and treatment effort. Over 100 days of state and partner time were spent surveying a portion of the east side of Lake George. NYSDEC led the treatment effort with the PRISM and other partners contributing to the 275 collective days of staff time that resulted in 2,374 trees being treated over 138 acres. Following the work conducted in this portion of Lake George, a stage 2 early detection initiative was formed by APIPP and partners that consisted of 400 survey plots within the Lake George watershed. The Capital Region PRISM was assigned and completed 70 of these plots.

Surveys, partner reports, and post monitoring treatment locations resulted in the following removal targets with several species of concern. On the terrestrial side, Japanese stiltgrass (*Microstegium vimineum*), swallow-wort (*Vincetoxicum* spp.), shrubby bushclover (*Lespedeza bicolor*), Japanese barberry (*Berberis thunbergii*), yellow archangel (*Lamium galeobdolon*), wineberry (*Rubus phoenicolasius*), and common reed (*Phragmites australis*) were managed in 2020. The aquatic team focused on slowing the spread of European frog-bit (*Hydrocharis morsus-ranae*), and water chestnut (*Trapa natans*) and Eurasian watermilfoil (*Myriophyllum spicatum*). Outside of these areas, our work efforts have been focused on engaging our partners with potential threats and assisting them in managing such populations. For a full listing and description of survey and treatment reports from the PRISM and our partners please follow the link www.capitalregionprism.org/reports.html

The second year of the Aquatic Invasive Species Spread Prevention Program (AISSPP) was completed. The goal of AISSPP is to prevent the spread of aquatic invasive species between waterbodies through the deployment of watercraft stewards stationed at various boat launches throughout the region. Watercraft stewards are responsible for completing voluntary watercraft inspections and educating the public on the threats of AIS. In 2020, the AISSP program spread the word of clean, drain, dry to 27,150 individuals, inspected 15,609 watercraft, and prevented 410 aquatic invasive species from infesting new waterbodies.

In 2020, the PRISM held or participated in 38 events and reached over 850 direct contacts. An additional 52,109 indirect contacts were reached through platforms like Facebook, Instagram, and the PRISM website. There was also a push to create and distribute in-house education materials including identification cards, brochures, and video demonstrations. In addition, the PRISM worked on re-vamping the website and created a quarterly newsletter to be shared with our partners in the new year.

Continually increasing partner capacity is one of the keys to the success of the PRISM and slowing the spread of invasive species on a regional scale. In 2020 the PRISM was active with 63 of 102 partners for the year to varying degrees. With a partner initiative the PRISM coordinators were active in recruiting new members through formal invitations. The program resulted in 10 new partners who were added to the roster. The PRISM also manages an Aquatic Invasive Spread Prevention Program with boat launch inspectors in 22 different town municipalities. Altogether, the PRISM has connections to 28 city and town municipalities.



CAPITAL REGION PRISM MISSION STATEMENT

“Detect, prevent, and control invasive species, through direct action and education, to protect biodiversity, the natural environment, economy, and quality of life.”

New York Environmental Conservation Law defines invasive species as non-native species that can cause significant harm to the environment, economy, or to human health. Invasive species are a form of biological pollution that come from around the world. The rate of invasion is growing rapidly due to the increase of international trade and climate change.

The Capital Region Partnership for Regional Invasive Species Management (PRISM) exists to fight the threat of invasive species in and around the Capital Region of New York State. The NYS Invasive Species Task Force recommended building and funding a network of partnerships to prevent or minimize the harm caused by invasive species to New York's environment in its 2005 report to the Governor and legislature. To act on that recommendation, the NYS Department of Environmental Conservation (DEC) contracted the administration of eight PRISMs across the state. The Capital Region PRISM is one of eight that span the state of NY creating a network of partnerships as an integrative approach to invasive species management. The PRISMS of New York State receive financial support through the Environmental Protection Fund.

The Capital Region (PRISM) is hosted by the Cornell Cooperative Extension of Saratoga County and we collaborate with our partners to reduce the spread and impacts of invasive species. The Capital Region PRISM proudly serves eleven counties, including Albany, Columbia, Montgomery, Rensselaer, Schenectady, and portions of Fulton, Greene, Herkimer, Saratoga, Warren, and Washington. The PRISM is a not-for-profit quasi-government agency. In 2018 the Capital Region PRISM became fully funded with a contract continuing until 2023. The office is staffed with a full time Terrestrial, Aquatic, and Lead Coordinator along with a part time environmental educator. The core members making up the Capital Region PRISM have strengths in each individual area of expertise and together we have a solid foundation to deliver a diverse suite of approaches to help manage invasive species in the Capital Region with our partners.

The PRISM recognizes the need to develop networks and collaborate with partners to help slow the spread of invasive species. More than three dozen cooperating organizations, partners, and volunteers support the Capital Region PRISM in its mission. The Capital Region PRISM is set to launch several exciting invasive species initiatives and expansions that we are certain will make a difference in 2021. Collaboration with our partners is key to our success and we want to share these efforts and invite you to embrace these initiatives. Please feel free to reach out to the staff at any time to learn more about the possibilities in partnering with future projects.

Capital Region PRISM Tier List for Ranking for Priority Invasive Species

The PRISM has categorized invasive species into a tier ranking system based on known populations. The purpose of the tier system is to focus attention on high threat species that are not found in our region or are appearing in small populations that are manageable with limited resources. Preventing the introduction of new species is the most cost-effective strategy. Early identification and rapid response to new infestations that are found in small populations can result in successful and efficient eradication. When an invasive species is found regionally over a widespread area, the cost to control populations can become prohibitive.

Invasive species are regionally ranked into a tiered system based on presence within the PRISM boundary. Invasive species are also prioritized based on a state-assigned threat score, that is determined by the species' ecological impact, biological characteristics and dispersal ability, ecological amplitude and distribution, and difficulty to control. Based on these categories, some invasive species are more aggressive with higher threat scores than others. For more information, consult the [NYS Ranking System for Evaluating Non-Native Plant Species for Invasiveness](#). The tier ranking system is outlined below and is designed to help guide our management practices. The terrestrial tier list received a major update in April of 2020 and the aquatics tier list is currently under revision. The Capital Region Tier List can be found at <http://www.capitalregionprism.org/downloads.html>

Tier 1 - Prevention / Early Detection

Species are not in yet PRISM, with anticipated high or very high impacts. Highest level of survey efforts. Should conduct delineation surveys and assign to appropriate Tier if detected.

Tier 2 – Eradication / Full Containment may be Feasible

High and very high impact species with low enough abundance to make eradication feasible within the PRISM. Tier 2 species should garnish the highest level of response efforts. Delineation surveys are used to determine full extent.

Tier 3 – Containment / Strategic Management

High and very high impact species that are too widespread for eradication, but low enough abundance to think about regional containment. Target strategic management to slow the spread since many surrounding regions could be at risk if left unattended.

Tier 4 – Local Control / Exclusion or Suppression

Well-established species with high and very high impacts. Eradication efforts not feasible; only localized management over time to contain, exclude, or suppress, if justified to meet local management goals. (Suppression efforts) *Subcategory: Not established outside of PRISM, manage to contain within PRISM.

Tier 5 - Research

Species in or surrounding the PRISM that need more research, mapping, and monitoring to understand invasiveness and impacts.

Education and outreach strategies are delivered to increase awareness and knowledge of invasive species that can cause significant harm to the environment, economy, and human health. Preventative strategies, like education and outreach, are cost effective in limiting the spread of introductions.

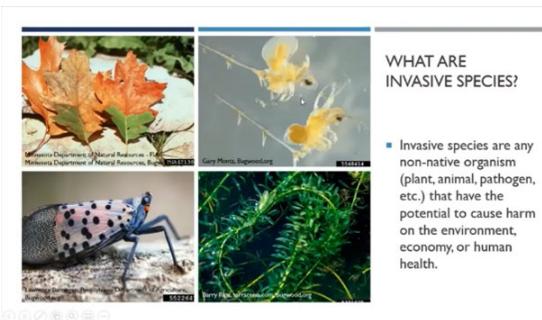
The Capital Region PRISM worked throughout 2020 to adapt and deliver education and outreach materials through various platforms. The PRISM's goal was to provide a better understanding of invasive species and their impacts on the local environment to a broad audience. The PRISM collaborated with partners and stakeholders, upheld a social media presence, and helped communities, organizations, and others in reaching their goals of increasing awareness and knowledge of invasive species.

Educational materials, such as factsheets, resource guides, manuals, and presentations, were developed and promoted throughout the year. Notably, the PRISM created pocket identification guides for use in the field by PRISM staff and partners. Other in-house resources were also shared with PRISM partners and stakeholders to further distribute throughout the Capital Region. Materials from the NYSDEC Bureau of Invasive Species and Ecosystem Health, Department of Agriculture and Markets, and other agencies and organizations were also distributed by the PRISM.

Overall, from October 2019 to December 2020, the PRISM reached 897 direct contacts across 38 events using various outlets including in person lectures, virtual trainings and webinars, and demonstrations in the field. For a full list of events, broken down by event type, refer to Appendix B. The PRISM was also involved with training citizen scientists on invasive species identification, management, and the use of iMapInvasives, with the intent of instilling awareness that would translate into practices ultimately slowing the spread of invasive species at local and regional levels. Below is a description of a few educational highlights from 2020.

2020 Moreau Lake State Park NatureFest

NatureFest is an annual event that is hosted by the Friends of Moreau at Moreau Lake State Park. This year, the 23rd NatureFest was held virtually and the Capital Region PRISM participated by creating a video to be displayed on their website. The PRISM focused the video on being an environmental steward while in the park, and encouraging the public to play, clean, go. The video was well received by the park staff and Friends of Moreau group and has been proposed to be played on the screens at the Welcome and Nature Centers at the park.



Crandall Library Invasive Species Webinar Series



Throughout the month of August, the Capital Region PRISM was hosted by Crandall Public Library in Glens Falls to deliver a series of invasive species webinars to their patrons. The webinars were held every Wednesday in August from 11-12 PM. The webinar topics included aquatic invasive species identification, clean, drain, dry demonstration, terrestrial invasive species identification, and an iMapInvasives Training. There were 13 participants across all four webinars, however recordings of the webinars are available for the public on the [Crandall Library Facebook Page](#).

New York Logger Training, Inc.



On October 9th, the PRISM led a second annual certification course for the New York Logger Training Program with twelve participants. The full day workshop occurred in person covering curriculum regarding forest pest and plant identifications and management controls. The program emphasized forestry practices that can be deployed to reduce the spread of invasive species on sight and decontamination procedures.

Hemlock Woolly Adelgid Trainings



Hemlock woolly adelgid received a lot of attention throughout 2020. Hemlock woolly adelgid is a species of concern in the Capital Region, due to the considerable number of hemlock trees in the area and our shared boundary with the Adirondack Park. In February, the PRISM led a training course in collaboration with Meg Wilkinson from iMapInvasives at Moreau State Park. The purpose of the training was to teach members of conservation boards and conservation advisory boards how to perform early identification and report their findings. Participants were also able to receive pesticide credits for attending. There were about 20 attendees at the training ranging from soil and water conservation district employees to grounds keepers at local schools. In addition to the in-person training, a virtual lecture on the importance of hemlock trees and how to identify hemlock woolly adelgid, was held in November, following the collaborative effort to treat HWA around Lake George. The lecture was followed by an iMapInvasives Training, reaching a combined total of 22 participants. Both programs were part of the Cornell Hemlock Initiative.

Cornell Master Gardener Program

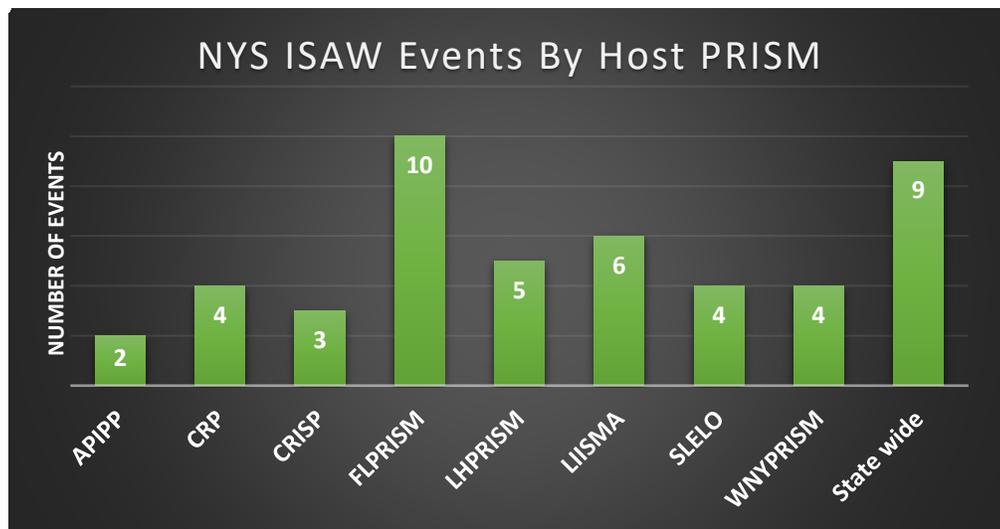


The annual Master Gardener classes were held in the Spring of 2020 in which the Capital Region PRISM brings invasive species curriculum to new enrollees in the program. Invasive species identification and management of common species found in our back yards and roadsides are covered. Specialty components of the day long training include spotted lanternfly, Asian jumping worms, and other agriculture pests. The program includes sub topics including the importance of composting on site, bare root stock, and native plantings.

Invasive Species Awareness Week

New York States 7th annual Invasive Species Awareness Week (ISAW) campaign was held from June 7th to the 13th in 2020. ISAW is an initiative put in place by the Invasive Species Council, Invasive Species Advisory Committee, and the eight PRISM partnership networks across the state to promote education and outreach regarding invasive species and the harm they can cause to the environment, economy, and human health. The PRISM participated in statewide and regional ISAW planning committees to foster collaboration across PRISM boundaries and create events that involved local partners. In addition to planning, the Capital Region PRISM is responsible for encouraging new and existing partners to participate in ISAW and provides them with resources, from social media banners to one-on-one staff assistance for planning, to deliver a successful event to the public.

Across the state, there were 47 events held during ISAW that reached a wide variety of age groups and education levels. The types of events ranged from virtual webinars to invasive species mapping challenges. Specifically, in the Capital Region PRISM, there were 4 events that occurred during ISAW, all of which occurred in a virtual setting. The PRISM worked with Saratoga Library and the Wilton Wildlife Preserve to hold two virtual lecture events. In addition to the lectures, the PRISM created an EcoQuest Challenge for mapping invasive species and participated in the statewide ISAW Social Media Challenge. Following ISAW, the PRISM also followed up with participants to get feedback on the events held and find areas of improvement for the future.



ISAW Events by Regional Host. Figures courtesy of Molly Hassett, NYSDEC.

Prevention strategies are needed to help control the introduction of invasive species into a region. Develop public awareness regarding the harm caused by invasive species and strategies to control their spread. Recruit and train volunteers, partners, municipalities, in invasive species identification, monitoring, management, and prevention techniques.

The Capital Region PRISM works hard to prioritize high risk areas, monitor species distribution, and create partnerships that aid in the prevention of invasive species. Prevention is achieved by identifying species of concern and educating the public and partners on identification and management through presentations, tabling events, and partner trainings. The PRISM has a Steering Committee and four subcommittees (Agriculture, Aquatics, Conservation, and Education/Outreach) that meet a few times a year to review and develop strategies and targets for prevention and management. In addition, each coordinator participates in numerous working groups with partners and state agencies to collaborate in delivering prevention strategies.

On a state-wide scale, the aquatics and terrestrial coordinators across the NYS PRISM network, under the guidance of the New York State DEC Invasive Species Coordinate Unit, have initiated monthly meetings. Molly Hassett from the DEC, and Jennifer Dean from NHP present to discuss topics relating to survey techniques, management, data collection, education and outreach, as well as reporting to form a cohesive front against the spread of invasive species within New York State. This allows for the sharing of experience, resources, and techniques that may vary from region to region. Knowledge that is shared is then passed on to our partners and the general public. Working with our fellow PRISMs in identifying the best management strategies to solve problems we can open communications to increase our reach and management potential.

Hudson & Mohawk Rivers Aquatic Invasive Species (AIS) Spread Prevention Program

The Capital Region PRISM successfully administered the second year of the Hudson and Mohawk Rivers AIS Spread Prevention Program. The program deploys watercraft inspection stewards at predetermined boat launches to educate recreating public on how to Clean, Drain, and Dry watercraft and other recreational sporting equipment to minimize the harm invasive species present to our waters of New York State. Watercraft stewards intercept aquatic invasive species from launching and retrieving vessels. The voluntary inspections include the public in the process while delivering prevention strategies and has a high rate of participation.

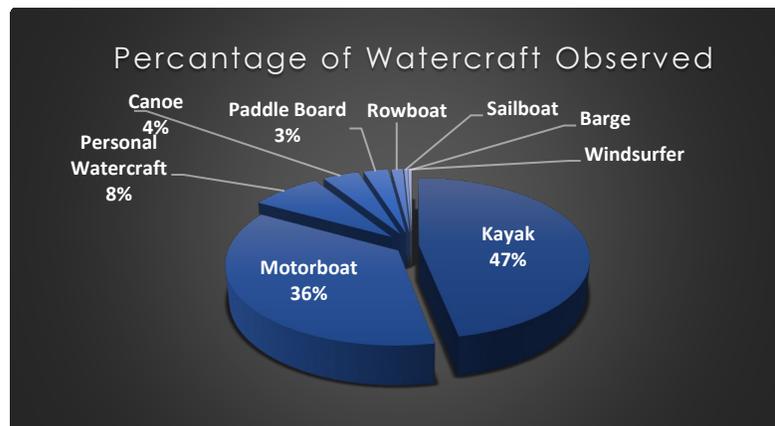
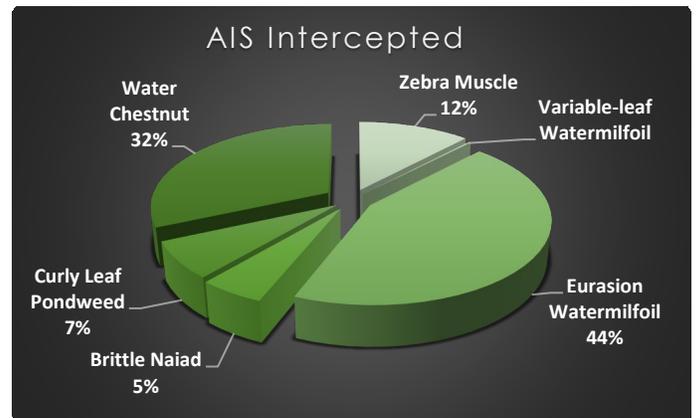
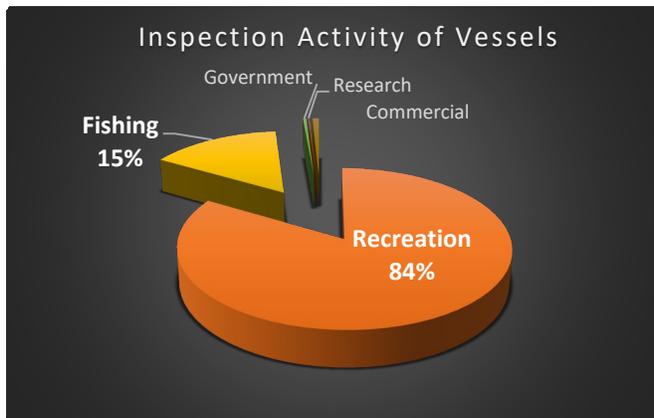
Both the Hudson and Mohawk Rivers are critically important waterbodies for the Capital Region. The two rivers support a multitude of native species, both aquatic and terrestrial, and provide numerous recreational opportunities for the general public. The Hudson boasts a unique brackish ecosystem as a tidal estuary, making it an important component for ecosystems throughout eastern New York State. Invasive species have plagued both waterways and have caused numerous issues for our native species. Currently, over 120 aquatic non-native and invasive species have been found within the Hudson River estuary, making it a source point for AIS within the Capital Region PRISM. The implementation of a boat steward program that actively engages and educates the public regarding spread prevention measures is imperative to preventing the spread of AIS.

2020 AISSPP Metrics

In 2020, the Capital Region PRISM hired 22 watercraft stewards that were placed at 28 designated launch locations along the Hudson and Mohawk Rivers. Including Chodikee and Round Lake. The 2020 AISSPP season experienced growth in all areas of the program with increases in individuals educated, watercraft inspections, and AIS interceptions. The watercraft stewards inspected 15,609 watercraft, and prevented 410 aquatic invasive species from infesting new waterbodies. Overall the AIS program reached 27,150 individuals with Clean Drain Dry messaging. A small portion of metrics from the season can be found below. For a full report please follow the link.

- [Aquatic Invasive Species \(AIS\) Spread Prevention Report](#)
- [Watercraft Inspection Steward Program Details and Clean Drain Dry Practices](#)

The most observed watercraft type across all launch locations was kayaks making up 46.9% of all watercraft observed. Motorboats were the second most observed watercraft followed by personal watercraft, canoes, stand-up paddleboards, rowboats, sailboats, windsurfers, docks, and barges. Part of each watercraft steward’s responsibilities was to observe the primary activity performed for each survey completed. Recreation (83%) was the primary activity performed at most launch locations followed by fishing (15.5%), commercial (0.8%), government (0.4%), and research (0.2%). A large percentage of species observed on launching and retrieving watercraft were non-invasive or native species. Aquatic invasive species were observed on 2.63% of all watercraft inspected with the most common AIS found being Eurasia watermilfoil. A total of 410 AIS were intercepted during watercraft inspections.



Early detections are imperative to slowing the spread and harm caused by invasive species. Early identification of new infestations are controlled by prioritizing species, pathways, and highly probable areas.

Early detection with rapid response provides the best opportunity to address invasive species before they cause considerable damage to the environment. Early identifications with response can lead to cost effective management strategies. In 2020, the Capital Region PRISM and partners recorded detects and non-detects with a focus on tier 2 and 3 high-threat species, such as hemlock woolly adelgid (*Adelges tsugae*), giant hogweed (*Heracleum mantegazzianum*), porcelainberry (*Ampelopsis brevipedunculata*), swallow-wort (*Vincetoxicum spp.*), and European frog-bit (*Hydrocharis morsus-ranae*). The PRISM also focused on researching and monitoring the potential ecological and social impact of species that lack regional information or data regarding their invasiveness such as Japanese tree-lilac (*Syringa reticulata*), Japanese spiraea (*Spiraea japonica*), and winter moth (*Operophtera brumata*).

To assist in our regional early detection efforts, species identification trainings and webinars were conducted to train citizen scientists and interested partners on how to identify high-threat invasive species and enter them into iMapInvasives. The reporting tool from the Natural Heritage Program is the primary instrument used by the Capital Region PRISM for reporting the presence, absence, and treatment of invasive species. Survey efforts are prioritized. Tier 2 species have a higher survey priority in order to target the populations for management before a species population becomes too large for effective eradication. Tier 1 species that have been confirmed near the Capital Region PRISM boundary are monitored to determine probable locations of encroachment based on proximity. Currently, there are nine tier 1 species within 20 miles of our PRISM boundary. Note the AIS and TIS species below for example.

Tier 1 Aquatic Species within 20 miles of Capital Region PRISM Boundary		
Scientific Name	Common Name	Confirmed Count
<i>Eichhornia crassipes</i>	Water Hyacinth	1
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherfish	6
<i>Myriophyllum aquaticum</i>	Parrot Feather	1
<i>Neogobius melanostomus</i>	Round Goby	1
<i>Petromyzon marinus</i>	Sea Lamprey	1
<i>Heracleum mantegazzianum</i>	Giant Hogweed	4

Tier 1 Terrestrial Species within 20 miles of Capital Region PRISM Boundary		
Scientific Name	Common Name	Confirmed Count
<i>Akebia quinata</i>	Chocolate Vine, Fiveleaf	3
<i>Clematis teriflora</i>	Japanese Virgin's-bower	1
<i>Cytisus scoparius</i>	Scotch Broom	2

The PRISM was active in their second year with a focused approach towards the management of invasive species when conducting early detection, rapid response, and control strategies. The team revised and continued to survey in Priority Conservation Areas (PCA's) and developed a pilot program for surveying Priority Water Bodies (PWB's) across the Capital Region for surveys and management.

The Priority Conservation Areas list was finalized in 2020 to bring the number up to 25 sites to be surveyed within a rotational 2-year period. PCA's were chosen using the Natural Heritage Program's prioritization model which is based on several factors to calculate ecological significance, risk of spread, and value based on status for sites throughout the state. For a full list of PCA's, see Appendix C. In 2020, 50 individual iMapInvasives records submitted by PRISM staff were 'first in area' reports, which demonstrates the success in designating areas for surveying in locations that are considered ecologically significant, highly probable areas due to recreational use, and previously not monitored for invasive species.

Terrestrial Invasive Species Surveys

In 2020, 15 of the 25 PRISM PCA's were surveyed with staff and partner efforts. Total surveyed area within designated PCA's came to 3,113 acres. These surveys targeted early identification of tier 1 & 2 species as well as specifically targeted species of high concern due to the area's plant composition or ecological significance. An additional 21 locations outside of the PRISM's PCA locations were also surveyed. At least one site was surveyed in each of the PRISM's 11 counties with 36 total surveys conducted by PRISM staff for terrestrial invasive species. Tier 3 and 4 species are recorded and noted in ecologically significant communities. For a full listing and detailed survey report please follow the link to our reports page.

- [Terrestrial Invasive Species Survey Reports](#)

County	Surveys
Albany	3
Columbia	1
Fulton	3
Herkimer	4
Greene	2
Montgomery	2
Rensselaer	3
Saratoga	5
Schenectady	6
Warren	4
Washington	3



Moreau Lake State Park Invasive Species Prevention Zone

An Invasive Species Prevention Zone (ISPZ) is a formal designation for a natural area that is dominated by native species and is known to support exceptional biodiversity concentrations as defined by the New York Natural Heritage Program. Invasive species prevention zones are areas greater than 500 acres with very limited intrusions from invasive species. Typically, an ISPZ is also an area highly susceptible to the introduction of invasive threats from multiple vectors. The presence of significant habitats, rare, threatened, or endangered species found within the designated area merits an additional layer of protection to preserve the existing ecology.

In 2020, the Moreau Lake State Park ISPZ garnered some attention in detecting and responding to new invasions while educating the public about invasive species and their effects on our environment. The PRISM participated in Nature Fest and continued educational programming with the Friends of Moreau. Park staff has been trained on invasive species identification, which has resulted in incidental removals in highly probable areas. In particular, a 500-squarefoot patch of *Phragmites australis*, or common reed, was reported by a member of the Friends group at Bonita Lake. Shortly after, the PRISM organized a manual removal of the infestation with the help of Office of Parks Recreation and Historic Preservation (OPRHP) invasive species technicians and a few members of the friend's group.

On a larger scale, the PRISM collaborated with OPRHP to survey an 880-acre parcel currently owed by the Open Space Institute (OSI). The parcel is tentatively scheduled to be transfer over to the Office of Parks Recreation and Historic Preservation and become part of Moreau Lake State Park. The area is under consideration to be restored and preserved as a pine barren to support an endangered species. One of the initial assessments of the property, conducted by the OPRHP, was to delineate known infestations and determine future management strategies. The PRISM partnered with the OPRHP and led a field survey project, that involved taking an inventory of known and unknown invasive species on the property.

The PRISM was able to identify common invasive species left behind from repeated logging operations along associated skid roads as indicated on the map below. Common honeysuckle spp. and black locust (*Robinia pseudoacacia*) stands were identified. Of greater concern, the ground survey at Big Bend Preserve delineated an infestation of Japanese barberry (*Berberis thunbergii*) that over time has become a 10-acre monoculture. A developing burning bush (*Euonymus alatus*) monoculture was also discovered and determined to be around 0.4 acres in size. A large portion of these infestations were found in a riparian habitat.



Big Bend Preserve parcel and survey areas.

The map below shows the iMapInvasives presence records for Japanese barberry (*Berberis thunbergii*) at the Big Bend Preserve in 2020. Delimiting polygons were drawn using the iMap Mobile Advanced app in Survey 123 and ArcCollector. A survey report and recommendations for management were provided to OPRHP. Tentative actions for the future may incorporate controlled burns.



10 Acer Monoculture of Japanese barberry (*Berberis thunbergii*)

Hemlock Woolly Adelgid

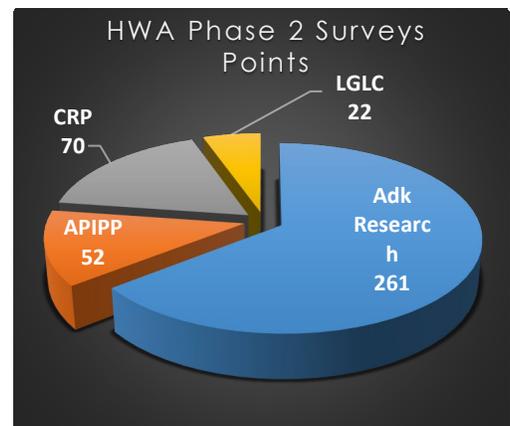
Hemlock woolly adelgid surveys were a priority for the state in 2020. Early detection remains crucial for slowing the spread of HWA to give the bio-control research a chance to become an effective management strategy. The year began with winter surveys of PCA's and high priority areas due to their proximity to the Adirondack blue line. Twenty of the surveys conducted by the Capital Region PRISM included hemlock stand surveys. HWA lake surveys conducted by the Capital Region PRISM resulted in approximately 29.5 miles of shoreline surveyed. Lake surveys provide access to remote hemlock stands and can provide timely hemlock surveys with the understanding that limitations exist. For a stand to be flagged as suspicious in a lake survey, it is likely that the infestation is not new, and the trees are already in a state of decline.

HWA Lake Survey areas in the Capital Region PRISM:

- Hudson River corridor Moreau Lake State Park including Lake Bonita (Saratoga County)
- Butler Pond and the Van Duesen Preserve (Warren County)
- Peck Lake (Fulton County)
- Archer Valley Lake & Lake Desolation (Saratoga County)
- Grafton Lakes (Rensselaer County)
- Rockwood Lake State Forest Area (Fulton County)

Lake George Stage 2 Response

In response to the confirmed report of HWA in Lake George, early detection surveys for surrounding areas were conducted by APIPP, Capital Region PRISM, Lake George Land Conservancy, and Adirondack Research. The Capital Region PRISM surveyed parts of Buck Mountain, Pilot Knob, Berry Pond, and Prospect Mountain. These surveys were coordinated using a prioritization map created by Zachary Simek (APIPP Conservation and GIS Analyst). Data was collected and loaded into ESRI ArcCollector. A timed hangar survey methodology was used by all parties. The CRP surveyed 70 of the 400 predetermined points. HWA was found at one point in the Pilot Knob area and was an early stage infestation.



The collaborative portion of the early detection response by the Capital Region PRISM Team took place in November. Designated survey points were searched over 8 days by a team of two taking 192 hours of team time. Note the map below showing the lower section of Lake George with points where the Capital Region has completed stage 2 HWA surveys (red dots).

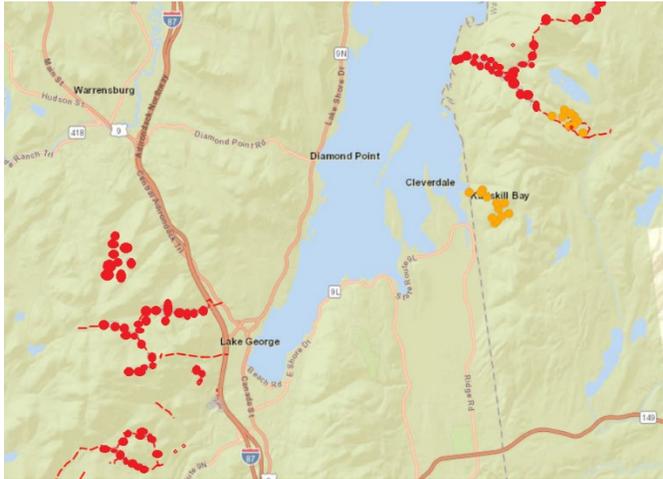


Photo of Kristopher Williams (PRISM), Rebecca Terry (NYSDEC), and Alexander Novick (Lake George Land Conservancy) discussing stage 2 HWA surveys.



HWA sistens photo courtesy DEC Forest Health Lab



HWA Survey Site Berry Pond Lake George NY



Aquatic Invasive Species Survey

A pilot lake prioritization tool was developed in the 2020 for lake surveys. Lakes selections were from the PRISM's Priority Water Body (PWB) list which was in development at the time. The model has 296 lakes and ponds listed across the eleven county PRISM. In an effort to prioritize water bodies for surveying with limited resources the following are considered in lake selection.

1. Is there public access with a boat launch?
2. Has the water body been surveyed if so when?
3. Is the water body under active managed by a lake association or other entity?
4. Is the water body an area of high ecological significance as determined by NY Natural Heritage Programs Invasive Species Prioritization Map Models?
5. How close is the water body to known high threat Tier 1 and 2 invasive species infestations based on a GIS analysis of reports (iMapInvasives)?

The lake prioritization model has a listing of water bodies for each county with a set of criteria ranking lakes for survey efforts. Lakes are ranked based on the criteria above and then selected for surveying. Most water bodies in the region have some degree of AIS fouling. Lakes clear of AIS will receive higher priority for evaluation. The model will be refined in 2021. The PRISM welcomes interested parties to use the lake prioritization model.

The Capital Region PRISM has increased its survey and reporting capacities in in the aquatic realm. AIS surveys were completed using water bodies from our pilot prioritization model and data was collected in iMapInvasives. All tiered invasive species found in dense abundances are delineated as polygons. Trace populations are uploaded as single points. Survey123 and ArcGIS Collector tools are used to supplement iMapInvasives by allowing more detailed polygons to be recorded. The Cornell meandering rake toss method and visual inspections are made to delineate invasive plant beds in the littoral zone.

Together a total of 27 aquatic surveys were completed by the Capital Region PRISM and Adirondack Research. A total of 3,265 acres of water were surveyed for the field season. The Capital Region PRISM completed 17 aquatic surveys totaling approximately 1,856 acres of water surveyed. AIS surveys were completed in seven of the PRISM's 11 counties. Adirondack Research was sub-contracted through the Capital Region PRISM to completed 10 lake surveys. Adirondack Research conducted surveys in six counties, totaling approximately 1,409 acres. Adirondack Research used bioacoustics survey techniques to collect data on native and invasive plant beds, bottom hardness, and bathymetry characteristics.

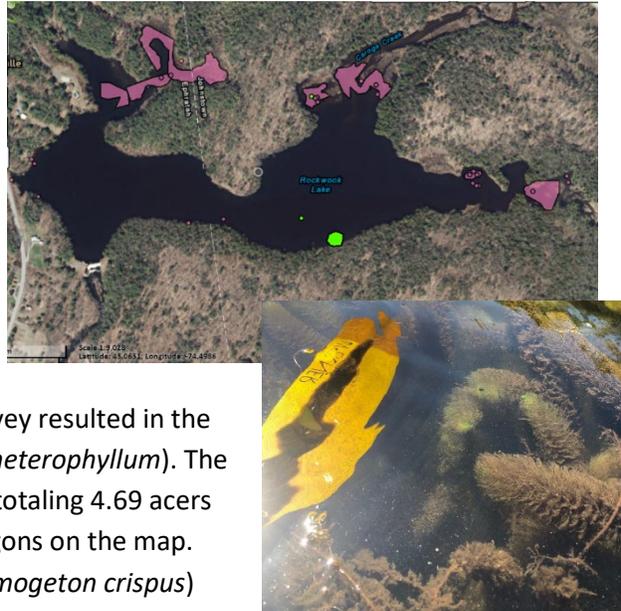
During survey efforts, an emphasis was put on surveying for Tier 1 & 2 species in the Capital Region PRISM with focus on very high threat species such a hydrilla (*Hydrilla verticillata*) and European frog-bit (*Hydrocharis morsus-ranae*). Upon completion of the field season, no infestations of Hydrilla were observed and only one new infestation of European frog-bit was discovered in a waterbody downstream of a known infestation. There was only one new Tier 1 and 2 species infestation documented during the 2020 field season. Variable-leaf watermilfoil (*Myriophyllum heterophyllum*), observed in Rockwood Lake. Several water bodies were found to be AIS free, Lake Desolation, Lake Nancy, and Archer Vly of

Saratoga County, Butler Pond Warren County, and Second and Shaver Ponds of Grafton Lake State Parks in Rensselaer County. The lack of any new AIS infestations resulted in a successful early detection survey season for the Capital Region PRISM.

Aquatic Invasive Species Survey Summaries

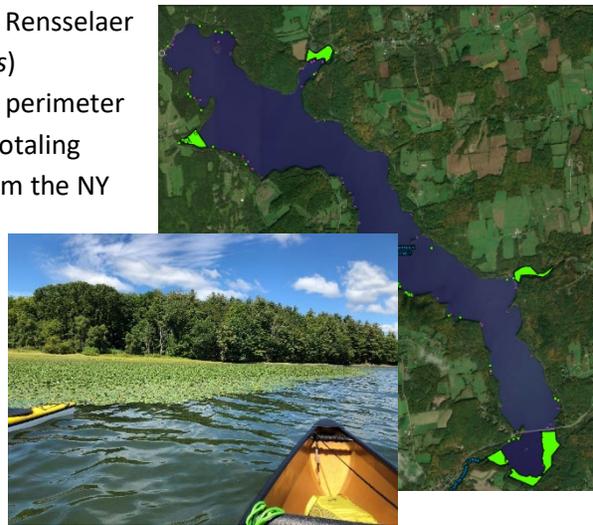
Rockwood Lake

Located in Fulton County New York, straddles the Adirondack blue line between two PRISMS. The lake is 75 acres in size and has an impoundment managed by Brookfield Power Authority. An early detection survey resulted in the discovery of Variable Watermilfoil; (*Myriophyllum heterophyllum*). Rockwood Lake located in Fulton County New York, straddles the Adirondack blue line between two PRISMS. The lake is 75 acres in size and has an impoundment managed by Brookfield Power Authority. An early detection survey resulted in the discovery of Variable Watermilfoil; (*Myriophyllum heterophyllum*). The aquatics team on that day mapped out 8 polygons totaling 4.69 acers of invasive plant beds indicated by the purple polygons on the map. One new infestation of Curly Leaf Pondweed (*Potamogeton crispus*) was also identified in the green polygon.



Tomhannock Reservoir

The Tomhannock Reservoir a drinking water supply in Rensselaer County NY has multiple Water Chestnut (*Trapa natans*) infestations. The reservoir is 1720 acres in size with a perimeter of 19 miles. Seven large polygons of Water Chestnut totaling 71.53 acers were delineated with a representative from the NY State DEC Fish and Wildlife Bureau. Note the map of delineated polygons. An official report was drafted by the PRISM and shared with the NYS DEC, Rensselaer County NRCS and Soil and Water Conservation District. The Report was used to generate awareness of the problem and was reviewed at a county board meeting. Management of the infestations will require greater resources.



Weaver Lake Herkimer County and Fish Creek Saratoga County

Previous survey reports and iMapInvasives records indicated an infestation of European frog-bit in Weaver Lake in Herkimer County. A full survey was completed by the Capital Region PRISM in partnership with the Otsego County Conservation Association to determine the extent of the infestation and if manual hand pulling efforts were feasible to manage the infestation. Upon completion of the survey, it was determined that the infestation was beyond the scope of manual management and further resources would be needed to control the infestation of European frog-bit in Weaver Lake.

Due to European frog-bit's Tier 2 ranking in the Capital Region PRISM, a strong emphasis was put on surveying highly probable areas that new infestations could be present. Adjacent waterbodies like lake Lonely and Young Lake were surveyed due to their proximity known infestations of European frog-bit. As a result of the survey efforts, only one new infestation was discovered in Young Lake which is fed by Weaver Lake. The presence of frog-bit in young lake was far lower than expected.



Fish Creek – Saratoga Lake

In 2017, an infestation of European frog-bit was recorded in iMapInvasives in the Fish Creek area of Saratoga Lake. In 2020, the Capital Region PRISM completed a survey of the northern end of Fish Creek, north of Rt. 67, to determine the extent of the infestation. The results of the survey showed the infestation expanded approximately 3 miles north of the initial recorded infestation. The infestations found along the northern section of Fish Creek were not extensive with no monocultures observed. The recorded observation of the species was found in trace to sparse abundances. Note in pink the expansion of frog-bit.



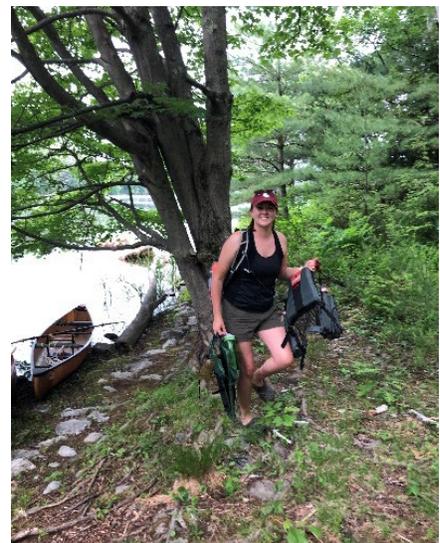
Fish Creek is actively managed for Water chestnut by local volunteer groups, often in coordination with the Capital Region PRISM. Due to the infestation being interspersed with the Water chestnut infestation, and the similar control methods, a combined effort to remove both AIS could be beneficial in slowing the spread of European frog-bit upstream.

For more details of these and other AIS survey reports please follow the link our web page.

- [Aquatic Invasive Species Survey Reports](#)



County	# AIS Surveys
Albany	2
Columbia	1
Fulton	2
Herkimer	4
Greene	0
Montgomery	0
Rensselaer	6
Saratoga	10
Schenectady	0
Warren	2
Washington	0



Controls used through rapid response and management are performed to reduce the size of infestations and the impact on the local environment, especially high priority ecological areas. Control efforts may be used to achieve eradication, suppression, or exclusion. Integrated pest managements strategies are utilized with post treatment monitoring and restorative efforts.

The Capital Region PRISM utilizes and recommends a “Framework for Response”, developed by The Nature Conservancy, to guide natural resource managers in prioritizing potential projects related to invasive species management. “A framework for response helps to assess the relative threat of the species of management interest, determine the potential risks to conservation, economic, and the social assets if the infestation is left untreated.” 1(Jordan, Sargis, Schwager, Smith, & Zimmerman, 2011).

For the Capital Region PRISM, control and management are crucial components for slowing the spread of invasive species. While tier 2 and 3 species remain priority in terms of time and work allocation, we still strongly encourage and support the management of all invasive species. In the Capital Region in 2020, 18 species were managed and entered into iMapInvasives from the aquatic and terrestrial realms. This total is a combination of PRISM staff, partner, and citizen scientist efforts.

Total Area of Invasive Species Managed in 2020

251.25 Acres

Number of Species Managed by Tier

Tier 2 **4**

Tier 3 **3**

Tier 4 **10**

Terrestrial Invasive Species Management Highlights

Japanese Stiltgrass Daniels Road State Forest



The 523-acre Daniels Road State Forest is an ecologically significant forest community. The presence of wetland and mixed hardwood forest are characteristic features of the property. Saratoga Mountain Bike Association (SMBA) maintains an extensive trail system throughout the state forest. The presence of Japanese stiltgrass (*Microstegium vimineum*) (JSG) was found at the monitoring site in 2018 and is now in the third year of treatment.

The current treatment response is to contain and eradicate the plant from the highly probable area. Stiltgrass is found along the roadside edges and decreases in abundance and/or density as you transect away from the road and parking lot. The JSG has not extended beyond the original infestation, but it was seen this year to be heavier in the roadside patches that were not managed last year. The crusher run rock used for road improvement is believed to be the source of the invasive grass. This infestation demonstrated the need for clean fill and gravel requirements on state lands. Post treatment observations show the management strategy is working. Areas under management in 2018 and 2019 had significant reduction in species abundance and density. Areas managed are now dominated by native plants like rubus, asters and goldenrod from the native seed bank. Sections of the treated road where native plants were not present saw a rebound in growth but not to the extent of the original infestation. The entire one-

mile perimeter of the road and parking lot was treated in 2020. Reseeding the area with native grasses following treatment in 2021 will be considered.

Japanese Stiltgrass Wilton Wildlife Preserve Neilmann Parcel

JSG at Wilton Wildlife Preserve at the Neilmann Parcel was nearly non-existent this year. Only five individual plants were found in the location of approximately 6.5 acres where a linear infestation was managed in 2019. Management by PRISM in 2019 and the grading and trail work conducted by Wilton Wildlife Preserve in 2020 has presumably eliminated any vegetation that was present at the managed site. Part of the infestation received a treatment where a quarter inch of the soil was removed in dense trail side populations. The site will be monitored in the future.

Wineberry Four Mile Point Preserve and Albany Rail Trail

Within our season of post-treatment monitoring, the PRISM re-visited two sites with infestations of wineberry that are under management. Four Mile Point Preserve is in its third year of management and has seen a significant decrease in regrowth. The PRISM removed 7 mature plants and 90 seedlings, which filled one contractor bag and disposed of the material off-site. Previously, the infestation was extremely dense and full of mature plants. Reduction of regeneration is estimated to be around 85%. The Albany Rail Trail location was surveyed for regrowth and found that an area that was previously dominated by wineberry last year only had only a few individuals stems in 2020. An estimated reduction of about 90% was observed. Competition was present from other invasive plants at this site and coupled with the removal the plant is not thriving. The site was not managed in 2020 due to Covid-19 complications.

Shrubby Lespedeza Daketown State Forest

Daketown State Forest is a 506-acre parcel located west of Saratoga Springs that contains an abundance of tree species and is used by DEC for nursery stock. The state forest has a wide variety of invasive species present, including a large patch of autumn olive and shrubby lespedeza. Shrubby lespedeza, a tier 2 species in the Capital Region PRISM, was detected in the forest by PRISM staff in 2018 and is the only known presence of shrubby lespedeza in our PRISM. This plant is a serious pest in the south and therefore poses a threat to our ecosystems as climate change alters species interactions in our region. Management began in 2019. A robust and full eradication effort was conducted in 2020. Approximately half acre patch was removed using multiple manual/mechanical. An informal experiment is underway to determine which practice will be the most efficient for total eradication of the bushclover at this location. The site will continue to be managed and monitored for the next 3-5 years and detailed reports on regrowth and spread will be documented. After 3 years of no regrowth, the site will be considered eradicated, but monitoring will continue.



Lauren Mercier and Nicole Campbell (PRISM) Rich McDermott (DEC) Daketown State Forest.

Giant Hogweed Treatment

Giant hogweed remains a priority species within New York State due to its high human health risk and invasiveness score. In 2020, 11 sites in the PRISM were monitored and managed. The PRISM managed two new sites. A season total of 448 plants were removed. One location has been successfully changed to monitoring status and the rest remain under control until multiple not-detections are observed.

The new infestation was found by a partner of the PRISM on the NYS Thruway and two adjacent properties. The NYS Department of Transportation was notified and the section manager from Schenectady promptly roped the area off over a holiday weekend. Roadside maintenance of the right away was also stopped immediately in the area. The NYS DOT facilitated permitting for the PRISM to gain access to the right away.



During removal, the DOT closed off the shoulder of the thruway to allow us enough space to safely access the work site. Following the removal, the NYS DOT revisited the site and removed the soil and seed bank in the area and deposited clean soil and gravel back fill. The DOT also used decontamination procedures on site with equipment used in the removal. The collaboration between the two agencies is a great occurrence on how invasive species removals can be completed in a proper and safe manner.

County	Sites
Greene	1
Rensselaer	1
Saratoga	3
Schenectady	4
Washington	2
Total	11

Hemlock Woolly Adelgid Lake George

The first major infestation of hemlock woolly adelgid in the Adirondack Park was also confirmed in late July. The Capital Region PRISM under the direction of the NYSDEC, APIPP, and a small host of other local partners mobilized an intensive survey and treatment effort. Over 100 days of state and partner time were spent surveying the area near the primary infestation. NYSDEC led the treatment effort at the site of the primary infestation, with the PRISM and other partners contributing to the 275 collective days of staff time that resulted in 2,374 trees being treated over 138 acres.

Throughout the month of September, the Capital Region PRISM assisted with the delineation of the infestation near Shelving Rock and Paradise Bay in Lake George. Beginning in October, the response switched to the active treatment phase. Tree tagging followed by chemical spraying and injection took place and the PRISM staff assisted by tagging trees, entering data, and running equipment to and from applicators as needed on a close-to daily basis throughout the month of October.

Aquatic Invasive Species

In 2020 the Capital Region PRISM focused aquatic removal efforts on Water chestnut (*Trapa natans*) and European frogbit (*Hydrocharis morsus-ranae*). In total, the Capital Region PRISM coordinated or participated in six removal efforts alongside our partners, helping remove approximately four acres of aquatic invasive species.

Water Chestnut at Delegan Pond - Wilton Wildlife Preserve

The Capital Region PRISM partnered with staff at the Wilton Wildlife Preserve to complete a Water chestnut removal on Delegan Pond. Water chestnut was first observed in Delegan Pond in 2019, but upon completing a full survey of the pond, it is believed the initial infestation was prior to 2019 due to the size of the monoculture present (0.1 acres).



The removal efforts was successful in removing the entire monoculture plus many sparse satellite infestations throughout the pond. An estimated 3,000 lbs. of plants were removed with the help of three PRISM staff and three Wilton Wildlife Preserve staff over 16 hours of work. Post-treatment monitoring and continued removal efforts will continue yearly with hopes of eradication in the future.



Delegan Pond was selected for treatment based on parameters outlined in our Water Chestnut Prioritization Model. The model considers size, source, ecological significance of area, social, and resource availability factors in selecting water chestnut pulls.

Water Chestnut at Beaver Pond – Five Rivers Environmental Education Center

Capital Region PRISM Education and Outreach Coordinator, Lauren Mercier, partnered with Fiver Rivers Environmental Education Center to assist with a water chestnut removal in Beaver Pond. The management efforts were able to remove 40% of the infestation (0.86 acres) with further management efforts scheduled for the future. The pull has been on going for several years and reductions have been observed from year to year.



European Frog-bit at Weaver Lake and Clarke Pond

The Capital Region PRISM partnered with the Otsego County Conservation Association for removal efforts of European frog-bit in Weaver Lake and Clarke Pond throughout the summer. The partnership spans the boundary between the CRISP PRISM and the CRP. Weaver and Young Lake are connected by Cripple creek which flows south into Clark Pond and eventually Otsego Lake.

Weaver lake is the only known source of European Frog-bit in the region. With an extensive survey it was found that Weaver Lake infestation is too large to manually conduct a removal of the entire lake. In an effort to slow the spread of the invasive species removal efforts were conducted at the cartop watercraft launching area which is adjacent to the outflow of Cripple Creek. Five staff members from the Capital Region PRISM and the Otsego County Conservation Association removed an estimated biomass to fill two 50-gallon garbage bags. The removal of European frog-bit at the outlet took over two half days of work. Removing Frog-bit by hand is a tedious process. Few specimens are noted in Cripple creek and Young Lake as of 2020.



After Weaver Lake the Capital Region PRISM Watercraft Stewards assisted the Otsego County Conservation Association in removal effort in Clarke Pond where infestation densities were lower and more manageable. A small crew of PRISM staff, volunteers, and Jeff O’Handley from the Otsego County Conservation Association removed approximately 100 pounds of European frog-bit from the location.



A chemical treatment for Weaver Lake is recommended by the PRISM due to the size and nature of the infestation. Research regarding the best management strategy using chemical applications for European frog-bit is currently being explored. The PRISM currently sees the potential to limit the spread of the aggressive AIS plant throughout the region.

Common Reed at Lake Bonita - Moreau Lake State Park

The Capital Region PRISM partnered with Moreau Lake State Park staff and members of the Friends of Moreau Lake State Park to complete a common reed removal near the shores of Lake Bonita. A small 500 sq. ft. infestation was managed by 9 individuals removing 90% of the infestation and a total of nine 45-gallon bags of plants. Post-treatment monitoring will continue in 2021 by park staff and PRISM additional removal efforts will be scheduled for the summer and fall.



Water Chestnut at Lake Taghkanic

The Capital Region PRISM partnered with NYS OPRHP to complete a water chestnut removal at Lake Taghkanic. A small infestation on the south east side of the lake was removed along with satellite plants surrounding the denser infestation. The small group of participants were able to remove approximately 100 lbs. (300-400 plants) of water chestnut. After the removal was complete, the group completed a full survey of the lake for additional water chestnut infestations. No additional infestations were discovered upon completion of the survey. The Capital Region PRISM plans to partner with NYS OPRHP in coming years in hopes of eradicating this infestation. The water chestnut pull was another example of a location that merited a pull based on our water chestnut prioritization model.



(Steve Pearson from DEC)

An essential part to achieving success in preventing the spread of invasive species is to identify partners and stakeholders to improve opportunities for sharing resources. The sharing of such resources includes funding, personnel, equipment, information, and expertise.

Partners are an integral to the Capital Region PRISM in reaching a common goal of slowing and controlling the spread of invasive species. An essential task of the PRISM is to identify and assist stakeholders to improve opportunities for sharing of resources while delivering up to date practices for prevention and management. Collaborating with partners on projects, programs, and events while sharing resources, data, and research will save time and effort. Continually increasing partner capacity is one of the keys to the success of the PRISM and slowing the spread of invasive species on a regional scale.

Partners can access and contribute to the collective knowledge on regional invasive species management issues. The Capital Region PRISM welcomes members from academic institutions, government agencies, municipalities, not-for-profit organizations, private preserves and parks, land trusts, conservancies, lake associations, agricultural institutions, local businesses, environmental groups, and citizen scientists from the community at large.

Continually increasing partner capacity is one of the keys to the success of the PRISM and slowing the spread of invasive species on a regional scale. In 2020 the PRISM was active with 63 of 102 partners for the year to varying degrees. With a partner initiative the PRISM coordinators were active in recruiting new members through formal invitations. The program resulted in 10 new partners who were added to the roster. The PRISM also manages an Aquatic Invasive Spread Prevention Program with boat launch inspectors in 22 different town municipalities. Altogether the PRISM has connections to 28 city and town municipalities.

Three PRISM partner meetings were held in 2020. Typically, full partner meetings occur in spring and winter with a smaller working group convening as needed mid-to-late season. The PRISM has active steering, conservation, and education committees and a developing aquatics committee. PRISM coordinators also serve on partner committees and advisory groups within the region, like the Schenectady County Invasive Species Committee. Participating in such work groups helps to further advance the PRISM's mission. The PRISM also participates on 3 steering committees and 2 advisory groups at the state level. The inclusion and involvement with partners through committee structures allows the PRISM to better assist the region by providing important connections, resources, and expertise. In addition to our partner network and committees, the Capital Region PRISM collaborated across boundaries with other PRISM coordinators and their partners. Please note our full partner and committees list(s) in the Appendix D.

A full list of the various meetings the PRISM participated in throughout 2020, including the number of participants for each one, is available in Appendix E.

Partner Requests for Proposals

To supplement the great work that is already being done by our partners, the PRISM offers sub-contracts on behalf of the NYSDEC through project Requests for Proposals (RFP). The RFP process provides a method for the PRISM to share and leverage limited resources within the partnership to execute invasive species management practices. In addition, the RFP process allows the PRISM to help deliver additional goals and objectives that further our five-year strategic and annual work plan.

In 2020, the Capital Region PRISM, with the guidance and support of the Steering Committee, released contract service dollars to fund invasive species partner projects across the Capital Region. An initial budget of \$87,801 dollars was appropriated for five project Request for Proposals (RFP’s) and a Memorandum of Understandings (MOU). Nine applications were received for a total of \$134,641, four requests were not funded and only the most feasible and justified projects aligned to the Capital Region PRISM work plan were accepted. Each year the quality, value, and requests for funding of projects has increased.

The total dollar amount allocated for projects was not released due to austerity measures and problematic delays caused by the pandemic. Two contracts were not funded due to a lack of capacity and staffing issues. In addition, two other partners with RFP awards took voluntary austerity measures. A subcontract with Siena College for a Memorandum of Understanding was cancelled in which two paid interns to serve as invasive species technicians was not executed. Awarded projects that were delayed and then canceled have been encouraged to reapply in 2021. Overall, \$36,680.63 dollars was recouped for the 2020 year. Projects that successfully executed work total \$51,120.37 in contract service dollars.

The type of work executed by partners included early identification for Tier 1 and 2 species, control and management projects across all tiers, and education efforts. Work was performed in the aquatic and terrestrial realms by private agencies, accredited academic institutions, and preserve managers.

Request for Projects Awards		
Adirondack Research LLC	\$ 24,664	Executed
Edmund Niles Huyck Preserve, Inc.	\$ 21,984	Executed with Austerity Measures
Siena College	\$ 4,202	Executed with Austerity Measures
National Audubon Society	\$ 4,642	Unexecuted/Postponed
Friends of the Woodlawn Preserve	\$ 10,000	Unexecuted/Postponed
Memorandum of Understanding		
Siena College Internship	\$14,850	Unexecuted

2020 Contracted Project Result Summaries

Project Title: 20-003 Capital Region Aquatic Invasive Species Early Detection Surveys/ European Frog-bit Adirondack Research LLC, Ezra Schwartzberg, Ph.D., Director

In 2020, Adirondack Research, a private research and mapmaking firm, constituted a portion of the Capital Region PRISM's Aquatic Invasive Species (AIS) early detection team. The primary objective of the subcontract was to detect and delineate any new or existing aquatic invasive plant or animal infestations within prioritized lakes. The secondary objective was to deploy the Lowrance HDS Live system to map the contour lines and bottom hardness of all waterbodies to gather important baseline data on the physical parameters that influence aquatic species invasions.

The deployment of Adirondack Research's survey techniques was designed to identify new infestations of aquatic invasive species quickly and identify appropriate management actions before significant impacts are observed. Data collected from the prioritized lakes were used to produce individualized maps documenting AIS distributions, bottom sediment hardness, and bathymetry. The outcome of such bio-based mapping has provided a model for predicting future infestation expansions and can serve as a detailed set of data leading to efficient and cost-effective treatments.

Surveys this year were the first completed by Adirondack Research and served as a pilot study to better understand how to prioritize lakes in the Capital Region PRISM for future aquatic AIS work. Ten lakes were identified for surveying in coordination with recommendations by the Capital Region PRISM staff. Lakes were selected based upon whether there was currently no active management or whether they were in areas of high ecological significance as determined by NY Invasive Species Prioritization Map Models created by the New York Natural Heritage Program, and the NYSDEC Environmental Resource Mapper tool. Additional lake selection criteria also considered the proximity of known invasive species infestations from nearby water bodies based on a GIS analysis of iMapInvasives reports. Lake with associations were also considered based on the feasibility of future management.

Outcomes

Adirondack Research surveyed 10 waterbodies between June 1st and August 24th in the Capital Region PRISM. AIS infestations were reported on 80% of waterbodies surveyed. AIS recorded included, Eurasian watermilfoil (*Myriophyllum spicatum*), variable leaf milfoil (*Myriophyllum heterophyllum*), curly leaf-pondweed (*Potamogeton crispus*) and European frog-bit (*Hydrocharis morsus-ranae*). Surveyed lakes with AIS had been documented as invaded prior to 2020. No new species were identified in the surveys. Lake Nancy and Lake Desolation did not have any AIS that were discovered by the team. Lakes surveyed ranged in size from 39.27 acres (Lake Sunnyside, Warren County) to 523.03 acres (Galway Lake, Saratoga County). Approximately 170.3 acres of beds containing invasive plants were mapped, ranging in size from one plant to 32.3 acres. A total of 175 invasive plant polygons were mapped across 8 of the 10 waterbodies and cross walked into iMapInvasives.

[AIS Maps](#)

The Adirondack Research RFP also generated a series of maps describing waterbody characteristics such as invasive plant beds, bottom hardness, and bathymetry features. The incorporation of new technologies used by Adirondack Research in collecting data lead to the construction of lake characteristic maps that will lead to more efficient lake management of aquatic invasive species. The data received and mapped will also allow the Capital Region PRISM to assess trends in infestation expansion or reduction over time. The Capital Region PRISM now has the opportunity to utilize the data collected in the project to develop risk/vulnerability assessments for individual lakes.

Water bodies surveyed in which state, municipal, or local lake associations that serve as stakeholders will be provided the data from the Adirondack AIS report. The data will be invaluable to those agencies and association when planning for lake management of aquatic invasive species and the Capital Region PRISM will serve as a consultant in recommending courses of action.

In summary, the maps accurately identified aquatic invasive species infestations and delineated native plant beds. A series of bathymetry maps demonstrating the littoral zone were also created and used to identify possible locations for infestations. A third and final product for each lake surveyed was a bottom hardness map. Soft sediments favor vegetative growth and can also be used as a predictor for identifying infestations and potential areas of spread. Note the maps from a single lake report, Galway Lake Saratoga NY, generated by the Adirondack Research RFP for reference.

[Galway Lake Description](#) Survey Date: July 2, 2020

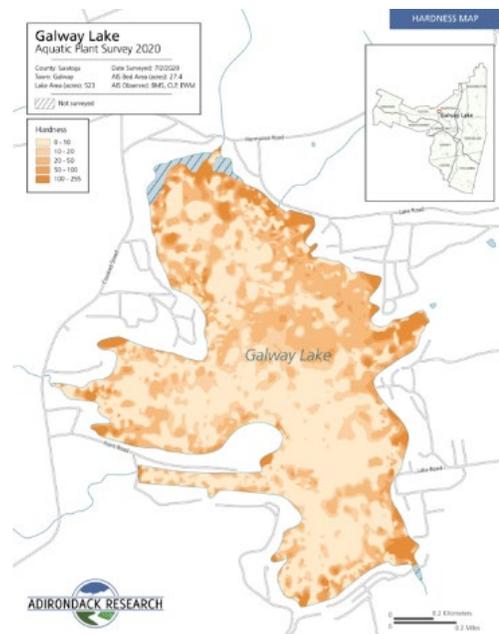
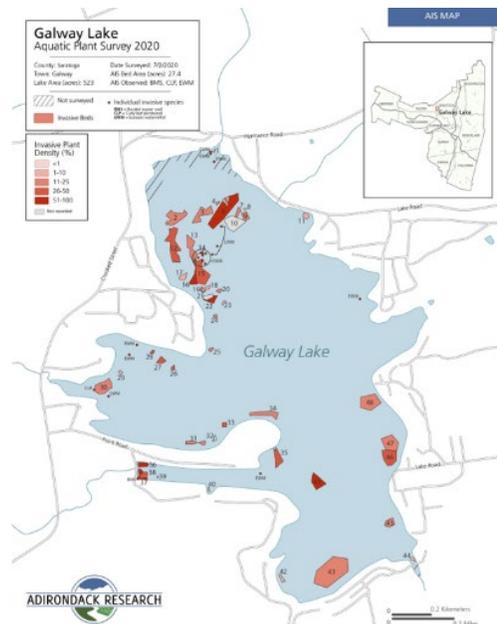
Galway Lake is 523.03-acres. Located in the town of Galway, Saratoga County.

[Aquatic Invasive Plant Presence](#)

Curly-leaf pondweed (*Potamogeton crispus*) and Eurasian watermilfoil (*Myriophyllum spicatum*)

For the full report with detail methodologies and maps:

- <https://www.capitalregionprism.org/partner-reports.html>



Project Title RFP 20-005 Initiation of Hemlock Woolly Adelgid and Continued Invasive Species Management and Monitoring at the Edmund Niles Huyck Preserve Edmund Niles Huyck Preserve, Inc. Anne Rhoads, Ph.D., Executive Director

The Edmund Niles Huyck Preserve is a 2,072-acre nature preserve and biological field station founded in 1931. Its mission is to preserve the natural beauty of the Rensselaerville Falls, the watershed of Lake Myosotis and surrounding lands, to conduct long-term research on natural systems as part of a global effort to understand and protect the Earth's biodiversity, and to increase appreciation of this effort through innovative, field-based educational programs for students, teachers, and the community.



The four-pronged mission (conservation, education, research, recreation), of the Huyck Preserve is uniquely committed to engaging in invasive species management, research, and education as a way of reducing the threats that invasive species pose to natural ecosystems within and beyond its borders. The preserve utilizes a holistic approach to ecosystem management. One segment of the preserves land management plan focuses on the control of invasive species through integrated pest management strategies. The preserve is active in managing and monitoring priority invasive species in predetermined ecologically significant parcels.

Two seasonal invasive species employees, hired under the Capital Region PRISM RFP, worked for approximately six weeks to apply control measures. The employees were supervised by Stewardship Coordinator, Garrett Chisholm. A majority of the funded project was used for a treatment to control hemlock woolly adelgid within the preserves prioritized hemlock stand. The preserve is also conducting post monitoring treatment practices and documenting significant reductions in invasive plant populations. The preserve also active in invasive species education and outreach.

2020 Edmund Niles Huyck Preserve RFP Invasive Species Goals Delivered

Perform the Huyck Preserve's first treatment of hemlock woolly adelgid in a high priority forest stand.

- Trees greater than 8-inch diameter at breast height and with a live crown ratio $\geq 30\%$ were treated. A subcontractor used direct basal bark spray using Imidacloprid and Dinotefuran (Safari) Insecticides. Hemlock trees along a stream corridor were treated with a stem injection system. A total of 427 stems received treatment totaling 6,051 diameter inches. Post monitoring of the treatment is scheduled for the future. With the possibility of an added biocontrol component. Tree stands were prioritized using the Cornell Hemlock Initiative Prioritization Tool.

Monitor and continue management of Tier 1 and 2 species identified on the property for eradication.

- In summer 2019, five patches of yellow archangel (*Lamium galeobdolon*) were removed and monitored. In 2020 two re-sprouts were found, and apparent eradication was reached in August 2020.

Eliminate small, discrete populations of Tier 4 and 5 invasive species within the Huyck Preserve that are more widespread regionally.

Terrestrial Eradication Efforts

Invasive Species	Population Area Managed and Controlled
Bishop’s goutweed (<i>Aegopodium podagraria</i>)	Two parcels under active management/control
February daphne (<i>Daphne mezereum</i>)	Twenty-five stems managed/removed
False spiraea (<i>Sorbaria sorbifolia</i>)	Two parcels under management up to a ¼ acer
European privet (<i>Ligustrum vulgare</i>)	One ¼ acer site under management/control
Autumn olive (<i>Elaeagnus umbellata</i>)	Thirty-eight stems under management/control
Common barberry (<i>Berberis vulgaris</i>)	Two sites with eighteen stems managed
Burning Bush (<i>Euonymus alatus</i>)	Nine stems managed/controlled

Aquatic Suppression and Eradication Efforts

Invasive Species	Population/Area Controlled and Managed
Water chestnut (<i>Trapa natans</i>)	15 plants removed for eradication Lincoln Pond
Eurasian watermilfoil (<i>Myriophyllum spicatum</i>)	Lake Myosotis up to a ¼ Acer
Curly-leaf pondweed (<i>Potamogeton crispus</i>)	Lake Myosotis up to a ¼ Acer

Contain/Suppress Tier 4 invasive populations that are too large or too labor intensive to eradicate for now, but that are relatively discrete and may be prevented from spreading widely across the Preserve.

Terrestrial Eradication Efforts

Invasive Species	Population /Area Managed and Controlled
Pale swallow-wort (<i>Vincetoxicum rossicum</i>)	Two parcels up to 70% Managed
Black swallow-wort (<i>Vincetoxicum nigrum</i>)	Eight Populations
Phragmites (<i>Phragmites australis</i>)	
Japanese knotweed (<i>Reynoutria japonica</i>)	

Engage the public by building our volunteer invasive steward base and add invasive species lessons and programs to our education and outreach activities.

- The Huyck Preserve’s mission for outreach includes innovative, field-based educational programs for students, teachers, and the community. A new initiative includes an Adopt-a-Trail program and eight new trail stewards to monitor our 12+ miles of trails and performing light trail maintenance which includes invasive species management along the trails. The preserve also published several articles related to this project in our fall newsletter including an update on the year’s invasive plant work.

The Huyck Preserve was robust and comprehensive in its efforts to manage the 2055 acre preserve. At the end of the contract year, several more actions were identified by the Executive Director, Dr. Anne Rhoads, including outreach signs that were placed strategically at terrestrial and aquatic points of human interest.

For the full report: <https://www.capitalregionprism.org/partner-reports.html>

Project Title: RFP 20-001, Siena College, Determining priority invasive species conservation actions in the Town of Colonie. Mary Beth Kolozsvary, Ph.D. Siena College, Department Environmental Studies and Sciences.

Siena College expanded on their 2018-2019 work in the Town of Colonie to identify the distribution and abundance of invasive plant species in the town. Siena identified two key natural areas in this past project that have high conservation value. Both sites have unusually low numbers of invasive species on the property (Ashford Glen Preserve) or have invasive species concentrated at a small portion of the property, with much of the property free from invasive species (Ann Lee Pond). The results from that proposal have stimulated actions for management efforts on one of the parcels, Ann Lee Pond.

Proposed work for 2020 was awarded to survey for high priority (Tier 1 and 2) invasive plant species, determining priority invasive species conservation actions, and enhancing public awareness in the Town of Colonie. As a result of COVID-19 hiring, travel, and social distancing restrictions, Siena College performed a reduced scope of work at a reduced funding level.

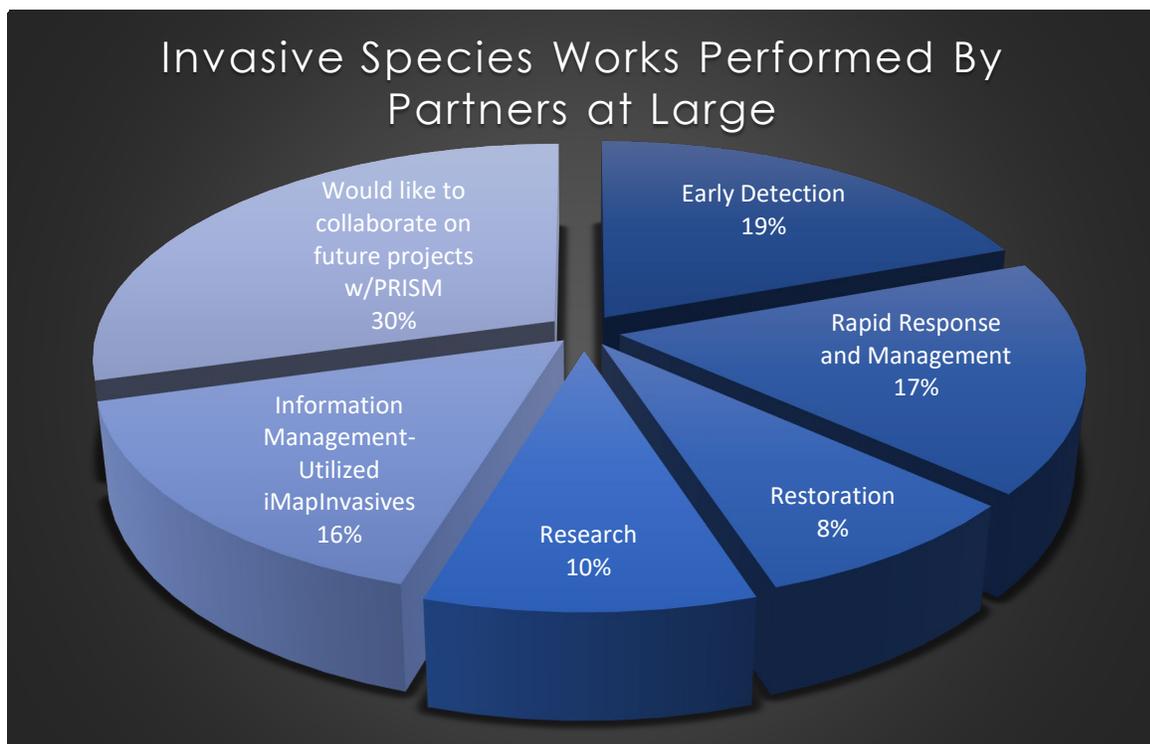
- One action performed was to identify through analysis “gaps” where other natural areas should be surveyed in the Town of Colonie. Specifically, large natural areas associated with the Albany Rural Cemetery, and several smaller natural areas (e.g., Littles Lake, Pruyn House). These target areas identified in will be surveyed in future steps for action.
- A second component of the 2020 scope of work includes public awareness campaign. Siena College worked with the Town of Colonie Conservation Advisory Council (CAC) to identify two Town of Colonie properties that are ideal locations for public outreach efforts: The Crossings of Colonie and the Hudson-Mohawk Bike Path. Both properties have high numbers of visitors and have the potential to reach a large number of town residents. Interpretive Walk at the two locations have been put on hold due to COVID-19 restrictions for public gatherings and will be executed in future programming. The Town of Colonie (CAC) worked with Town of Colonie officials to determine location for the boot brush station/educational kiosk. PlayCleanGo signage templates will be used for designing signage for the kiosk. The RFP did proceed with the designing and construction a boot brush station/educational kiosk at the Hudson-Mohawk Bike Path. It will be located in a highly visible location at one of the main entrances to the trail.
- A third component of the work is the development of a priority tier lists for the Town of Colonie at the local level. The project is ongoing and is being done with student researchers. The process included a research of methodological approaches being done at a statewide and regional PRISM level. Siena College has consulted Dylan Finley (SUNY College of Environmental Science) and Dr. Jennifer Dean (invasive species biologist, New York Natural Heritage Program) to understand the methodology currently used to develop draft tier lists.

The work yielded a plan in which existing iMapInvasives data will be used for the creation of a local level tier list. A set distance buffer will be used to delineate encroaching species surrounding the Town of Colonie. Observations will be clustered to determine number of populations for each species within the town. Other criteria that will be evaluated appropriate tier status include species invasiveness ranking and their subcomponents: ecological impact, biological characteristic and dispersal ability, ecological amplitude and distribution, and difficulty of control. The student research project will evaluate and compare different ranking criteria and will present a draft methodology for developing a tier list for the Town of Colonie.

Partner Survey Report

In an effort to capture invasive species works from the Capital Region PRISM partners at large, a year end survey form was generated. The form solicited questions base on the goals and strategies found in the PRISMs 5-year strategic plan and 2020 work plan. The PRISM also wanted to acknowledge all the great works performed by our partners that we may not have been directly involved with throughout the year.

The survey was created using Microsoft Forms and consisted of nine optional sections. Participants were prompted to answer a series of questions related to their work in the realms of education and outreach, early detection, rapid response and management, restoration, research, and information management. The PRISM received 26 complete surveys and determined that the majority of respondents performed invasive species work(s) in 2020. The table below outlines the positive results obtained from the survey. Full survey results were tabulated and will be used to learn more about our partners and identify future areas for collaboration. Two items from the survey have generated a few action items. One partner invite will be sent those who are seeking to collaborate with PRISM. Two, the method in which invasive species works are recorded and reported by PRISM partners needs to be improved.



Due to limited availability of resources and difficulty of controlling invasive species, information sharing and collaborations are critical in preventing new introductions and the further spread of these harmful species. In order to advance the goals and objectives of the Capital Region PRISM information sharing occurs across agencies and partners. Including surveys, early detections, monitoring, management, restoration, and research reports and approaches.

Information, Management, and Communication

As new threats emerge and strategies are developed to combat issues, the Capital Region PRISM is continuing to deliver up to date expertise while providing collaborative support throughout the partner network and to the general public. Information regarding known problematic species and their management is constantly renewed and then shared with public at large, partners, state agencies, and academic institutions. Feedback from stakeholders is received by the Capital Region PRISM and is then integrated back into our work. Depending on the nature of emerging concerns, these threats can change the focus of the PRISM in prioritizing management objectives and more often results in changes to outreach efforts.

Information sharing, including emerging species notifications, best management practices, research, survey reports, and outreach updates, is a critical component of collaboration and helps slow or stop the spread of invasive species to protect the environment. In 2020, the Capital Region PRISM provided and delivered information through various platforms (listed below) to reach and collaborate with partners in the Capital Region.

- Capital Region PRISM Website, Social Media Accounts, Listserv
- Posting of PRISM and partner field reports for historical reference and public knowledge
- Partner meetings with round table reports, updates, requests, and presentations
- Participation and collaboration on PRISM Sub-Committees and Partner Steering Committees
- Events planned in collaboration with the NYS Education and Outreach Committee for ISAW
- NYS DEC Clearinghouse for invasive species information
- Participation with statewide PRISM monthly webcasts
- Working Group Committees and Collaborations

The Capital Region PRISM website is a resource in which invasive species and related content can be shared to a wider audience. Information shared on the website includes PRISM and partner events, methods to report invasive species and related concerns, survey and management reports, partner project reports, tier lists, early detection priorities, and downloadable information guides and videos. Additional resources like best management practices, a framework of response for prioritization, funding opportunities, and land or lake management plan outlines are also posted on the website. The Capital Region PRISM website had 8,834-page views in 2020, which is a 9% increase from 2019. The PRISM uses a variety of other platforms to share information with the public. Social media outlets, including Facebook and Instagram, are effective methods for disseminating up to date information on events, species of concern, and current PRISM projects. On average, a PRISM's Facebook post will reach

40 people’s screens and result in 6 engagements with the content per day. The PRISM Instagram page gained over 200 followers and received 2179 likes in the past year. In addition, content related to the PRISM is shared through our host network webpage.

Cornell Cooperative Extension of Saratoga County.

- ccesaratoga.org.

The Capital Region PRISM listserv is increasing in numbers and is an effective means of communication between partners and like entities for information sharing. Common topics sent through the listserv include press releases, job opportunities, grant programs, educational events, volunteer opportunities, invasive species information, and meeting announcements. Funding opportunities and events occurring in the region are also sent through the listserv. The as of last year, the PRISM listserv had 223 members and has continued to grow. Members of the listserv are invited to share content and disseminate information in their network circles.

iMapInvasives is an online mapping tool utilized by PRISM staff, partners, and the general public to collect data regarding the distribution of invasive species in the Capital Region. The New York iMapInvasives database has been a longstanding partner of the Capital Region PRISM. In 2020, iMapInvasives 3.0 was updated to increase functionality and become more user friendly. The PRISM has worked closely with the iMapInvasives team within the New York Natural Heritage Program to improve the tool and ensure efficient and accurate data collection. There were a total of 1,108 records input by the Capital Region PRISM organization members and 4,475 records input by iMap users within the PRISM boundaries. In addition to the mobile app, the PRISM utilized iMap Mobile Advanced, SAS Pro, Survey123, the iMapInvasives website, and bulk uploads to add data to the broader database.

iMapInvasives Capital Region PRISM In House Metrics 2020

Presence Record by Species Type	2020	2010-2020
Terrestrial Insect	37	102
Aquatic Invertebrate	3	42
Other Terrestrial Invertebrate	0	1
Aquatic Vertebrate	0	11
Terrestrial Vertebrate	0	0
Aquatic Plant	456	560
Terrestrial Plant	612	4,612
Total	1,108	5,328

2020 Training Classes

The PRISM and partners executed a number of iMapInvasives training events throughout the Capital Region. These trainings encourage preserve managers and citizen scientists to report and help alert natural resource managers of infestations. A total of 7 trainings were held in the Capital Region in 2020, and 5 of which were taught by PRISM staff. The PRISM would like to especially thank the New York Natural Heritage Program and iMapInvasives team for their collaboration in helping the PRISM and partners in reporting invasive species infestations, including bulk uploads and alerts to new species in the region.

Date	Trainer	Training Class Name	Number Trained
January 30 th , 2020	Meg Wilkinson Kristopher Williams	HWA Workshop and How to Protect Our Native Forest	13
February 12 th , 2020	Jennifer Dean	Invasive Species Curriculum Workshop	15
February 22 nd , 2020	Nicole Campbell	Hike for Hemlocks	19
August 26 th , 2020	Lauren Mercier	Crandall Library Series-iMapInvasives Training	3
August 25 th , 2020	Kristopher Williams	Wilton Wildlife Preserve iMapInvasives Training	6
September 15 th , 2020	Jennifer Dean	Siena College Invasives Management Class	15
November 13 th , 2020	Nicole Campbell and Lauren Mercier	IMapInvasives Beginners Training	8

Top 10 Organizations Submitting Bulk Uploads in Region	Observations 2010-Present*
New York State Office of Parks, Recreation, and Historic Preservation (NYS OPRHP)	1887
Capital Region PRISM	1,104
Huyck Preserve and Biological Research Station	581
New York Natural Heritage Program	186
Siena College	183
Albany Department of Water and Water Supply	161
State University of Cobleskill	117
Warren County Soil and Water Conservation District	106
New York State Department of Environmental Conservation (NYS DEC)	28
New York State Hemlock Initiative	28

For the Full iMapInvasives Report please follow the link to our web page.

- [iMapInvasives Metrics Report](#)

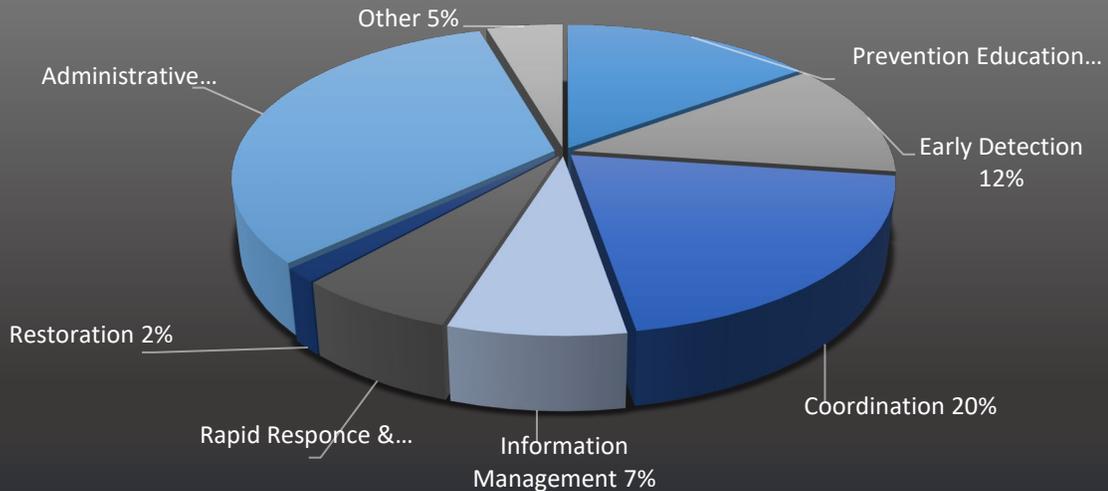
The Capital Region PRISM was purposeful and diligent in executing its 2020 work plan with designated objectives extracted from the PRISM's 5-year strategic plan. Work priorities in the plan focused on more robust season in which early detection, rapid response, and control measures increased with a shift away from traditional education and outreach activities. At the same time administrative duties decreased as a greater emphasis was placed in coordination of initiatives with partners and agencies as required. Information sharing and management also increased as compared to the previous year. When reviewing the 2020 annual work plan a total of 34 of 38 strategies were deployed for an 89% success rate. Several approaches in the plan were modified to obtain this success. The following discussion is a summary of work performed by the Capital Region PRISM team.

Of note, the PRISM was able to strengthen work in both the terrestrial and aquatic realms. The aquatic invasive species program developed and deployed a pilot method for prioritizing lake surveys. The model is tailored to the geography of the Capital Region, which resulted in more early detection surveys of water bodies than in prior years. The process will be further evaluated and developed in 2021. An invasive species management plan and treatment reporting tool was constructed and deployed by the terrestrial team. Both tools emphasizing treatment and restoration calendars to guide reasonable work efforts. The tools are currently used by both the aquatic and terrestrial team. The use of the management plan and reporting tool is designed to ensure efficient and cost-effective measures. An outcome of this process resulted in the terrestrial program deploying a more robust approach to post monitoring and treatment of active sites under management. Significant reductions in populations of infestations are observed.

To deliver the 2020 work plan the PRISM was staffed with a full time Lead, Terrestrial, and Aquatics Coordinator. In addition, the staff included one part time educator. The Hudson and Mohawk River Valleys Aquatic Invasive Species (AIS) Spread Prevention Program staffed 22 boat stewards. Altogether, the PRISM staffed 26 employees throughout the 2020 calendar year across a large part of Eastern New York State leading to the delivery of a successful program.

The percentage of work executed and delivered in the PRISM was diverse and dependent on the time of year, needs of the community, and calls for action alongside the 2020 work plan. Eight major categories of work were deployed to meet the goals and anticipated outcomes of the PRISM's Strategic Plan. The work performed by the core staff of employees, not including the boat stewards, are summarized below with a few highlights by category. Values in parenthesis found in the written descriptions show the increase or decrease in work performed compared to 2019.

Capital Region PRISM 2020 Work Day Events



1. Prevention, Education, and Outreach: 15% (-4%)

Prevention by awareness is the first line of defense in invasive species management. The most effective strategy against high threat species is to prevent them from ever being introduced and established. Preventive measures typically offer the most cost-effective means to minimize or eliminate environmental and economic impacts. Prevention relies on a diverse set of tools and methods, especially public education, to raise awareness of invasive species issues and reduce the chance of unintentional and intentional introductions. A virtual format for the 2020 season was adopted by the PRISM in which webinars were delivering to target groups. The PRISM also cohosted webinars with partners. In rare and limited cases small but socially distant in the field workshops occurred. Please consult the metrics in Appendix B for specific examples.

Delivery Examples:

- *Invasive species prevention awareness campaigns (ISAW)*
- *Presenting at lecture series through local libraries, like Saratoga Library and Crandall Public Library.*
- *Stewardship training days with targeted audiences like I love My Park and The Great Fish Count*
- *NYS Logger Training Program Invasive Species Segment*
- *iMapsInvasive Certified Trainer Programs Wilton Wildlife Preserve*
- *Hemlock Initiative Certified Trainer Program*
- *Development and construction of outreach materials for distribution including Best Management Practices and Identification Guides, and Website Updates.*

2. Early Detection: 12% (+3%)

The Capital Region PRISM has identified and established Priority Conservation Areas (PCA's) and Priority Waterbodies which are reviewed annual through the appropriate committees. PCA's and PWB's are designated areas that have a high comprehensive score, are ecologically significant, and have a high risk for invasion. Early detection of emerging species with subsequent rapid response is key in controlling infestations. Early detection and rapid response is the next highest priority after prevention as it represents the point on the invasion curve where treatment is most effective.

Delivery Examples:

- *Surveys of Priority Water Bodies and Conservation Areas including Highly Probable Areas*
- *Early detection and rapid responses in Moreau Lake State Park (ISPZ) and Grafton Lakes State Park*
- *Lead and Assisted in TIS surveys with OPRHP Moreau and Grafton Lakes State Parks*
- *Deployment of RFP funds for early detection and rapid response projects with 2 subcontracts.*
- *APIPP HWA Phase II Surveys*
- *New York State DEC Rapid Response for HWA Phase 1 Surveys and Treatment Lake George*
- *Otsego County Conservation Early Identification and Removals of European Frog Bit.*
- *Assisted data collection and reporting from field work executed by PRISM Coordinators, Interns, and Educators with partners at requested locations across the region.*

3. Coordination: 20% (+7%)

Coordination and collaboration occurred across jurisdictions, municipalities, agencies, and partners. The PRISM acted as an information hub and an organizing force in the region to connect like-minded people to achieve common goals regarding invasive species related activities. Coordination facilitates opportunities for sharing resources, including funding, personnel, equipment, technical information, solutions to complex problems, and expertise. Collaboration can occur on-site, through in-person meetings, conference calls, workshops, board meetings, and can sometimes involve multiple agencies coming together and sharing resources for a common goal.

Delivery Examples:

- *Implemented Invasive Species Management Plan for work projects and shared with partners.*
- *Work groups for Water Chestnut Prioritization*
- *Biocontrol Release Assessments with Hemlock Initiative*
- *Albany County Office of Natural Resource Conservation*
- *Schenectady County Invasive Species Committee*
- *Rensselaer Plateau Alliance and Rensselaer Land Trust*
- *Inclusion with multiple regional Steering Committees and Work Groups*
 - Mohawk River Basin Program funded by the NYSDEC*
 - Hudson River Estuary Program/Cornell University*
 - New York State DEC Urban and Community Forestry Program Releaf Member*
 - Rensselaer Water Quality Coordinating Committee*
 - CAPS Cooperative Agricultural Pest Survey with Department of Agriculture and Markets*
 - ISAC Invasive Species Advisory Committee PRISM Representative and Secretary*

4. Information and Management: 7% (+2%)

Involves the collection, utilization, and sharing of data.

Delivery Examples:

- *Utilizing the Capital Region PRISMs List Serve and Social Media for Partner Announcements.*
- *Updated Terrestrial and Aquatics Tier List with Natural Heritage Program and Committees*
- *Identification and sharing of alternative non-pesticide treatment options for partner groups.*
- *Sharing of resources and knowledge with other government agencies like the NYS Department of Agriculture and Office of Parks, Recreation, and Historic Preservation*
- *Development, collaboration, and sharing of best management practices and management plans with partners and associates. Providing a recommended framework of response.*
- *New York State Invasive Species Research Institute (NYSISRI)*
- *Participation in the NYSDEC Regional Clearinghouse*
- *Geographic Information Systems data sharing, iMapInvasives, IMMA, WISPA, OAT, and SAS applications.*

5. Rapid Response and Control: 7% (+1%)

Rapid response to new threats is imperative to protect our natural ecosystems in a cost-effective way. Rapid response is a follow-up to early detection and is paramount in stopping the spread of new invasive biologic threats to our region before they have a chance to proliferate.

Delivery Examples:

- *Perform removal and eradication activities in a timely manner using the most feasible solution.*
- *Undertake containment projects to prevent established tier 2 and 3 infestations from further spread.*
- *Perform suppression projects to reduce the density and scale of tier 4 the species.*
- *Hemlock Woolly Adelgid Lake George Response*
- *Mile-a-Minute, Japanese Stiltgrass, Shrubby Bush Clover, Water Chestnut. Common Frog Bit*

6. Restoration: 2%

Restoration should consider best management practices for the given climate zone. Restoration requires the development and implementation of effective methods for areas that were degraded by invasive species where suppression or control has taken place, often involving the replanting of areas with appropriate native species. Rapid response removals should always consider restoration practices with post treatment monitoring.

Delivery Examples:

- *Providing native and resilient plant resources and recommendations for partners*
- *On site response efforts with calendar checks in IS management plans*

7. Administrative: 32% (-6%)

Administrative duties are core functions to keep the day-to-day operations flowing and short- and long-term projects moving forward. Administrative work includes the following duties:

- *Programming Development: Planning of education and outreach events.*
- *Collaborative planning efforts with partners.*
- *Management and oversight of subcontracted work.*
- *Team meetings and action items delivered through working groups.*
- *Manage web page and social media accounts and create and distribute press releases.*
- *Confirmation of iMapInvasives points.*
- *Develop site specific management plans for removals and surveying.*
- *Report work executed through annual, quarterly, and scouting reports.*
- *Communicating with client emails and in person sight visits.*

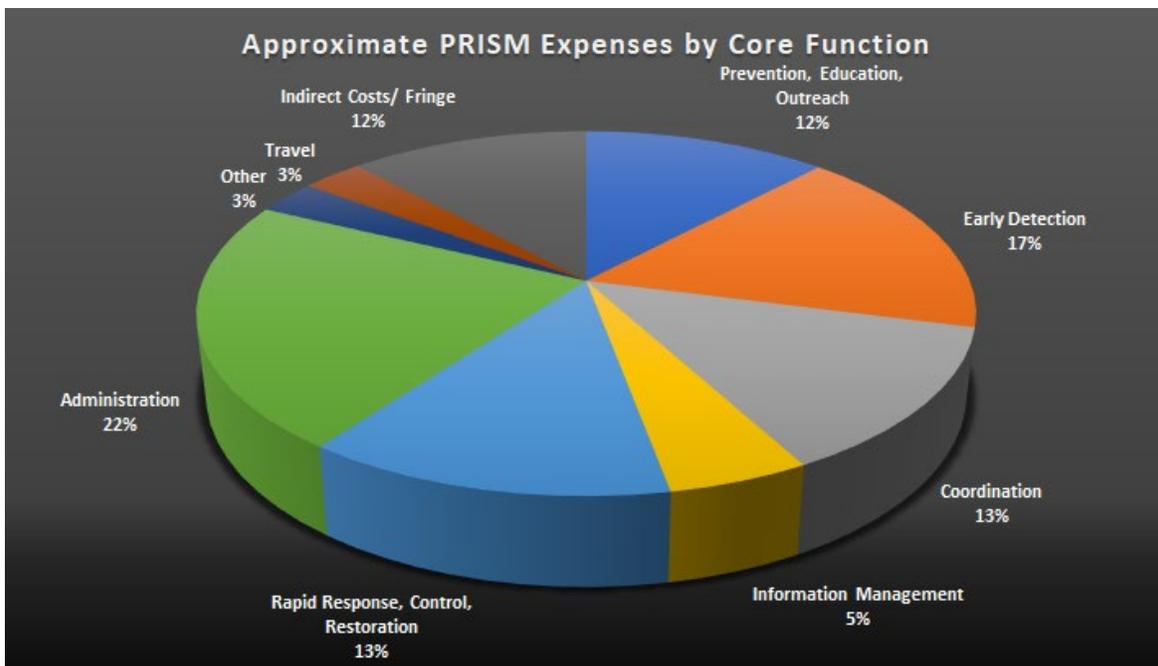
8. Other: 5% (-5%)

Other work includes professional development for staff; host-specific training; human resource meetings; interviewing of employees and interns; employee and intern on-boarding and training; time sheet management; community service; and mentoring.



The greenhouse satellite office in 2020 Lauren Mercier Outreach Coordinator

The annual budget summary of program expenses is intended to provide a general overview of how the Capital Region PRISM allocated contractual expenditures across resources in 2020. Program expenses were grouped together by the PRISM's core functions prevention, education and outreach, early detection, coordination, information management, rapid response, control, and restoration. The budget also accounts for supplies, equipment, travel, contract service dollars, and general support. The summary includes indirect costs as determined by Cornell Cooperative Extension of Saratoga County, the host of the PRISM. The activities of the PRISM fall within multiple categories and a general effort was taken to place expenses in the most appropriate category. In 2020 the PRISM implementing austerity measures created by the pandemic. Programs and services were re-budgeted in the first quarter accounting for 22.8% reduction in expenses across all categories of the budget. The summary described below is not a financial report.

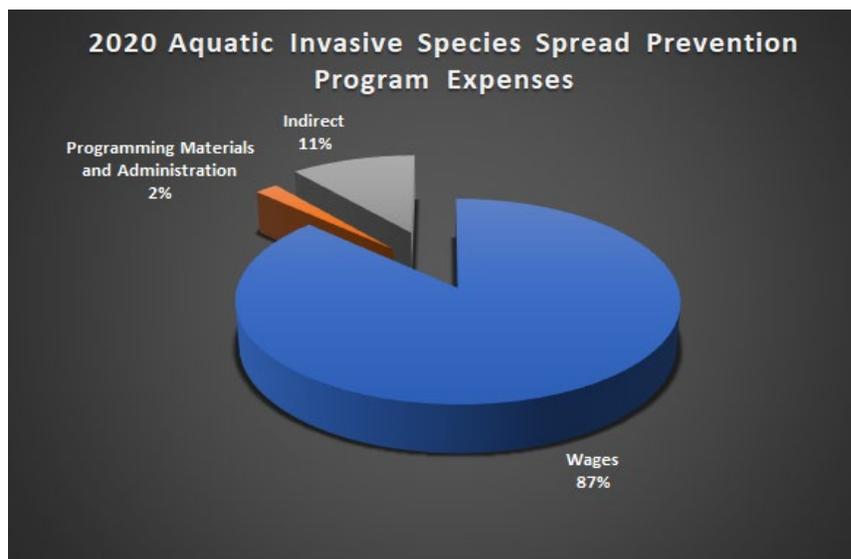


- **Prevention, Education, and Outreach (12%)** - Activities and expenses related to prevention, education and outreach included related personnel costs, boat stewardship program management, supplies, website and online resources management, materials and development of best management practices, and other special projects like boot brush station signs and similar forms of outreach.
- **Early Detection (17%)** - Activities and expenses related to Early Detection including related personnel costs, site assessments, monitoring, subcontract agreements, and supplies.
- **Coordination (13%)** - Activities and expenses related to partner and network coordination including work group meetings and in the field collaborations.
- **Information Management (5%)** - Activities and expenses related to information management including related personnel costs, survey, monitoring, prioritization, research, and reporting of data.

- **Rapid Response, Control and Restoration (13 %)** - Activities and expenses related to habitat management, including related personnel costs, internships, planning, and equipment.
- **Administrative (22%)** - Staff time used for day to day operations, program planning, oversight of projects and executing deliverables including reporting.
- **Travel (3%)** - Expenses incurred from working over an eleven-county wide area.
- **Other (3%)** - Inservice Training, Education, Research, and Cornell Cooperative Extension responsibilities.
- **Indirect Costs (12%)** - Indirect Costs as determined by the Cornell Cooperative Extension of Saratoga County used to run support services for the PRISM

The Hudson Mohawk River Valleys Aquatic Invasive Species Spread Prevention Program contract number #011280 administered by the Capital Region PRISM through Cornell Cooperative Extension of Saratoga County on the behalf of the New York State Department of Conservation runs a separate budget for program delivery. Funding for the program was derived through the Environmental Protection Fund and was administered to hire 22 seasonal watercraft inspection stewards to slow the spread of aquatic invasive species.

The front-loaded contract in year two is summarized in the graph below. A total of \$193,549 was spent in 2020 to administer the program. Personal services for boat steward wages and fringe benefits accounted for 87% (\$168,757.91) of the dollars spent. The front-loaded contract in year two used 2% (\$4054.51) of the funds to purchase training materials, education and outreach supplies, tablets, and uniforms. The Cornell Cooperative Extension of Saratoga County, PRISM’s host organization, claimed 11% (20,737.49) in indirect costs. The program effectively delivered prevention strategies regarding clean, drain, dry, practices to the public while intercepting invasive species from leaving and entering waterbodies.



PRISM STRUCTURE

The Capital Region PRISM is hosted by the Cornell Cooperative Extension of Saratoga County (located in Ballston Spa, New York) and is staffed by one PRISM Coordinator, one Terrestrial Coordinator, and one Aquatics Coordinator. There is additional funding for an Education and Outreach Coordinator, who may be hired in the coming year. Various organizations, including land trusts, conservation groups, and municipal entities, oversee and manage natural areas that are invaded or have the potential of being compromised with invasive species. These organizations have historically been invited to become partners of the PRISM and to take part in a PRISM committee. A full list of PRISM partners is available in Appendix 1. The PRISM has a Steering Committee and four subcommittees (Agriculture, Aquatics, Conservation, and Education/Outreach) that meet two to four times a year to advise PRISM staff.

Steering Committee:

Key partners from the NYSDEC, Department of Agriculture and Markets, Office of Parks, Recreation and Historic Preservation, Department of Transportation, Saratoga Soil and Water Conservation District (SWCD), Albany Pine Bush Commission, National Park Service, and Natural Heritage Program make up this committee. The Steering Committee works with PRISM coordinators to follow the five-year strategic plan process, develop, and guide the annual work plan, and connect with each of the subcommittees. Each member of the PRISM Steering Committee is also a representative to one or more of the PRISM subcommittees. The Steering Committee is also responsible for reviewing PRISM contracts, the Request for Proposal (RFP) process, and major changes in PRISM structure. The PRISM steering committee generally meets about four to five times a year to review progress of the annual work plan and to assist in the development of the annual work plan.

2020 Capital Region Steering Committee Members

Robert Cole	NYS Department of Environmental Conservation Division of Lands and Forest: Forester
Linda White	National Park Service: Biological Technician
Neil Gifford	Albany Pine Bush Preserve Commission: Conservation Director
Thomas Allgaier	NYS Department of Agriculture and Markets: Invasive Species Coordinator
Loretta McNamee	NYS Department of Transportation: Planning and Permitting Coordinator
Matthew Brincka	NYS Office of Parks, Recreation, and Historic Preservation / Invasive Species Biologist
Dustin Lewis	Saratoga County Soil and Water Conservation District: District Manager
Meg Wilkinson	NYS Department of Environmental Conservation, Natural Heritage Program

PRISM Subcommittees:

Agriculture Committee: *This committee focuses on best management practices and recommendations that will be most effective for the agricultural community. Participants from the SWCDs, Department of Agriculture and Markets, and the Cornell Cooperative Extension identify high priority agricultural pests and work to communicate their importance to the farming public.*

Aquatics Committee: *Aquatic professionals focus on priority invasive species identified in aquatic ecosystems within the PRISM and to develop an early detection list and protocol for early detection/rapid response species within the PRISM. Additionally, this committee has assisted in prioritizing areas to provide watercraft launch steward coverage.*

Conservation Committee: *Partners on this committee work to identify priority species to focus on within the PRISM area that may put conservation areas at a higher risk. Key efforts of this committee include developing a tier system priority list and reviewing the annual Terrestrial work plan. This year, the committee has taken on a new task of identifying a site for an Invasive Species Prevention Zone in the Capital region.*

Education/Outreach Committee: *This committee develops, prioritizes, and compiles existing educational/curriculum materials for use within the PRISM region. The committee has an additional focus on event planning for the annual New York State Invasive Species Awareness Week.*

Direct Contacts Reached

Conferences

Event Date	Event Name	Direct Impact
11/19/2019	Environmental Clearing House	105
2/29/2020	Home and Lifestyle Show	63
5/11/2020	Land Trust Alliance	44

Demonstrations

Event Date	Event Name	Direct Impact
10/3/2019	Indian Kill Stewardship Day with SCISC	23
2/22/2020	Hike for Hemlocks	19
7/30/2020	Babcock Lake Training and Paddle	5

Lectures

Event Date	Event Name	Direct Impact
10/13/2019	Hemlock Initiative/ iMap	5
10/22/2019	A Day in the Life of the Hudson River Estuary	13
11/13/2019	Jumping Worms Presentation for Master Gardeners	27
1/14/2020	El Fin GE Charity Program	35
1/28/2020	Skidmore Advanced GIS Class	15
2/6/2020	CCE Albany Master Gardeners	21
2/25/2020	Knolls Atomic Power Retirement Club	67
4/20/2020	Master Gardeners	27
9/22/2020	Siena College Lecture	18

Service Learning

Event Date	Event Name	Direct Impact
8/14/2020	NYS DEC Great Fish Count	47

Trainings

Event Date	Event Name	Direct Impact
5/18/2020	Watercraft Inspection Steward	20
5/20/2020	Watercraft Inspection Steward Program Training	7
5/20/2020	WISPA iMap Training	22
5/20/2020	Wispa On Site Training	8
6/3/2020	Moreau State Park Training Survey	3
6/11/2020	Invasive Survey Training	3

8/26/2020	Crandall Library iMapInvasives Training	3
10/9/2020	New York Logger Training	12
11/13/2020	iMapInvasives Beginners Training	11

Webinars

Event Date	Event Name	Direct Impact
8/5/2020	Crandall Library AIS ID	4
8/12/2020	Crandall Library Clean, Drain, Dry	6
8/19/2020	Crandall Library TIS ID	4
10/28/2020	Building and Maintaining Healthy Community Forests	100
11/9/2020	HWA	21
12/2/2020	Rensselaer Land Trust	31

Workshops

Event Date	Event Name	Direct Impact
11/13/2019	Garden Explorer Club	23
11/14/2019	Tree Workshop and Panel Discussion	34
1/30/2020	HWA Workshop and How to Protect Native Forests	18

Terrestrial Priority Conservation Areas:

County	PCA Name
Albany	Black Creek Marsh WMA
	Thacher State Park
	Ann Lee Pond
	Ashford Glen Preserve
Columbia	Stockport Flats WMA
	Nutton Hook Tidal Wetland
Fulton	Rockwood State Forest
Greene	Vossburgh Swamp
	Four Mile Point Preserve
Herkimer	Plantation Island WMA
	Spruce Creek/Lake Reservoir
Montgomery	Big Nose
	Little Nose
Rensselaer	Cherry Plain State Park and WMA
Saratoga	Wilton Wildlife Preserve and Park/Saratoga Sand Plains WMA
	Saratoga Sand Plains WMA
Schenectady	Indian Kill Preserve
	Sanders Preserve
Warren	Ralph Road State Forest
	Grafton Lakes State Park
	Moreau Lake State Park (ISPZ)
Washington	Ft. Edward Grasslands
	Washington County Grasslands
	Goose Egg SF
	Eldridge Swamp SF

PRISM PARTNERS

Adirondack Research
 Adirondack Lakes Alliance, Inc.
 Adirondack Mountain Club - Albany Chapter
 Adirondack Watershed Institute
 Albany County Soil and Water Conservation District
 Albany County Office of Natural Resource Conservation
 Albany County Storm Water Program
 Albany Pine Bush Preserve Commission
 Appalachian Mountain Club - Albany Chapter
 Audubon NY
 Babcock Lake Estates
 Ballston Lake Improvement Association
 Bowman Lake Association
 Buckingham Pond Conservancy
 Burden Lake Association
 Columbia Land Conservancy
 Columbia-Greene Lakes Coalition
 Cornell Cooperative Extension(s) Rensselaer, Albany, Schenectady, Saratoga
 Crandall Public Library
 NYS Canal Reimagined Advisory Group
 Cossayuna Lake Improvement Association
 Margaret A. and David M. Darrin '40 Fresh Water Institute
 Davey Tree
 Dig The Falls
 Duane Lake Association
 ECOS: The Environmental Clearinghouse
 EMMA Environmental Monitoring and Management Alliance
 Friends of Moreau Lake State Park
 Friends of Tivoli Lake Preserve and Farm, Inc.
 Friends of Woodlawn Preserve
 Hemlock Initiative
 Hudson Crossings Park
 Hudson River Estuary Program Cornell University
 Huyck Preserve
 Kelly Adirondack Center
 Kinderhook Lake Corporation
 Lake George Land Conservancy
 The Fund for Lake George
 Little Troy Park
 Long Lake Homeowners Association
 Mohawk River Watershed Coalition
 Mohawk-Hudson Land Conservancy
 Montgomery County Soil and Water Conservation District
 Nature Conservancy Albany
 New Baltimore Land Conservancy
 New York Forest Owners Association
 New York Logger Training Union College
 New York State Invasive Species Research Institute
 NY iMapInvasives
 NYS Natural Heritage Program
 NYS Canal Cooperation http
 NY ReLeaf Program
 NYS Department of Agriculture and Markets
 NYS Department of Environmental Conservation
 - Ecosystems Health
 - Invasive Species Coordinate Unit
 - Forest Health program
 - Hogweed program
 - Fisheries
 - Tree Nursery
 NYS Department of Transportation
 NYS Federation of Lake Associations
 NYS Hemlock Initiative
 NYS Nursery and Landscape Association
 NYS Office of Parks, Recreation, and Historic Preservation
 Northeast Aquatic Plant Management Society
 Pine Hollow Arboretum
 Otsego County Conservation Association
 Queechey Lake Club
 Rensselaer County Soil and Water Conservation District
 Rensselaer Land Trust
 Rensselaer Plateau Alliance
 Rensselaer Water Quality Coordinating Committee
 Saratoga County Soil and Water Conservation District
 Saratoga Lake Protection and Improvement District
 Saratoga National Battlefield (NPS)
 Saratoga PLAN
 Scenic Hudson
 Schenectady County Historical Society

Schenectady County Invasive Species Council (SCISC)
Shaker Museum Mount Lebanon Historic
Siena College
Skidmore College
Sleepy Hollow Lake, Association of Property Owners
Sterling Environmental Engineering
SUNY Oneonta
The Farm on Peaceable Pastures
Town of Ballston Spa Park and Tree Board
The Friends of the Woodlawn Preserve
The Nature Conservancy
The Sacandaga Mohawk Flotilla/United States Coast Guard Auxiliary

Thompson's Lake Association
Town of Ballston Spa
Town of Clifton Park
Town of Glenville
Town of New Lebanon
Town of Sand Lake
Union College
United States Department of Homeland Security
University at Albany, SUNY
Upper Hudson Watershed Coalition
US Geological Survey
Wilton Wildlife Preserve & Park
Warren County Soil & Water CD

Watercraft Inspection Steward Partners

Town of Bethlehem
Town of Coeymans
City of Albany
Town of Germantown
City of Hudson
Mills-Norrie State Park
Village of Catskill
City of Rensselaer
City of Troy
Town of Lloyd
Highland Landing Park Association
Town of Ulster
City of Kingston
Village of Croton on Hudson
Town of Ossining
Village of Frankfort
Village of Ilion
Village of Canajoharie
Village of Waterford
Village of Round Lake
Town of Glenville
Town of Rotterdam

Steering Committees

The Mohawk River Basin Program

NYS Releaf Urban and Community Forestry Program

Advisory Groups

NYS Canal Reimagined Advisory Group

Hudson River Estuary Program/Cornell University

Organizations

Cornell Master Forest Owner Volunteer Program

Northeast Aquatic Plant Management Society

New York Forest Owners Association (NYFOA) South Eastern Adirondacks and Capital District

2020 MEETINGS

Event Date	# Events	Event Name	Direct Impact
10/3/2019	1	Forest Health Review	43
12/11/2019	1	Steering Committee Meeting	8
12/12/2019	1	Stewardship Round Table	7
12/17/2019	1	PRISM Partners Meeting	19
12/19/2019	1	Rensselaer Water Quality Coordinating	9
1/23/2020	1	Schenectady Count Invasive Species Committee	9
1/24/2020	1	Region 5 ReLeaf Committee	7
1/29/2020	1	PRISM Monthly Call	40
4/28/2020	1	Capital Region PRISM Partners Meeting	21
5/12/2020	1	PRISM Partners Meeting	19
6/17/2020	1	Albany County Conservation Board	5
6/22/2020	1	Invasive Species Advisory Counsel	23
7/13/2020	1	Cornell Master Forester Program	8
8/13/2020	1	Re Leaf Steering Committee	4
9/24/2020	1	Columbia Greene County	31
10/15/2020	1	PRISM Coordinators Meeting	24
10/28/2020	1	PRISM Monthly Call	64
11/18/2020	1	Work Group HWA Outreach	5
11/18/2020	1	Hudson River Estuary Program Partner Meeting	33
11/18/2020	1	PRISM Monthly Call	71
12/4/2020	1	eDNA Testing HWA	11
12/8/2020	1	Capital Region PRISM Partners Meeting	26
12/9/2020	1	Rensselaer Land Trust Water Quality Protection	23
12/16/2020	1	Re-Imagine Canals Advisory Group	22
12/16/2020	1	Invasive Species Advisory Committee	27
12/16/2020	1	NY Aquatic PRISM Partners Meeting	18
12/21/2020	1	Rensselaer Plateau Alliance Board Meeting	33

Citations

¹ Jordan, Marilyn; Sargis, Gregg; Schwager Kathy; Smith, Hilary; Zimmerman, Chris; (2011) *An Invasive Plant Management Decision Analysis Tool. Version 1.1.*; The Nature Conservancy, Brookhaven National Laboratory.

² USDA Natural Resources Conservation Service.
<https://www.nrcs.usda.gov/wps/portal/nrcs/main/ny/technical/landuse/>

³ NYSDEC. <https://www.dec.ny.gov/animals/9402.html>

⁴ NYSDEC. <https://www.dec.ny.gov/lands/48041.html>

⁵ NYSDEC. <http://www.dec.ny.gov/lands/48367.html>

⁶ NYSDEC. <https://www.dec.ny.gov/lands/48041.html>

⁷ NYSDEC. <https://www.dec.ny.gov/lands/48369.html>