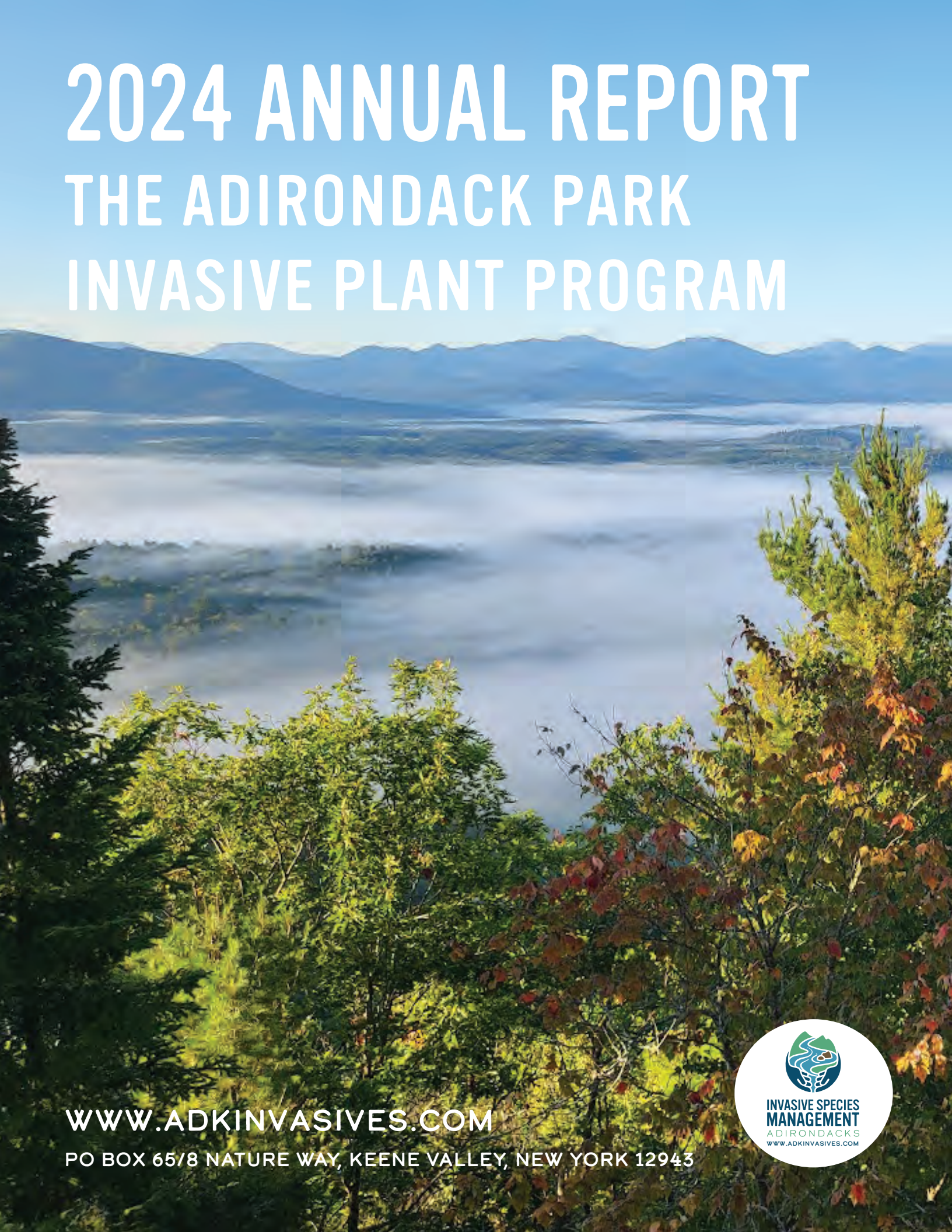
2024 ANNUAL REPORT

THE ADIRONDACK PARK INVASIVE PLANT PROGRAM



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INVASIVE SPECIES MANAGEMENT
ADIRONDACKS
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SPECIAL THANKS TO THE APIPP COMMUNITY

THE ADIRONDACK PARK INVASIVE PLANT PROGRAM (APIPP) SERVES AS THE HOST OF THE ADIRONDACK PARTNERSHIP FOR REGIONAL INVASIVE SPECIES MANAGEMENT (PRISM), ONE OF EIGHT PARTNERSHIPS ACROSS NEW YORK STATE (NYS). APIPP IS A PROGRAM FOUNDED BY THE NATURE CONSERVANCY (TNC), THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC), THE NYS DEPARTMENT OF TRANSPORTATION (NYSDOT), AND THE ADIRONDACK PARK AGENCY (APA). FUNDING IS PROVIDED FROM THE ENVIRONMENTAL PROTECTION FUND AS ADMINISTERED BY NYSDEC. TO LEARN MORE ABOUT APIPP, INVASIVE SPECIES OF CONCERN, AND HOW TO GET INVOLVED, VISIT WWW.ADKINVASIVES.COM.

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Cover Photo: The view from Baker Mountain in Saranac Lake by Tammara Van Ryn

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Copies of this report can be obtained from the Adirondack Park Invasive Plant Program's website: www.adkinvasives.com

EXECUTIVE SUMMARY

Dear Partners and Supporters,

If there is one word that describes the Adirondack Park Invasive Plant Program (APIPP) in 2024, it would have to be "transitions." Perhaps most notably, over the course of the year we welcomed two new staff as we said goodbye to three APIPP stalwarts: Program Manager Tammara Van Ryn, Terrestrial Invasive Species Manager Becca Bernacki, and Conservation and GIS Analyst Zack Simek. Together, Tammara, Becca, and Zack represent more than 17 years of institutional knowledge. We are lucky to have had such kind, intelligent people dedicated to protecting the Adirondacks' lands and waters, and we wish them all the best in their future endeavors.

But, as always, APIPP is looking toward the future, because with change comes the opportunity for new ideas and fresh energy. APIPP's former Aquatic Invasive Species Manager Brian Greene has seamlessly moved into the Program Director role, and we've hired Carolyn Koestner as our Conservation and GIS Analyst and Ari Giller-Leinwohl as our Terrestrial Invasive Species Manager. If you haven't yet met Carolyn or Ari, fear not—you will likely see them out and about this summer as the field season kicks into high gear.

Historically APIPP has reported on the percentage of Adirondack lakes that are free from aquatic invasive species—usually around 75%—but in 2024 we started taking a different, more holistic approach. By incorporating work done in 2024 and work that's been done since 2002, we created a revamped AIS database that provides an improved region-wide view of lakes, streams, and wetlands that are invaded. This is critical data that helps APIPP, NYSDEC, boat stewards, lake associations, and local communities prevent, plan, and manage for the consequences of aquatic invasive species.

On the terrestrial side of things, 339 new infestations were added to the more than 8,000 mapped sites within the Adirondack PRISM. Of significant note is the spread of hemlock woolly adelgid, beech leaf disease, and tree-of-heaven in the Lake George region. While we don't like to see the number of new infestations increase, there is a lot of good news to report. No Tier 1 species—those that are found in neighboring regions but are not yet known to be in our region—were reported in 2024, and 55% of the more than 1,900 historic infestations we surveyed this season now have no invasives.

APIPP's work doesn't just happen in lakes and forests. Reaching the public is essential to helping us protect the Adirondack PRISM, which encompasses more than 6 million acres, from the worst effects of invasive species. This fall we held our biennial *Adirondack Invasive Species Summit* in North Creek, an event that drew about 80 people who were there to learn about the correlation between climate change and invasive species and about three emerging gene technologies that can help advance our work. APIPP also enjoyed a substantial amount of press coverage from local and state media outlets, and we had a lot of fun hosting an informative Adirondack Trivia Night, complete with an invasive-species-themed beer, as part of New York Invasive Species Awareness Week.

APIPP is now more than a quarter of a century old, and the changes and transitions our organization has undergone have always rested upon the strong foundation built by The Nature Conservancy and our lead partner and funding agency the New York State Department of Environmental Conservation. In addition, our extraordinary volunteers and the engagement of more than 30 partners—including our three founding partners the New York State Department of Environmental Conservation, NYS Department of Transportation, and NYS Adirondack Park Agency—fuel the success of the Adirondack PRISM. It is those organizations and individuals that have made possible the accomplishments outlined on the following pages, and it is that enduring legacy that will continue to carry our work forward as we work to protect the Adirondacks' forests and waterways, together.

Sincerely,

Shaun Kittle

Shaun Kittle

Communications Manager

APIPP STAFF

Brian Greene
Program Director

BRIAN joined APIPP in spring 2021 as the Aquatic Invasive Species Coordinator and became Program Director in 2024. He has extensive knowledge of plant communities and water quality, as well as experience working with volunteers.

Ari Giller-Leinwohl
Terrestrial Invasive Species Manager

ARI joined the APIPP team in spring 2024 as the Terrestrial Invasive Species Manager. He brings to the team his experience managing invasive species and working with forest pests and diseases of northeastern trees and shrubs.

Shaun Kittle
Communications Manager

SHAUN joined the APIPP team in spring 2022 as the Communications Coordinator He adds to the team his knowledge in journalism, editing, photography, and graphic design, as well as his experience as a community volunteer.

Carolyn Koestner
Conservation and GIS Analyst

CAROLYN joined the Adirondack and St. Lawrence Eastern Lake Ontario (SLELO) PRISMs in fall 2024. She brings to the PRISMs her GIS and data analysis skills, which help to inform invasive species survey and management work across northern New York.

Thank you to APIPP's former staff

Tammara Van Ryn
Program Director

Zack Simek
Conservation and GIS Analyst

Becca Bernacki
Terrestrial Invasive Species Coordinator

Special thanks to APIPP's 2024 invasive species seasonal staff:

Dana Holmlund
Aquatic Invasive Species Assistant

Reed Middendorf
Terrestrial Invasive Species Assistant

Becca Tamanga
Invasive Species Management Steward

2024 APIPP HIGHLIGHTS

Almost 40 organizations and more than 150 volunteers share their ideas, time, and resources to advance the mission of the Adirondack Partnership for Regional Invasive Species Management (PRISM), which is supported by the Adirondack Park Invasive Plant Program (APIPP), hosted by The Nature Conservancy. Together, as these highlights of our collaborative 2024 work show, APIPP and its partners are making major advances in reducing the threats that invasive species pose to the Adirondack region.

GOAL 1: PROTECT ADIRONDACK LANDS

BIOCONTROL INSECTS for purple loosestrife and emerald ash borer were released to help suppress invasive species. This work was highlighted in an *Adirondack Explorer* feature story in their fall magazine.

NO NEW TIER 1 SPECIES were detected in the Adirondack PRISM, but 339 new infestations were mapped by APIPP staff and our Early Detection and Rapid Response Team. Together we worked to control more than 400 sites using integrated pest management.

VOLUNTEERS WITH APIPP'S FOREST PEST HUNTERS PROGRAM were out in both winter and summer looking for invasive pests like hemlock wooly adelgid and beech leaf disease. In 2024, 81 trails were adopted with the vast majority reporting no observations of the targeted species. Forest Pest Hunters have spent more than a collective 1,480 hours of their time with survey efforts since the program's inception in 2020.

GOAL 2: PROTECT ADIRONDACK WATERS

APIPP CREATED A NEW ADIRONDACK PRISM AIS DATABASE that combines iMapInvasives data with Lake Protectors surveys to track and report where AIS are distributed across the region. 70% of the 509 water bodies have no observed AIS from the species that APIPP tracks.

APIPP PARTNERED WITH LAKE ASSOCIATIONS AND RESEARCH INSTITUTIONS to collect data on eDNA monitoring and invasive milfoil management influences on water quality. Collectively 190 samples were collected and will improve our future best management practices for monitoring and management.

LAKE MANAGEMENT TRACKER had the highest number of lakes ever participate in the program. Three new lakes joined and added important new management strategies to the program. This brought the total to nine lakes collecting 1,310 observations in 2024.

GOAL 3: COMMUNITY ENGAGEMENT

APIPP RAISED AWARENESS ABOUT INVASIVE SPECIES identification, prevention, and management by partnering with more than two dozen organizations in over 40 workshops and events that reached more than 1,500 people.

APIPP WAS MENTIONED OVER 50 TIMES in print, digital, radio, and television news stories and its social media reach continued to expand. APIPP's YouTube views soared, with over 6,166 views and more than 4,500 "watch hours" in 2024.

APIPP HELD ITS BIENNIAL INVASIVE SPECIES SUMMIT, called *Adirondack Invasive Species Summit 2024: New Science Offers Hope in a Warming Climate*, in North Creek in October. The event drew an audience of about 80 people who learned about climate change and how it affects the spread of invasive species and about three genetic technologies that could help detect or treat infestations of invasive species.

FOUR NEW PARTNERS joined the Adirondack PRISM: Champlain Area Trails, Eagle Lake Property Owners Inc., Friends of Moody Pond, and Pecks Lake Protective Association,

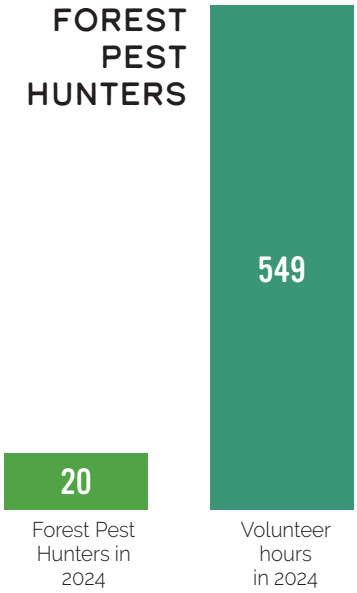
GOAL 4: RESEARCH AND INNOVATION

THE SECOND YEAR OF THE LAKE CHAMPLAIN BOAT LAUNCH SPREAD REDUCTION PROJECT was completed, with active management at three boat launches in 2024. Extensive data collected by APIPP and Paul Smith's Adirondack Watershed Institute demonstrate reduced Eurasian watermilfoil at some boat launches, but high variability in boats leaving the launches with this species present.

HEMLOCK WORK CONTINUED TO ADVANCE through several projects, including the establishment of three long-term hemlock health monitoring plots and assisting with a state-wide HWA winter mortality study being conducted by the NYS Hemlock Initiative (NYSHI).

APIPP VOLUNTEERS

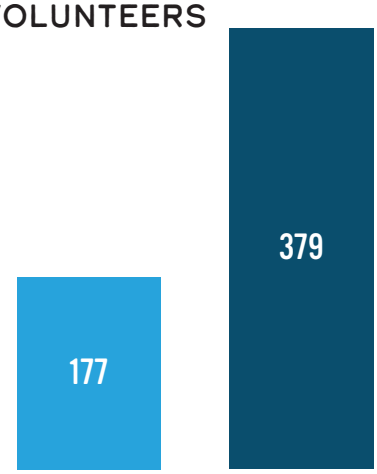
FOREST PEST HUNTERS



Forest Pest Hunters in 2024

Volunteer hours in 2024

LAKE VOLUNTEERS

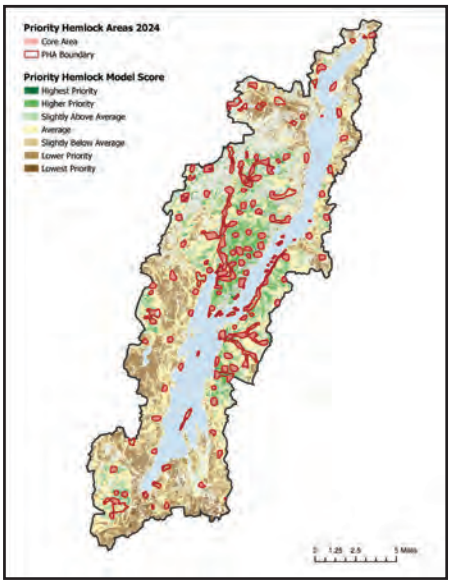


Lake volunteers in 2024

Volunteer hours in 2024

SPECIAL INITIATIVES

PRIORITY HEMLOCK AREA ANALYSIS



PRIORITY HEMLOCK AREAS IN THE LAKE GEORGE WATERSHED

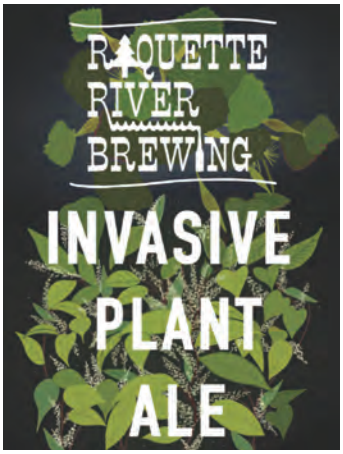
AS PART OF OUR ONGOING HEMLOCK WOOLY ADELGID (HWA) WORK IN THE LAKE GEORGE REGION, APIPP helped to form the Lake George Hemlock Coalition. The coalition, comprised of nonprofit organizations, research institutions, and public agencies, works to develop a unified, comprehensive approach to the protection of the area's hemlock forests. This partnership allows for the coordination of best strategies for research, surveys, treatments, long-term plans, and outreach.

The first action the coalition took was to identify priority hemlock areas (PHAs), an important component of a comprehensive hemlock conservation strategy. PHAs are areas within the forest that have been identified as being important to help protect water quality, control erosion, limit damage to public infrastructure, maintain iconic views, and support wildlife.

APIPP served as the lead on the spatial analysis to identify the PHAs. Preliminary maps were reviewed and boundaries of initial PHAs were adjusted based on feedback from coalition members and stakeholders and on-the-ground knowledge of the sites. As these initial PHAs are surveyed and managed, their locations will be periodically adjusted based on field conditions and the presence or absence of HWA. The results of the PHA analysis are currently being used to develop the group's action plan.

NEW YORK INVASIVE SPECIES AWARENESS WEEK

EVERY YEAR APIPP PARTICIPATES IN NEW YORK STATE INVASIVE SPECIES AWARENESS WEEK (NYSIAW), a statewide effort coordinated by the New York State Department of Environmental Conservation in collaboration with the eight PRISMs. NYSIAW offers a week-long calendar of daily invasive-species-themed events and educational programs.



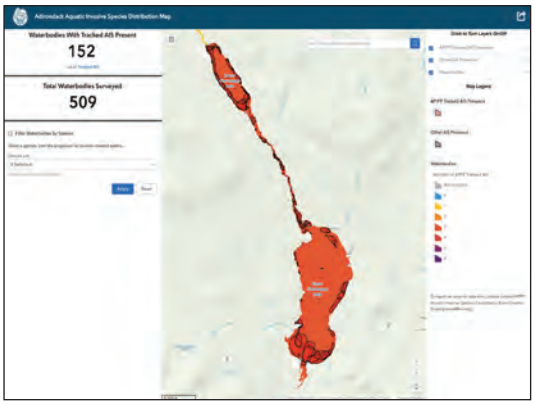
THE INVASIVE PLANT ALE LABEL

APIPP decided to do something a little different for 2024's NYSIAW. Instead of hosting a webinar or tabling event, we partnered with Raquette River Brewing in Tupper Lake to organize a special trivia night called Adirondack Trivia Night. As an added incentive to attend, Raquette River Brewing launched a special-edition beer at the trivia night called "Invasive Plant Ale (IPA)." APIPP's communications manager worked with the brewery's graphic designer to create a beer label that depicted two invasive species, knotweed and water chestnut. The label also acknowledged NYSIAW: *"To celebrate Invasive Species Awareness Week, we teamed up with the Adirondack Park Invasive Plant Program (APIPP). To highlight the ever-present threat of invasive species, we decided to make a very special New England IPA. Notes of sweet fruit and citrus from a heavy dose of Nectaron hops, coupled with Taiheke and Motueka to provide more character. A special beer for a special cause!"*

As attendees entered the brewery, they were greeted by APIPP staff and a table of educational materials that included our *Field Guide to Terrestrial Invasive Species of the Adirondacks* and brochures on aquatic and terrestrial invasive species. About 60 people formed teams to participate in Adirondack Trivia Night. The questions covered a range of nature-related Adirondack topics, with about half focused on invasive species. The event was promoted via social media, APIPP's eNews blast, local events calendars, and a press release.

NEW AIS DATABASE

SINCE 2002 APIPP HAS TRACKED THE PRESENCE OF AIS IN DIFFERENT LAKES. The effort initially used paper data sheets and lists of species and lakes. In time, monitoring started including new tools like ArcGIS and the iMapInvasives database. Historically APIPP staff and volunteers focused on lakes and the percentage of uninvaded lakes was frequently reported. This high-level metric was an important talking point that demonstrated the need to prevent AIS spread in the Adirondacks, but it missed looking at equally important waterbodies like streams, rivers, and wetlands. Also, as iMapInvasives grew it started including other data sources that weren't part of APIPP's monitoring efforts. In 2024 APIPP created a database that combined the iMapInvasives data, national waterbodies including streams and wetlands, and APIPP surveys. The database includes an interactive online ArcGIS Experience Builder that allows for anyone to view waterbodies, learn how many invasive species they contain, and see when they were first invaded.



UPPER CHATEAUGAY LAKE AS SEEN IN THE ADIRONDACK AQUATIC INVASIVE SPECIES DISTRIBUTION MAP

The new database and methodology for counting did change some of the numbers that we historically had reported on. APIPP would frequently use the talking point that "75% of lakes monitored had no known AIS observations." We are now taking a more widespread view of waterbodies that includes streams and wetlands, allowing for more accurate metrics. Currently our database documents 152 waterbodies with a tracked AIS out of 509 monitored. This means our new percentage for uninvaded waterbodies is 70%. While this overall number is slightly lower than the past, the Adirondack PRISM remains one of least invaded aquatic regions in the country. This is thanks to great prevention work that our local communities, lake associations, and watercraft inspection stewards do to educate anglers and boaters about the importance of Clean, Drain, Dry.

EMERGING INVASIVE PLANTS AND FOREST PESTS

SEVERAL EMERGING INVASIVE PLANT SPECIES ARE TAKING HOLD within the Lake George watershed and containing them is important to minimizing their spread further into the region. Expanded outreach and surveys for tree-of-heaven led to five new sites mapped and the discovery of another population in Lake George. The ongoing control of these clonal trees at current sites is underway, with more landowner permissions actively being pursued.


TREE-OF-HEAVEN

The known distribution of Japanese stiltgrass significantly expanded thanks to three APIPP and partner agency observations, making landscape-scale eradication more difficult given the plant's seedbank persistence in the soil. Treatments of swallow-wort infestations adjacent to public lands and priority ecological areas also continue, with treatments occurring on more than 4 acres and five new observed infestations this season.

Projects addressing emerging invasives will remain a focus of the terrestrial program. Many of these plants are early colonizers of disturbed habitats that threaten biodiversity by inhibiting the growth of native plants. Their presence in the Lake George watershed and along PRISM boundaries coincides with the emergence of forest pests like emerald ash borer, hemlock woolly adelgid, and beech leaf disease. It is important to consider the increased disturbance that is likely to arise from the tree mortality associated with these forest pests and to work diligently to best understand the distribution of all terrestrial invasives in the area that could inhibit healthy forest regeneration.

Strategies to work toward these goals include expanding partner networks to best coordinate targeted surveys, continuing outreach to landowners with known infestations, increasing community surveys and the reporting of invasive species, identifying other areas for targeted surveys adjacent to known infestations and PRISM boundaries, and continuing to conduct the safest and most effective management projects for invasive plants and forest pests alike.

THE ADIRONDACK PRISM 2023-2027 STRATEGIC PLAN

A VISION FOR THE ADIRONDACKS

THIS ANNUAL REPORT SHOWCASES APIPP'S ACCOMPLISHMENTS toward achieving the mission and goals outlined in the Adirondack PRISM 2023-2027 Strategic Plan. The following pages provide information about activities conducted under each goal. Appendix C includes a dashboard of accomplishments APIPP will track annually, as well as a chart summarizing APIPP's progress in implementing each strategy outlined in the plan.

Mission:
To work in partnership to minimize the impact of invasive species on the Adirondack region's communities, lands, and waters.

GOAL 1

Protect Adirondack PRISM lands from the most significant ecologic and economic impacts of terrestrial invasive plants and animals, including forest pests and pathogens

GOAL 2

Protect Adirondack PRISM waters from the most significant ecologic and economic impacts of aquatic invasive plants and animals

GOAL 3

Build knowledgeable and engaged communities that are empowered to act on invasive species issues

GOAL 4

Engage in research and innovation to improve the monitoring and management of invasive species

INVASIVE SPECIES TIERS AND MANAGEMENT APPROACH

NEW YORK'S IMAPINVASIVES TEAM and the eight PRISMs developed an invasive species categorization method called the Tier Ranking System to help prioritize management goals and unify the terminology used region-to-region. This statewide system categorizes invasive species into Tiers 1 through 4 for each PRISM based on several factors, including the number of documented occurrences of the species in the PRISM. The tiers are an integral part of how APIPP prioritizes the invasive species monitoring and management work reported on under Strategic Plan Goals 1 and 2. Refer to www.adkinvasives.com for current Tier lists.

TIER 1 species are not yet known to occur within a PRISM boundary but are likely to establish and spread if introduced.

PRIORITY ACTION: PREVENTION
Since Tier 1 species are not yet found in the area, but occur in neighboring regions, APIPP works to control these species through education, outreach, and awareness-building initiatives.

TIER 2 species are found in low enough abundance with suitable treatment options available to make eradication possible within the PRISM.

PRIORITY ACTION: ERADICATION
Tier 2 species are a high priority for monitoring and management. These species are best suited for an early detection and rapid response strategy.

TIER 3 species are likely too widespread or well established for the possibility of eradication.

PRIORITY ACTION: CONTAINMENT
Strategic management can contain Tier 3 species to their present location and slow their spread into neighboring areas that remain free of harmful infestations.

TIER 4 species cannot be eradicated from the PRISM geography becaue they are too widespread or established and management is cost-prohibitive.

PRIORITY ACTION: SUPPRESSION
In these cases, focus shifts to limited, localized suppression efforts targeted at protecting high-priority resources such as rare habitats, endangered species, and recreational assets.

APIPP FURTHER PRIORITIZES INFESTATIONS FOR MONITORING OR MANAGEMENT BASED ON THE FOLLOWING FACTORS:

- Impact of the infestation on conservation priorities (including The Nature Conservancy's resilient and connected lands network), economic resources, or human health.
- Availability of effective tools to control both the infestation and the source(s) of introduction.
- Availability of resources to monitor or manage the infestation.
- Cost-effectiveness of management options and the opportunity cost of deploying resources.
- Input of relevant Adirondack PRISM partners and APIPP working groups.

GOAL 1: PROTECT ADIRONDACK LANDS

SCOPE OF WORK ITEMS 1, 2, 3, 4, 5, 6, AND 9

2024 SEASON SUMMARY

APIPP HAD ANOTHER GREAT SEASON OF PROTECTING ADIRONDACK LANDS, with Ari Giller-Leinwohl starting as Terrestrial Invasive Species Manager (TISM) in April. The terrestrial team consisted of the TISM, two seasonal TNC staff, and four contract crew members with Invasive Plant Control Inc. (IPC). Collectively they worked across 43 New York State Department of Environmental Conservation (NYSDEC) campgrounds, 48 recreation access points, 57 rights-of-way corridors, and dozens of private properties. This work was made possible through collaborations with partner agencies, private landowners, working groups, community scientists, and many others. Thank you all for being a crucial part of these efforts.

The terrestrial program had a safe and productive field season, adding 339 new infestations to the more than 8,000 mapped sites within the Adirondack PRISM. More than 2,200 current or historic infestations were surveyed this season, with 55% of these areas having no invasives observed. Chemical (72%), mechanical (26%), and biological (1%) control was conducted at more than 400 sites. The NYSDEC campground steward efforts continues to be highly effective, and APIPP staff also managed beetle biocontrol releases for purple loosestrife throughout the region and stingless wasp biocontrol releases for emerald ash borer (EAB) in Warren County.

APIPP continued survey and control work for emerging and established invasive species alike. The path toward eradication continues for many historic and current infestations of emerging (Tier 2) species like giant hogweed, scotch broom, and mile-a-minute, with treatments of newly discovered wineberry and Japanese angelica tree infestations now underway. Control of known infestations and expanded surveys for species with limited distribution within the region (Tier 3), like tree-of-heaven and Japanese stiltgrass, are critical to limiting their establishment and reducing the risk of further spread. The terrestrial program also manages widely distributed (Tier 4) species like common reed grass and Japanese knotweed, prioritizing sites by ecological, conservation, and economic factors at high-priority areas.

Forest pests, detailed below, are another critical focus area for the terrestrial program. APIPP staff and Forest Pest Hunter volunteers surveyed for emerging beech leaf disease (BLD) and hemlock woolly adelgid (HWA). Ten Spotted lanternfly (SLF) traps were deployed in highly visited areas and four emerald ash borer traps were placed to delineate spread into the Adirondack interior.

INVASIVE SPECIES SEASONAL STAFF

APIPP WAS FORTUNATE to have Rebecca Tamagna return for her third season as campground steward and prior IPC crewmember Reed Middendorf join us as terrestrial invasive species assistant. Their efforts in the field, attention to detail, and knowledge were instrumental for efficient and effective invasive plant and forest pest work this season.

APIPP actively managed target invasive plant species at NYSDEC campgrounds with a campground steward for the thirteenth year in 2024. Over 860 infestations were surveyed or managed at 43 campgrounds, with continuing effective control of infestations of garlic mustard and purple loosestrife. APIPP's campground work is also detailed in the *2024 Adirondack Park Terrestrial Invasive Species Steward Survey & Management Report*. Becca Tamanga's expertise and flexibility also made her able to assist with EAB and SLF trap deployment and purple loosestrife biocontrol releases.

Reed Middendorf's technician experience and licensure, along with TISM Ari Giller-Leinwohl's licensure, allowed for enhanced control of earlier phenology species like swallow-wort, wild parsnip, mile-a-minute, and scotch broom. All terrestrial staff were trained in the identification of Tier 1-4 invasive plants and forest pests.

Becca and Reed took the lead on deploying, maintaining, and collecting trap catches from four APIPP-managed emerald ash borer traps throughout the region, and they assisted in deploying 10 SLF traps. They also managed eight EAB parasitoid wasp release days in Warren County and several purple loosestrife beetle biocontrol releases in the eastern Adirondacks. Becca and Reed conducted Terrestrial Invasive Species Early Detection and Rapid Response (EDRR) work, checking on new iMapInvasives reports for species like porcelain berry, EAB, and Japanese hops.

REED MIDDENDORF
TERRESTRIAL INVASIVE SPECIES ASSISTANT

BECCA TAMANGA
INVASIVE SPECIES MANAGEMENT STEWARD

INVASIVE PLANT CONTROL CREW

EARLY DETECTION AND RAPID RESPONSE CREW FROM INVASIVE PLANT CONTROL, INC.

A four-person crew with Invasive Plant Control, Inc (IPC) served as the APIPP EDRR team for nine weeks. They had a tremendous season, traveling over 11,000 miles to survey and treat priority sites along 57 state and county road rights-of-way in Clinton, Essex, Hamilton, and Herkimer counties, and select areas in Washington and Warren counties. They conducted management at over 300 sites and visited over 1,100 total sites. The crew encountered approximately 425 historic sites that no longer had any invasive species observed.

IPC was on the lookout for emerging invasive species like tree-of-heaven, swallow-wort, and Japanese stiltgrass. Some management was conducted at private and partner agency sites to address high-spread areas like Department of Transportation yards. IPC prioritized species not established in the area and those with the greatest ecological value and/or risk of spread. IPC also assisted with mechanical control to protect fragile alpine ecosystems along Whiteface Veterans' Memorial Highway.

The IPC team compiled the *2024 Terrestrial EDRR Report* to summarize their stellar work with APIPP. Data collected in 2024 are already being used to prioritize sites for next season, with new private and state land permissions being sought. This data-driven process factors species distribution, proximity to state lands and wetlands, rare and threatened species, and prior treatments to guide where APIPP works.

FOREST PEST HUNTER VOLUNTEERS

IDENTIFYING HWA

THE FOREST PEST HUNTERS PROGRAM has continued to be a force for targeted surveys in its fourth season. Volunteers spent a collective 350 hours conducting HWA surveys during the 2024 winter season, with 42 trails adopted with 834 non-detections and 106 detections. This volunteer effort directly aids regional efforts, with some of the northernmost findings around Lake George subsequently being delineated and treated by the NYSDEC, New York State Hemlock Initiative, and other Lake George Hemlock Coalition partners.

During the 2024 summer survey season, Forest Pest Hunter volunteers adopted 39 trails across the Adirondacks to survey for BLD and spent 199 hours finding 171 non-detection and 32 confirmed locations. New observations are capturing the spread north and west from the Tongue Mountain Range and Bolton Landing in Lake George, and additional areas along the southern PRISM boundary around Great Sacandaga Lake and Caroga Lake warrant more surveys next season.

Over the history of the Forest Pest Hunter program, more than 66 people have adopted more than 400 trails and spent an impressive 1,480 hours monitoring for forest pests. This massive volunteer effort is truly appreciated as we work to better understand the distribution and impact of these forest pests as they emerge in the region.

APIPP'S 2024 VOLUNTEER OF THE YEAR

Every December APIPP staff invite partners and volunteers to join them for the annual winter partner meeting. The meeting gives APIPP a chance to provide thorough updates of the year's work, hear what partner organizations have been up to, and to recognize a stand-out volunteer. The 2024 Volunteer of the Year Award went to Bill Widrig for his work with Forest Pest Hunters and Lake Management Tracker programs.

BILL WIDRIG ACCEPTS THE VOLUNTEER OF THE YEAR AWARD FROM APIPP COMMUNICATIONS MANAGER SHAUN KITTLE

Since Bill began monitoring for HWA in 2021, he has entered 1,250 HWA observations into iMapInvasives, 265 of which were positive. His efforts have resulted in HWA being confirmed at five different locations along Lake George and two locations in Saratoga County. Bill began monitoring for BLD in 2023 and has since made 186 reports about the forest pest in iMapInvasives, 18 of which were positive.

On the aquatics side of things, Bill and his wife have done Lake Management Tracker work for Eurasian watermilfoil on Upper Chateaugay Lake for the past six years. Together they have made a total of 1,396 observations, with 232 entries completed in 2024 alone.

In addition to the work mentioned above, Bill has also helped the New York State Hemlock Initiative and NYSDEC release silver fly biocontrols for HWA, assisted New York State Hemlock Initiative and NYSDEC in HWA management projects, worked on the Lake George Hemlock Coalition to identify priority hemlock areas in the Lake George watershed, and helped with black ash monitoring plots for EAB and assisted with eDNA water sampling on Upper Chateaugay Lake.

Thank you, Billl, for helping to protect Adirondack forests and waters from the negative impacts of invasive species!

MANAGEMENT AND NOTABLE SEASON FINDINGS

THE APIPP TERRESTRIAL PROJECT manages or plans to manage 14 terrestrial invasive plants known to be present in the Adirondack PRISM. These species include giant hogweed, Japanese angelica tree, mile-a-minute, scotch broom, wineberry, Japanese stiltgrass, swallow-wort, tree-of-heaven, common reed grass, garlic mustard, knotweed, purple loosestrife, and yellow iris. Individual survey and management statistics for each species can be found in Appendix A. Historic and current invasive species distribution maps can be seen on APIPP's website and the iMapInvasives database.


A JAPANESE ANGELICA TREE IN WARREN COUNTY

We are happy to report that no Tier 1 terrestrial species, which are present in neighboring regions, were observed this season in the Adirondacks. Public reports of species like porcelain berry, Japanese hops, and giant hogweed were investigated by APIPP staff and proved to be falsely identified. Successful projects continue with emerging (Tier 2) infestations, with many in the containment phase and some nearing eradication. Giant hogweed was observed and controlled at only two locations in 2024 out of 16 historic sites. Single mile-a-minute and scotch broom populations continue to be reduced and contained at their only known Adirondack sites.

All known wineberry infestations within Long Island Campground in Lake George were managed mechanically, with follow-up management required for adequate long-term control. APIPP staff also surveyed and treated a newly identified Japanese angelica tree infestation in Chesterfield, in partnership with the Warren County Soil and Water Conservation District and private landowners. These initial treatments will be followed by monitoring and follow-up treatments.

Other successful projects include APIPP's survey and control of invasive plants along the Saranac Lake Rail Trail corridor in partnership with NYSDEC staff. We are also working with Vermont agency partners to better communicate EDRR surveys and treatments with our PRISM neighbors. Additionally, APIPP collaborates with the New York State Department of Transportation, NYSDEC, and local partners to coordinate our terrestrial invasives work around projects like dam removals, bridge and stream crossing construction, restoration areas, and recreational corridors.


WINEBERRY


JAPANESE STILTGRASS


TREE-OF-HEAVEN SAMARAS

INVASIVE FOREST PESTS AND DISEASES UPDATE

IN 2024 APIPP STAFF FOCUSED ON THREE FOREST PESTS: EAB, BLD, and HWA.

APIPP is a founding member of the Lake George Hemlock Coalition, an interagency group working to delineate, survey, and treat hemlock stands in the Lake George Watershed. APIPP staff helped to survey several of these parcels for HWA, with most surveys and treatments this season managed by New York State Hemlock Initiative and NYSDEC staff.

APIPP and Lake George Land Conservancy staff conducted three days of fieldwork on TNC-owned Dome Island in Lake George this season. Surveys found that trees treated from 2020 through 2023 have significantly reduced damaged associated with HWA. Remaining untreated areas were addressed this season, with trees along the shoreline treated via injection and upland trees treated via basal bark spray. Over 1,800 trees have been treated to date, but HWA was observed north and west of Dome Island in this timeframe. Future management decisions will be made by NYSDEC, APIPP and TNC staff.

HWA TREATMENT GEAR ON DOME ISLAND

EAB observations and damage progressed north and west into Warren County and into Essex County. APIPP staff did not observe any EAB damage during our annual monitoring of four long term health monitoring ash (MaMa) stands throughout the region. Green funnel traps were placed on four ash trees to monitor for EAB and track expansion into the region. Locations included easternmost Hamilton County, southeastern Essex County, northern Warren County, and a private property along the East Branch of the Ausable River. The trap catches are awaiting analysis for EAB presence by NYSDEC's Forest Health Research Lab in Delmar. Outreach and education are also priorities as EAB spreads into new areas of the region.

This year marked the conclusion of EAB biocontrol releases at a private property in Johnsburg, NY. Three stingless wasp species were released, with APIPP staff releasing 3,572 wasps in 2024 and more than 8,000 since the releases began in 2023. Each of the species target EAB in different ways. *Oobius agrili* parasitize EAB eggs, *Tetrastichus planipennisi* target EAB larvae in smaller trees, and *Spathius galinae* target EAB larvae in ash up to 23 inches wide. According to the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), these biological controls can kill between 20% and 80% of the EAB in trees up to 8 inches wide, allowing for ash regeneration in biological control release areas. Monitoring to evaluate these wasp species' establishment via yellow pan traps will occur over the next two seasons.

APIPP also deployed 10 spotted lanternfly traps with seven partners to detect potential introductions at high visitation areas like boat launches, a campground, and a visitor center. Partners monitored the traps and APIPP reported data to a statewide Agency of Agriculture and Markets database. Traps were deployed around eastern Lake George, the Paul Smiths VIC, and the Peru and Great Sacandaga boat launches. A big "thank you" goes out to partners and private landowners for their invaluable assistance this year. SLF was not observed in the region by participants in this project and or by traps managed by DOT, New York Agency of Agriculture and Markets, and other valued partners. The closest observed living SLF to date is in Albany County, with widespread populations currently from Ulster County southward.

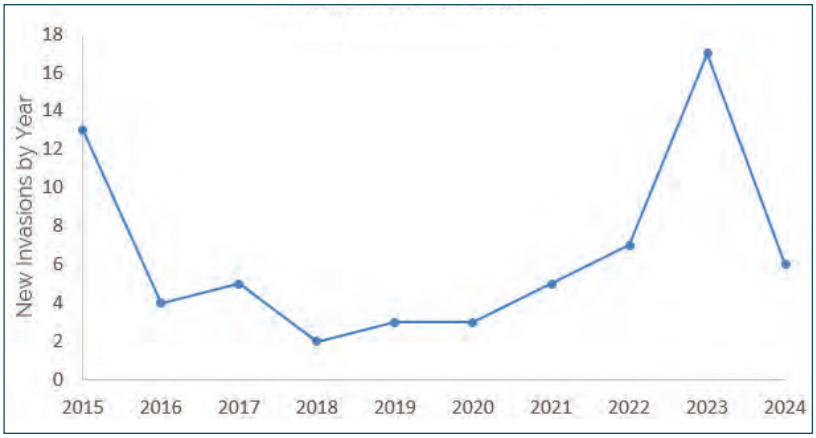
Note: *The parasitoids described were produced and supplied from the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ) EAB Parasitoid Rearing Facility in Brighton, MI. For parasitoid information please call 866-322-4512.*

GOAL 2: PROTECT ADIRONDACK WATERS

SCOPE OF WORK ITEMS 1, 2, 3, 4, 5, 6, AND 9

2024 SEASON SUMMARY

APIPP STAFF, PARTNERS, AND VOLUNTEERS had another busy year working together to monitor aquatic invasive species (AIS) across the Adirondack Park. From large lakes to small ponds and streams, collectively our partnership was able to conduct a yearly census of AIS. The summer of 2024 was the first time in the last 10 years that APIPP did not employ an early detection team to search high priority lakes. This was because funding for that program ended, reducing staff capacity from past years. APIPP, partners, and volunteers were still able to get out on the water and collectively report 133 surveys on 101 waterbodies across the region. This represents 137 volunteers spending 314 hours searching for our 16 focal species that APIPP works on. Due to the hard work and dedication of so many people, APIPP was able to incorporate the work done in 2024 and past work since 2002 into our newly revamped AIS Database. The database combines both the surveys that people report with the iMapInvasives data collected to provide a region-wide view of lakes and streams that are invaded. This critical data helps APIPP, NYSDEC, boat stewards, lake associations, and local communities prevent, plan, and manage for the consequences of AIS. We greatly appreciate our partners and volunteers who take the time to monitor for AIS!



NUMBER OF NEW AIS OBSERVED IN ADIRONDACK PRISM WATERBODIES

AQUATIC INVASIVE SPECIES SEASONAL STAFF

DANA HOLMLUND
AQUATIC INVASIVE SPECIES ASSISTANT

APIPP WAS LUCKY TO HAVE DANA HOLMLUND RETURN IN 2024 as the Aquatic Invasive Species Assistant. Dana was able to build off of her previous APIPP experience and easily get back out on the water to extend the work that happened in 2023. Besides the many early detection surveys Dana conducted, she continued her work on two high priority aquatic projects. Dana worked closely with the AIS manager to continue the second year of monitoring invasive milfoil populations as part of the Lake Champlain Boat Launch AIS Spread Reduction Project. This entailed revisiting five boat launches and using a point intercept monitoring methodology to measure the abundance of Eurasian watermilfoil at 100 monitoring points. This work was critical to assessing the impact of diver assisted suction harvesting management and the overall project success. Read more about this project in the Goal 4 section of this annual report.

The other major initiative was to continue fine tuning the methodology for deploying eDNA monitoring on lakes. In 2023 we used an eDNA methodology that monitored for a variety of invasive plants and animals. That year's results were not as useful as we had hoped, so in 2024 APIPP developed a new sampling methodology using new equipment and we collected a larger volume of water at more locations. We selected 10 high risk lakes that already have invasive species present and collected one-liter samples at four different habitat locations. Samples were collected in July and again in September. The samples are currently being processed by the Cornell University eDNA and Genomics Laboratory, but we are hopeful that this new sampling strategy will produce better results and be a useful tool that others can replicate in the future. As part of this project, each of the 10 lakes were also monitored by professional staff using traditional visual- and equipment-based (rake tosses, sediment sieves, and plankton tows) monitoring methodology so the results between these two different monitoring techniques can be compared.

LAKE MANAGEMENT TRACKER

DANA HOLMLUND, RIGHT, TRAINS VOLUNTEERS ON EAGLE LAKE AS PART OF THE LAKE MANAGEMENT TRACKER PROGRAM

THIS IS APIPP'S SEVENTH YEAR of working with communities that are managing invasive milfoil populations through the Lake Management Tracker program. It was a record year for participation, with three new lakes joining the program. We were thrilled to have Eagle Lake, Sixth Lake–Fulton Chain, and Pecks Lake join the program and start monitoring. These lakes help us get a better understanding of milfoil across the Park and they have different management strategies, including no active management. In total, nine lakes participated and collected 1,310 observations. Some of these lakes introduced new management techniques based on data from past monitoring seasons. Notably, Paradox Lake was able to reduce the number of locations with Eurasian watermilfoil in the upper basin of the lake from 61% in 2023 to less than 1% in 2024 by using chemical management for the first time. This is a good example of how Lake Management Tracker can play a key role in the adaptive management process. By collecting data we can assess the effectiveness of past management efforts and also use it to direct future management in an informed way.

WATER QUALITY OF MILFOIL MANAGEMENT

ALL INVASIVE SPECIES MANAGEMENT TECHNIQUES HAVE POSITIVE AND NEGATIVE ASPECTS, which is why invasive species managers continuously monitor the results of their work to better understand how to use their toolboxes. With aquatic invasive plants, we are often looking at how the native and invasive plants respond to different management techniques.

In the Adirondack PRISM, we have started implementing chemical management for aquatic species, and APIPP has been asked about the potential water quality impacts of different management techniques. Fortunately, many of our lakes that are managing invasive milfoils have also been collecting water quality data as part of the Adirondack Lakes Assessment Program (ALAP), which is a partnership of Protect the Adirondacks and Paul Smith's College Adirondack Watershed Institute. ALAP has provided important data on lake water quality and is a long-term database to compare lake water quality against. APIPP partnered with five lake associations and designed a monitoring strategy that added additional monitoring points in locations where invasive milfoils were being managed and other locations where there was no milfoil management taking place. Since different management techniques were being used on those lakes, we were able to explore potential similarities or differences (see chart on the right).

Waterbody	Organization	Invasive species	Management
East Caroga Lake	East Caroga Lake Association	Eurasian watermilfoil	Chemical
Paradox Lake	Paradox Lake Association	Eurasian watermilfoil	Chemical
Chateaugay Lakes	Chateaugay Lakes Association and Foundation	Eurasian watermilfoil	Chemical
Raquette Lake	Raquette Lake Preservation Foundation	Variable leaf milfoil	Hand harvesting
Chazy Lake	Chazy Lake Watershed Initiative	Eurasian watermilfoil	Diver Assisted Suction Harvesting
Middle Saranac Lake	APIPP	Eurasian watermilfoil	None (Control)
Follensby Pond	APIPP	None	None (Reference)

Surface water samples were collected each month at three separate locations in May through September and dropped off at Paul Smith's College for analysis. We are waiting for the full results of the ALAP program to be published, so look out for future APIPP meetings to learn more about the results. APIPP wants to extend a big thank you to all of the lake associations and volunteers who partnered with us to collect the water samples!

MONITORING SUMMARY AND NOTABLE SEASON FINDINGS

APIPP PROGRAM DIRECTOR BRIAN GREENE TRAINS LAKE PROTECTORS ON FOLLENSBY POND

A LARGE FOCUS OF INVASIVE SPECIES MONITORING is the detection of new species in a waterbody. Early detection is key to helping us better manage invasive plant populations and to help contain and prevent the spread of invasive animals. Even if your favorite waterbody already has one or two known AIS, it is still important to search for new species that could have been introduced. Observations of new species are documented in iMapInvasives, the online statewide database. This platform allows everyone to share information and document the presence of AIS across the region. In 2024, six new observations were reported (see Appendix B for full details). Out of these six new detections, two were on a waterbody with no previously known invasive species (Friends Lake and Lower Saint Regis). Of the waterbodies surveyed in 2024, 37.6% reported observing AIS. As detailed in the Special Initiatives section of this report, the new APIPP Adirondack PRISM AIS database reports a total of 152 invaded waterbodies out of 509 waterbodies monitored since 2002.

AQUATIC SPECIES OF CONCERN

AQUATIC PLANTS

DOING A RAKE TOSS TO FIND EURASIAN WATERMILFOIL

The APIPP aquatic program surveys for six aquatic invasive plants, with high or very-high New York state invasiveness rankings, that are known to be present in the PRISM: Eurasian watermilfoil, variable-leaf watermilfoil, water chestnut, curly-leaf pondweed, fanwort, and European frog-bit. In addition, APIPP surveys for two species not yet present in the Adirondack Park, hydrilla, and starry stonewort. As of 2024, 141 Adirondack waterbodies are known to be invaded by one or more of these aquatic invasive plants.

WATER CHESTNUT NUTLETS
IMAGE: IMAPINVASIVES

FANWORT
IMAGE: IMAPINVASIVES

AQUATIC ANIMALS

APIPP surveys for six aquatic invasive animals, with high or very-high New York state invasiveness rankings, that are known to be in the PRISM: spiny waterflea, fishhook waterflea, golden/Asian clam, zebra mussel, Chinese mystery snail, and rusty crayfish. In addition, APIPP trains volunteers to look for two species that are not yet present in the PRISM, quagga mussel, and round goby.

As of 2024, 23 Adirondack lakes are known to be invaded by one or more of these small-bodied invasive animals. These species are not actively managed to remove their populations but outreach efforts are aimed at containing them to their current waterbodies, thereby limiting their spread. All equipment that contacts waterbodies infested with invasive animals should be decontaminated before moving to another waterbody.

CHINESE MYSTERY SNAILS

GOLDEN/ASIAN CLAM

SPINY WATERFLEA ON A FINGERNAIL
IMAGE: EMILY DEBOLT

FISHHOOK WATERFLEA
IMAGE: IMAPINVASIVES

ZEBRA MUSSELS

GOAL 3: COMMUNITY ENGAGEMENT

SCOPE OF WORK ITEMS 1, 2, AND 3

2024 SEASON SUMMARY

In 2024, APIPP participated in or hosted 44 events and reached more than 1,500 people. The events APIPP staff attended occurred both in-person and online and included 23 trainings and workshops, eight webinars, six tabling events, and seven partner meetings. APIPP played an educational role in each of these settings, sometimes tabling alongside partners and colleagues and other times speaking about invasive species to organizations, partners, or members of the public. Some of the events were trainings that were organized and led by APIPP staff. They included speaking to lake associations around the region about how to identify, manage, and prevent the spread of aquatic invasive species, and speaking to landowners, homeowners, and New York State Department of Transportation professionals about terrestrial invasive species and how to manage forest pests.

Besides trainings, APIPP staff spent the summer presenting at events hosted by other entites, like the New York State Federations of Lake Associations conference, and they tabled at events like the Northville-Placid Trail 100th Anniversary Celebration in Northville (pictured above) and EcoArts Festival at View Arts Center in Old Forge. In the fall APIPP also hosted the biennial Adirondack Invasive Species Summit in North Creek and participated in Hamilton County Soil and Water Conservation District's annual Waterfest and Conservation Training Day.

APIPP's Communications Manager regularly distributes press releases to state and local media, and works closely with other PRISMs and New York State Department of Environmental Conservation (NYSDEC) staff on projects like New York Invasive Species Awareness Week and statewide social media campaigns.

Lastly, two new boot brush signs were created this year, one for the southernmost Northville-Placid Trail trailhead and the other for the Adirondack Interpretive Center's Goodnow Mountain trailhead, both of which are popular hiking destinations. The signs are slated to be installed in spring 2025. A new mobile boot brush station was also built in 2024 and it will be used to demonstrate proper boot cleaning techniques during tabling events.

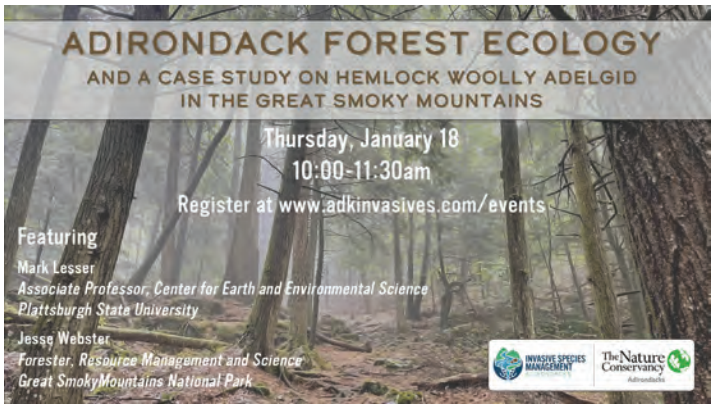
EDUCATION

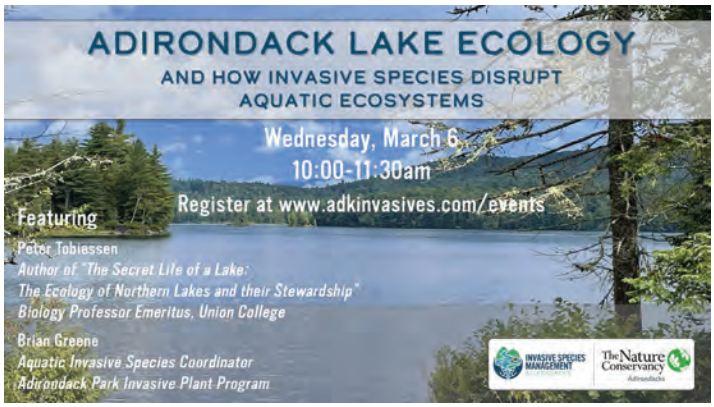
APIPP's webinars are developed to appeal to a wide audience, with the goals of informing the public on spread prevention techniques and training attendees to monitor for and report the presence of invasive species. In 2023, we conducted surveys for webinar attendees to learn more about the content they liked and how we can improve future offerings. We also asked if there were any webinar topics that attendees would be interested in learning about and two that were suggested were forest ecology and Tier 1 invasive species. We created three webinars based on those suggestions—*Adirondack Forest Ecology*, *Adirondack Lake Ecology*, and *Species of Concern: Four Case Studies of Invasive Species that are Headed for the Adirondacks*. *Adirondack Forest Ecology* had 114 attendees, *Adirondack Lake Ecology* had 87 attendees, and the *Species of Concern* webinar had 21 attendees.

The number of webinar attendees does not tell the whole story of the public's interest in their related topics, though. Interestingly, the recording of the *Species of Concern* webinar has done well on APIPP's YouTube channel, with about 400 views in 2024. *Adirondack Forest Ecology* continues to be popular, with more than 520 views since it was uploaded to YouTube in January, and *Adirondack Lake Ecology* has had more than 280 views. That means *Adirondack Forest Ecology* was the most popular webinar of 2024 with more than 650 total views, followed by *Species of Concern* with more than 420 total views, and *Adirondack Lake Ecology* with more than 360 total views.

Considering the success of incorporating audience feedback into webinar planning, some of the upcoming 2025 webinar topics will be based on webinar surveys conducted in 2024.

All of APIPP's webinars were recorded and uploaded to APIPP's YouTube channel, which was launched in June 2020 and now has 269 subscribers. The channel's engagement has soared, with 23,731 lifetime views, 6,166 of which occurred in 2024, and more than 4,500 hours of total watch time, 1,382 of which occurred in 2024.





COMMUNICATIONS

Rooting for the Warren County wasps

Parasitic insects join fight against emerald ash borer

BY GWENDOLYN CRAIG

APIPP TERRESTRIAL STAFF WERE INTERVIEWED FOR THIS FEATURE STORY IN ADIRONDACK EXPLORER

APIPP maintains a steady presence in local and regional news, with APIPP-related stories oftentimes appearing several times a month in various news outlets. This year, the Adirondack PRISM was mentioned or featured more than 50 times in a variety of news media including print, online, and email newsletters.

Many news outlets, like Adirondack Almanack, Adirondack Daily Enterprise, and Lake Placid News consistently published APIPP's press releases. The regular distribution of press releases—one a month, on average—also kept editors and reporters up-to-date on the Adirondack PRISM's work, which resulted in several requests for interviews of APIPP staff. Some of those interviews were used for stories that focused on APIPP's work, such as the feature story on emerald ash borer biocontrol releases called *Inside the Battle Against Emerald Ash Borer*, which appeared in the October issue of Adirondack Explorer news magazine, while other interviews were used as expert sources for larger stories, such as *Adirondack Rail Trail Users Invited to Join the Fight Against Invasive Plants*.

APIPP's Communications Manager also worked closely with The Nature Conservancy's Media Relations Manager, May Yeung, on story pitches about the Trees in Peril Project. A reporter with Rochester's Democrat and Chronicle picked up the story and wrote a front-page feature called *What Are 'Lingering Trees' and Why Do They Matter in NY?*

In addition to regular news coverage, APIPP's communications manager also pitched and wrote three stories for various publications. One feature story, *Four Species to Leave Home: A Beginner's Guide to Four Invasive Species That Aren't Found in the Adirondacks*, appeared in Adirondac, the official magazine of the Adirondack Mountain Club. Another story, *Removing Tree-of-Heaven a Priority in the Lake George Region*, appeared in the Lake George Mirror and urged property owners with tree-of-heaven on their property to contact APIPP. Lastly, a story on APIPP's volunteer Lake Protectors program was featured in The Nature Conservancy's monthly magazine newsletter.

APIPP stories appeared in many media outlets located throughout the region including Adirondack Explorer, Albany Times Union, Lake George Mirror, Lake Placid News, Press-Republican, Post Star, WAMC, and Sun Community News. News stories are shared via APIPP's social media channels and in eNews email blasts, giving them more reach. The Nature Conservancy also regularly shared APIPP news stories in its "News Report" email blasts.

OUTREACH

APIPP invited invasive species experts to North Creek to share their knowledge with our partners and the public for *Adirondack Invasive Species Summit 2024: New Science Offers Hope in a Warming Climate*.

The morning covered invasive species, climate change, and climate adaption with talks by Dr. Bethany Bradley of the Regional Invasive Species and Climate Change Management Network, APIPP Program Director Brian Greene, and Capital Region Partnership for Regional Invasive Species Management PRISM Coordinator Kristopher Williams.

DR. BETHANY BRADLEY SPEAKS AT THE ADIRONDACK INVASIVE SPECIES SUMMIT 2024

The afternoon covered three gene technologies that can advance invasive species work with talks by Dr. Aaron Maloy of the U.S. Fish and Wildlife Service, Dr. Kurt Kowalski of the U.S. Geological Survey - Great Lakes Science Center, and Dr. Karl Fedder of the University of Connecticut's Plant Computational Genomics Lab. The speakers discussed ways to use gene technology including how to use RNA to develop innovative treatments for *Phragmites* and how genomics can assist in the search for hemlock trees that are resistant to hemlock woolly adelgid. About 80 people attended the invasive speices summit.

APIPP STAFF AND PARTNERS AT APIPP'S ANNUAL PARTNER MEETING, HELD ON DECEMBER 6

PARTNER ENGAGEMENT

THE ADIRONDACK PRISM REFRESHED ITS PARTNER OPERATING PRINCIPLES at the end of 2022. The new Operating Principles outline expectations for Adirondack PRISM partners. In 2024, APIPP added four new organizations to its partner list.

The amazing success of Adirondack PRISM invasive species prevention and control efforts is the result of the extraordinary dedication of partners. APIPP continuously engages with its partners, including presenting at workshops and events, training partner staff, and helping with specialized invasive species management projects. In addition to day-to-day interactions and assistance, and the special projects called out in this report, APIPP hosted or assisted with the following collaborative meetings and projects with partners in 2024.

- Facilitated a Terrestrial Invasive Species Roundtable on February 7 followed by an Aquatic Invasive Species Roundtable on February 8.
- Hosted a partner meeting in partnership with the Adirondack Garden Club and Champlain Area Trails (CATS) on April 25 at the Whallonsburg Grange. The event included presentations by APIPP staff, a partner roundtable, and a field trip to Essex Quarry Preserve. The featured speaker, Nancy Budd from the Adirondack Garden Club, talked about the club's project to restore native habitat at the CATS Essex Quarry Preserve
- Hosted a year-end, in-person and virtual partner meeting on December 5 to share highlights of the 2024 season, engage partners in a roundtable discussion, and recognize APIPP's volunteer of the year.
- Convened multiple working groups that meet regularly to advance specific projects. This included an Adirondack AIS working group, a communicators network, and the Lake George Hemlock Wooly Adelgid Coalition.
- Sent 19 "APIPP News" updates to partners via the APIPP listserve.
- Continued to work closely with New York State Department of Transportation (NYSDOT) and provide training to NYSDOT staff.
- Served as a member of the New York State Invasive Species Advisory Committee.
- Participated in quarterly meetings with New York State Department of Environmental Conservation Invasive Species Coordination Section staff and PRISM counterparts, and in monthly PRISM webinars.
- APIPP attended New York Invasive Species Research Institute workshop on using sentinel species to monitor invasive species management and impacts.

GOAL 4: RESEARCH AND INNOVATION

SCOPE OF WORK ITEMS 3 AND 5

2024 SEASON SUMMARY

APIPP PARTICIPATED IN EIGHT RESEARCH PROJECTS IN 2024. Several of these are APIPP-led projects which are described in more detail below. Four of the projects involve collaborations with research institutions for which APIPP is providing field support.

LAKE CHAMPLAIN BOAT LAUNCH SPREAD REDUCTION PROJECT

LAKE CHAMPLAIN IS A LARGE LAKE that plays an equally big role in our aquatic invasive species planning. It is the most invaded waterbody in the Adirondack PRISM and is popular with recreational boaters, making it a potential pathway for aquatic invasive species (AIS) to spread to less invaded Adirondack lakes and ponds.

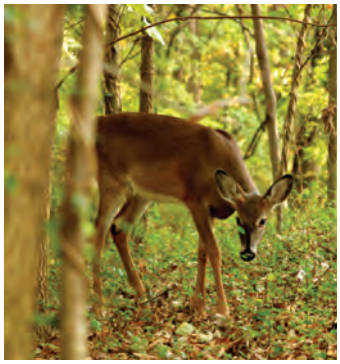
Starting in 2023 APIPP tested a strategy to address or minimize AIS spread risk at boat launches by removing invasive plants immediately around the boat launch areas. Funded by the Lake Champlain Basin Program, in 2023 we hired a contractor to work at five boat launches. APIPP staff and Paul Smith's College Adirondack Watershed Institute boat stewards collected data to help us evaluate the effectiveness of this management strategy. The first year of the project collected valuable data and analysis revealed that, while some sites had favorable conditions for plant removal, one year was insufficient to evaluate the strategy's overall effectiveness.

In 2024 APIPP focused on the boat launches that had conditions most favorable for diver assisted suction harvesting to remove Eurasian watermilfoil. For two consecutive years, divers removed Eurasian watermilfoil from three boat launches (Port Douglas, Willsboro, and Port Henry). Over six days the divers removed more than 4,400 pounds of plant matter. APIPP staff monitored the amount of Eurasian watermilfoil (EWM) at the three managed boat launches and found that the managed sites held the EWM populations stable, while unmanaged sites experienced an increase in EWM. This project has demonstrated that, in areas where diver assisted suction harvesting is favorable, repeated management can control invasive milfoil populations; however, when APIPP analyzed the boat steward data we found that the spread risk was not reduced for boats leaving the launches with AIS.

ASSESSING VEGETATION IMPACTS FROM DEER (AVID)

WHEN UNDERTAKING INVASIVE PLANT CONTROL WORK, it is important to assess and understand associated stressors that might influence the success of restoration efforts. One such stressor in northeastern forests is white-tailed deer. Deer selectively browse on the most palatable plants in a forest, which include many of the native herbs, shrubs, and tree seedlings that natural resource practitioners aim to protect through invasive plant management efforts. Invasive species like garlic mustard and Japanese barberry are considered low preference and are generally avoided.

Since 2020 we've been monitoring the impact of deer browse on local native plant recovery at seven plots at four TNC properties utilizing the Assessing Vegetation Impacts from Deer (AVID) method. AVID is a statewide, standardized vegetation monitoring protocol designed to help resource managers understand deer impacts. AVID methodologies include annual wildflower and tree species monitoring, along with comparative analysis of plant growth between fenced and unfenced plots.



WHITE-TAILED DEER BROWSE CAN CLEAR FOREST UNDERSTORIES OF NATIVE VEGETATION, CREATING IDEAL HABITAT FOR INVASIVE PLANTS

Studying wildflowers year to year proved to be challenging, as wildflower tags were staked at the base of each plant rather than attached to the plant, making them difficult to find. Many individuals that were tagged during the first year of the study died or could not be located, reducing our sample size and limiting opportunities for statistical analysis. All wildflower plots were retired in 2024 and the impact of deer to wildflowers at our study sites is inconclusive.

The woody plants were easier to locate and study year to year. Although woody plants grew slightly taller in closed plots versus open plots, the results were fairly site specific. For example, there was no statistically significant difference in plant height between paired samples at Spring Pong Bog. In contrast, a statistically significant difference in average annual plant height was observed at Follensby Pond. Given the described challenges and results, APIPP will be reassessing the future of this project in 2025.

HEMLOCK INITIATIVES

APIPP STAFF CHECKING UNDER THE MICROSCOPE FOR HWA WINTER MORTALITY

IN ADDITION TO OUR WORK WITH THE LAKE GEORGE HEMLOCK COALITION, as described in the Special Initiatives section of this report, APIPP advanced its hemlock work through several other projects.

In partnership with the University of Tennessee, we established three long-term hemlock health monitoring plots at two TNC properties within the PRISM. These plots make use of naturally occurring native hemlock stands to monitor stand characteristics and individual tree health observations, including HWA-related dieback, mortality, and resistance. If HWA emerges and progresses in and around these areas, the plots can be used to detect the onset of hemlock mortality thresholds that trigger the search for surviving trees that are potentially resistant to HWA.

It is believed that hemlock trees that remain healthy in the wake of HWA contain genetic resistance to the pest. These lingering trees can then be used for genomic analysis and eventually to breed genetically resistant hemlock trees.

We also assisted with a statewide HWA winter mortality study being conducted by the New York State Hemlock Initiative (NYSHI). Samples were collected from a diverse range of locations across the state to evaluate the variation of HWA winter mortality. This data informs HWA surveys, management, and biological control research as HWA winter mortality has a significant influence on tree health, population growth, spread, and predator populations.

Close monitoring of HWA mortality has shown high variability across the landscape and between years. In the winters of 2021 through 2023, NYSHI observed HWA killing events that led to patchy HWA populations, with some areas experiencing mortality between 95-100%. This past winter (2023-2024), no areas of significant mortality were observed statewide. The low levels of HWA winter mortality observed this year indicates that we are likely to observe many of the consequences associated with higher populations of HWA. Impacts to tree health and mortality will likely increase over the coming year, along with HWA population growth and spread.

EAB BIOCONTROL RELEASE TOOLS

LCBP AND NEIWPCC

Preventing Aquatic Invasive Species Spread Through Targeted Removal Project

The Lake Champlain project described on the previous page was funded wholly or in part by the United States Environmental Protection Agency (U.S. EPA) under assistance agreement (LC00A00981) to NEIWPCC in partnership with the Lake Champlain Basin Program (LCBP). NEIWPCC manages LCBP's personnel, contract, grant, and budget tasks and provides input on the program's activities through a partnership with the LCBP. The contents of this document do not necessarily reflect the views and policies of NEIWPCC, the LCBP, or the U.S. EPA, nor does NEIWPCC, the LCBP or the U.S. EPA endorse trade names or recommend the use of commercial products mentioned in this document.

PARASATOID WASPS RELEASE PROGRAM

EAB Biocontrol Release Program

The parasitoids described in the story on pages 13 and 16 were produced and supplied from the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ) EAB Parasitoid Rearing Facility in Brighton, MI. For parasitoid information please call 866-322-4512.

APIPP USES SPECIES' COMMON NAMES throughout this annual report. Below is a complete list of each species and its scientific name.

NOTE: APIPP uses the same naming conventions as those found on the iMapInvasives app.

AQUATIC ANIMALS

Asian/golden clam (*Corbicula fluminea*)

Chinese mystery snail (*Cipangopaludina chinensis*)

Fishhook waterflea (*Cercopagis pengoi*)

Quagga mussel (*Dreissena rostriformis bugensis*)

Round goby (*Neogobius melanostomus*)

Rusty crayfish (*Orconectes rusticus*)

Spiny waterflea (*Bythotrephes longimanus*)

Zebra mussel (*Dreissena polymorpha*)

AQUATIC PLANTS

Curly-leaf pondweed (*Potamogeton crispus*)

Eurasian watermilfoil (*Myriophyllum spicatum*)

European frog-bit (*Hydrocharis morsus-ranae*)

Fanwort (*Cabomba caroliniana*)

Hydrilla (*Hydrilla verticillate*)

Starry stonewort (*Nitellopsis obtuse*)

Variable-leaf watermilfoil (*Myriophyllum heterophyllum*)

Water chestnut (*Trapa natans*)

TERRESTRIAL ANIMALS

Asian longhorned beetle (*Anoplophora glabripennis*)

Beech leaf disease nematode (*Litylenchus crenatae mccannii*)

Emerald ash borer (*Agrilus planipennis*)

Hemlock woolly adelgid (*Adelges tsugae*)

Jumping worm (*Amynthas spp. & Metaphire spp.*)

Oak wilt (*Bretziella fagacearum*)

Spotted lanternfly (*Lycorma delicatula*)

TERRESTRIAL PLANTS

Autumn olive (*Elaeagnus umbellate*)

Bush honeysuckles (*Lonicera spp.*)

Common buckthorn (*Rhamnus cathartica*)

Common reed grass (*Phragmites australis*)

Cup-plant (*Silphium perfoliatum*)

Garlic mustard (*Alliaria petiolate*)

Giant hogweed (*Heracleum mantegazzianum*)

Glossy buckthorn (*Frangula alnus*)

Japanese angelica tree (*Aralia elata*)

Japanese barberry (*Berberis thunbergia*)

Japanese stiltgrass (*Microstegium vimineum*)

Japanese tree lilac (*Syringa reticulata*)

Knotweed spp. (*Reynoutria spp.*)

Lesser celandine (*Ficaria verna*)

Mile-a-minute (*Persicaria perfoliate*)

Multiflora rose (*Rosa multiflora*)

Norway maple (*Acer platanoides*)

Oriental bittersweet (*Celastrus orbiculatus*)

Porcelain berry (*Ampelopsis brevipedunculata*)

Purple loosestrife (*Lythrum salicaria*)

Reed canary grass (*Phalaris arundinacea*)

Scotch Broom (*Cytisus scoparius*)

Slender false brome (*Brachypodium sylvaticum*)

Swallow-wort spp. (*Vincetoxicum spp.*)

Tree-of-heaven (*Ailanthus altissima*)

Wild parsnip (*Pastinaca sativa*)

Wineberry (*Rubus phoenicolasius*)

Winged burning bush (*Euonymus alatus*)

Yellow iris (*Iris pseudacorus*)

Adirondack Park Invasive Plant Program
2024 Annual Report

Appendix A:
Terrestrial Priority Management Progress Charts

The table on page A1 provides a status summary of 13 terrestrial invasive species surveyed and managed by the Adirondack Park Invasive Plant Program (APIPP) in 2024.

The charts that follow starting on page A2 show year-by-year annual management progress for certain Tier 2, 3 and 4 terrestrial species. There are two important notes related to these charts.

1. **The increasing number of sites over the years is due to increased survey efforts and the ability to survey new areas as invasive species at some of the sites become locally eradicated.**

2. **Invasive species are considered locally eradicated after three consecutive years of documented invasive plant absence.**

INVASIVE SPECIES MANAGEMENT ADIRONDACKS

Table 1: Summary of Terrestrial Invasive Species Monitoring and Management Projects

Species (Scientific Name)	Figure	Total Mapped Infestations	New (2024) Mapped Infestations	Priority Infestations	Sites Managed In 2024*	Size Range of Sites Managed in 2024 (acres)*	Total Area Managed in 2024 (acres)*	Total With At Least 1 Year of Documented Invasive Plant Absence*	Total Locally Eradicated*
Tier 2 - These species are found in low enough abundance, with suitable treatment options available, to make eradication possible within the PRISM.									
Giant hogweed (*Heracleum mantegazzianum*)	1	16	0	16	2	0.030 – 0.147	0.177	3	11
Japanese angelica tree (*Aralia elata*)	2	5	4	5	4	0.008 – 0.106	0.155	0	0
Mile-a-Minute (*Persicaria perfoliata*)	3	6	1	6	4	<0.001 – 0.069	0.078	2	0
Scotch broom (*Cytisus scoparius*)	4	1	0	1	1	0.221	0.221	0	0
Wineberry (*Rubus phoenicolasius*)	5	7	1	7	4	0.002 – 0.049	0.113	1	0
Tier 3 – These species are likely too widespread or well established for the possibility of eradication. However, strategic management can still contain them to the present location and slow their spread into neighboring areas that remain free of harmful infestations.									
Japanese stiltgrass (*Microstegium vimineum*)	6	33	3	24	11	<0.001 – 0.680	1.247	0	0
Swallow-wort spp. (*Vincetoxicum louiseae & V. rossicum*)	7	93	5	56	27	<0.001 – 1.140	4.022	7	12
Tree-of-heaven (*Ailanthus altissima*)	8	36	5	34	9	<0.001 – 0.487	0.901	5	0
Tier 4 – These species cannot be eradicated from the PRISM geography. Species are too widespread or too established and management is cost prohibitive. In these cases, focus shifts to localized suppression targeted at protecting high-priority resources such as rare habitats, endangered species, and recreational assets.									
Common reed grass (*Phragmites australis*)	9	2,395	116	626	183	<0.001 – 2.030	14.900	81	211
Garlic mustard (*Alliaria petiolata*)	10	983	8	796	44	<0.001 – 0.015	0.056	126	517
Knotweed spp. (*Reynoutria japonica, R. sachalinensis & R. x bohemica*)	11	1756	133	430	118	<0.001 – 0.851	4.064	81	72
Purple loosestrife (*Lythrum salicaria*)	12	1029	59	144	10	<0.001 – 0.041	0.065	9	27
Yellow iris (*Iris pseudacorus*)	13	238	4	54	7	<0.001 - <0.001	<0.001	3	39
Totals		6,598	339	2199	424	<0.001 – 2.030	26.000	318	889

*only includes priority sites

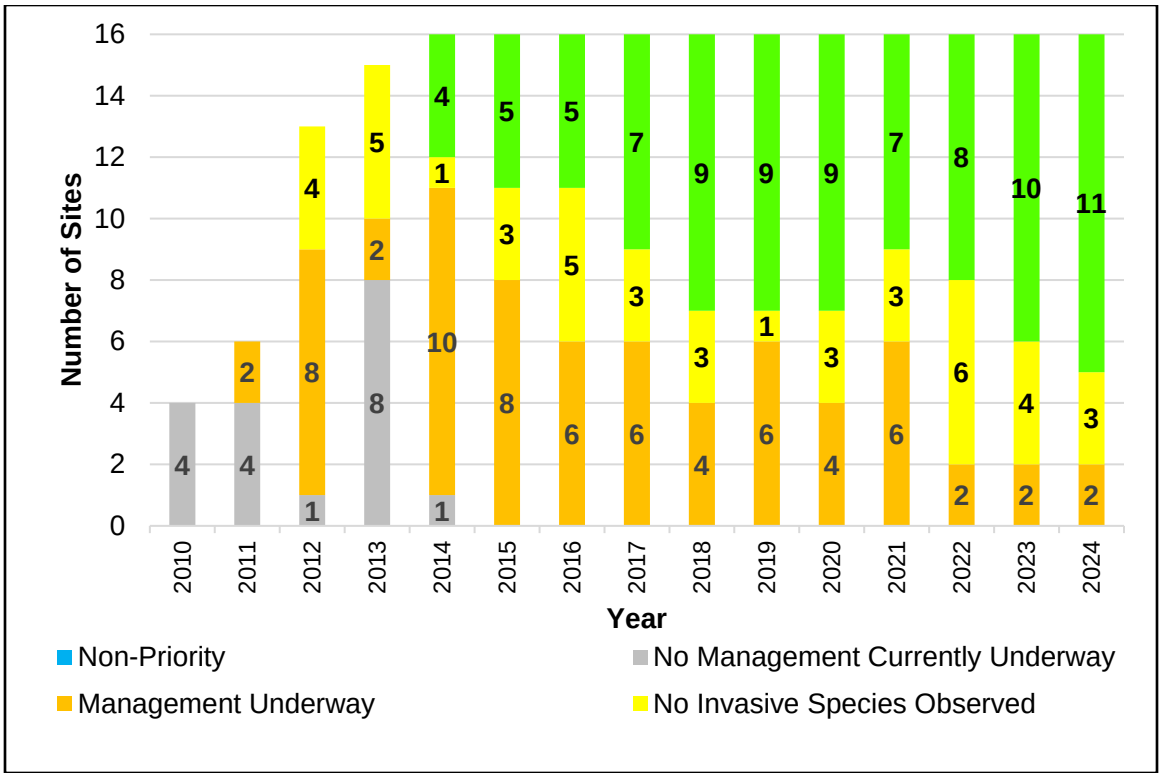


Figure 1. Annual management progress for the APIPP PRISM Giant Hogweed Eradication Project (2010-2024).

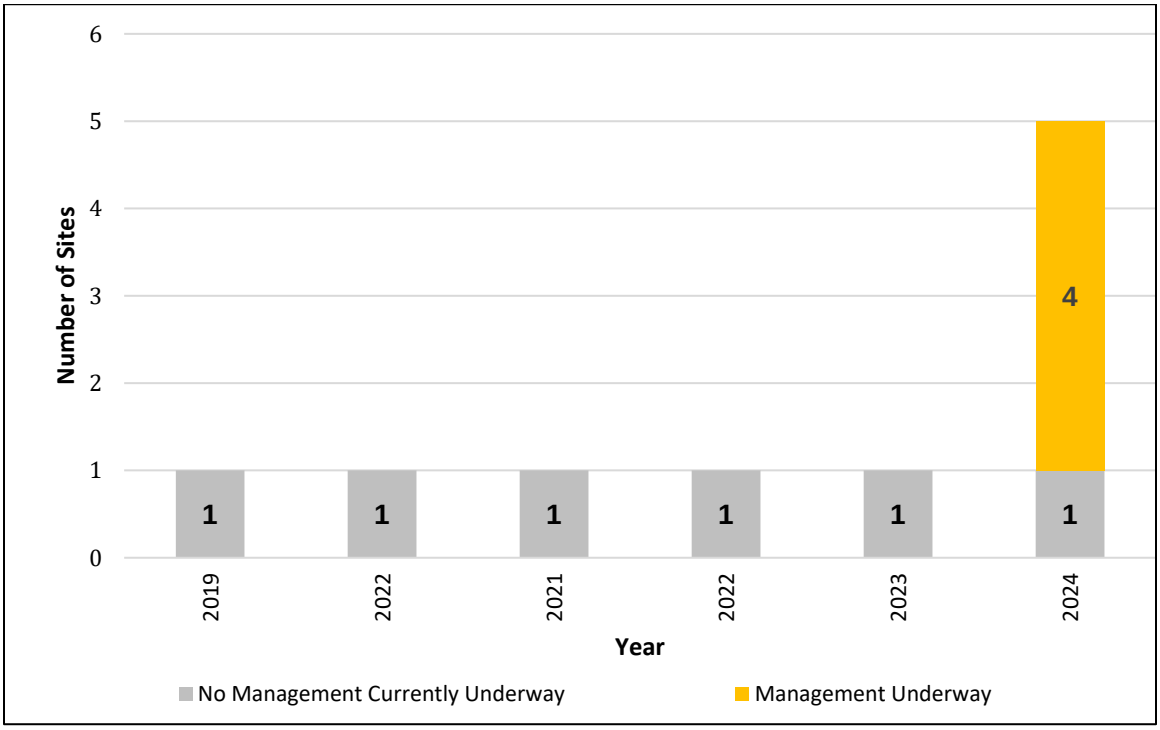


Figure 2. Annual management progress for the APIPP PRISM Japanese Angelica Tree Eradication Project (2019 -2024).

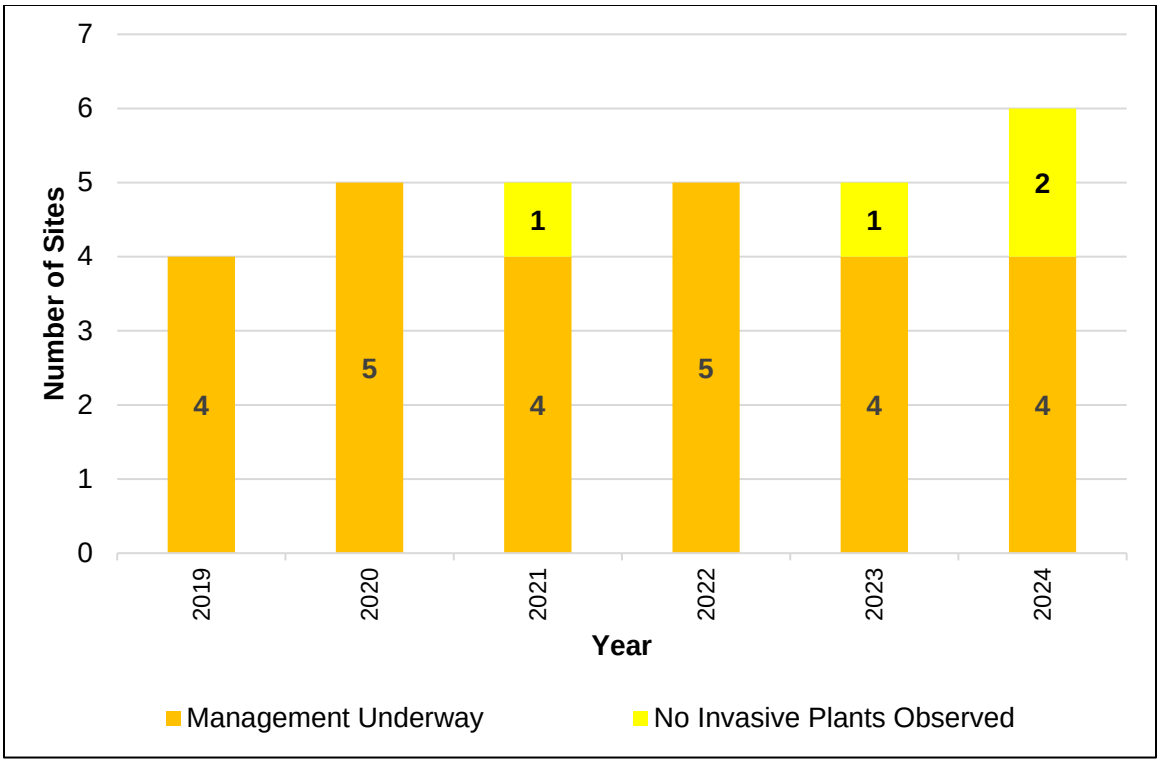


Figure 3. Annual management progress for the APIPP PRISM Mile-a-Minute Eradication Project (2019-2024).

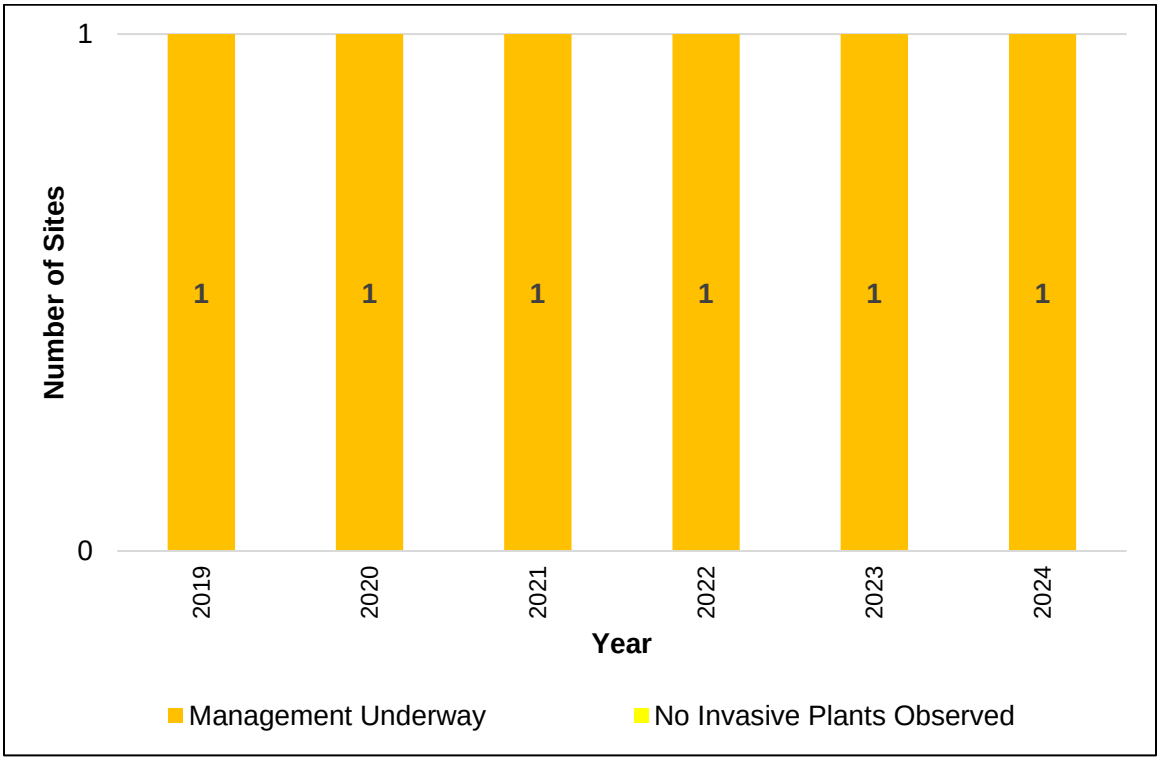


Figure 4. Annual management progress for the APIPP PRISM Scotch Broom Eradication Project (2019-2024).

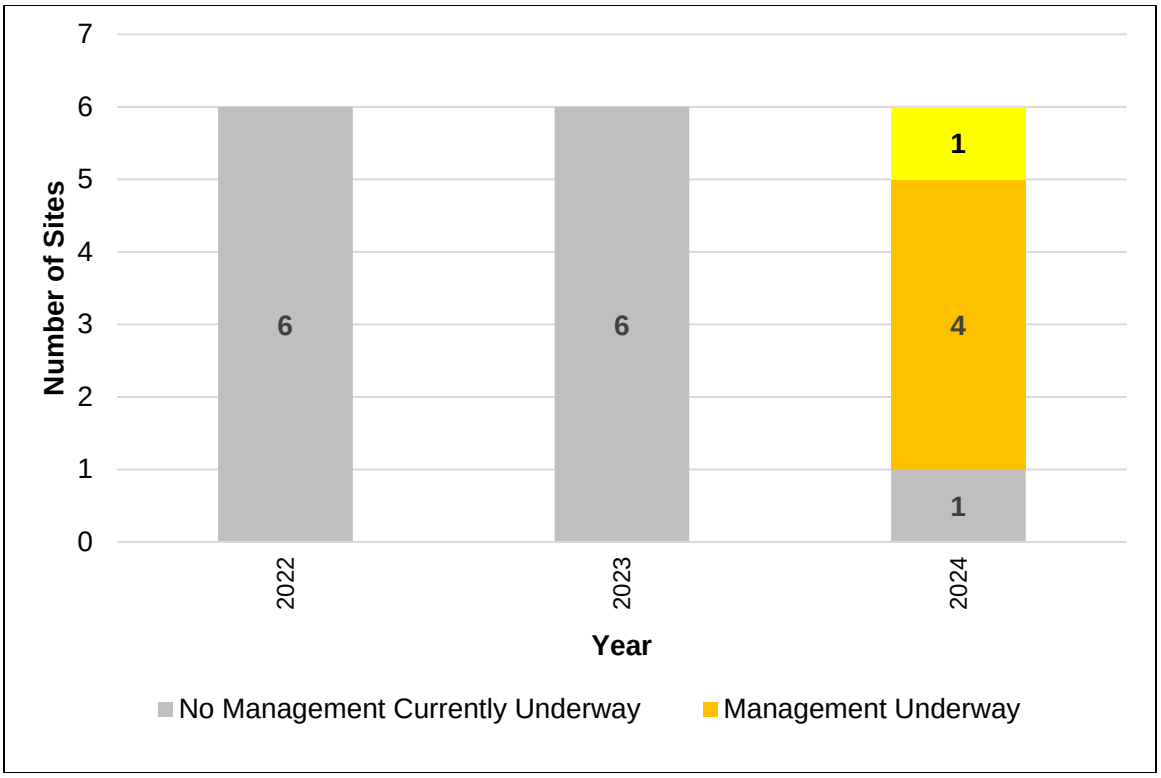


Figure 5. Annual management progress for the APIPP PRISM Wineberry Eradication Project (2022-2024).

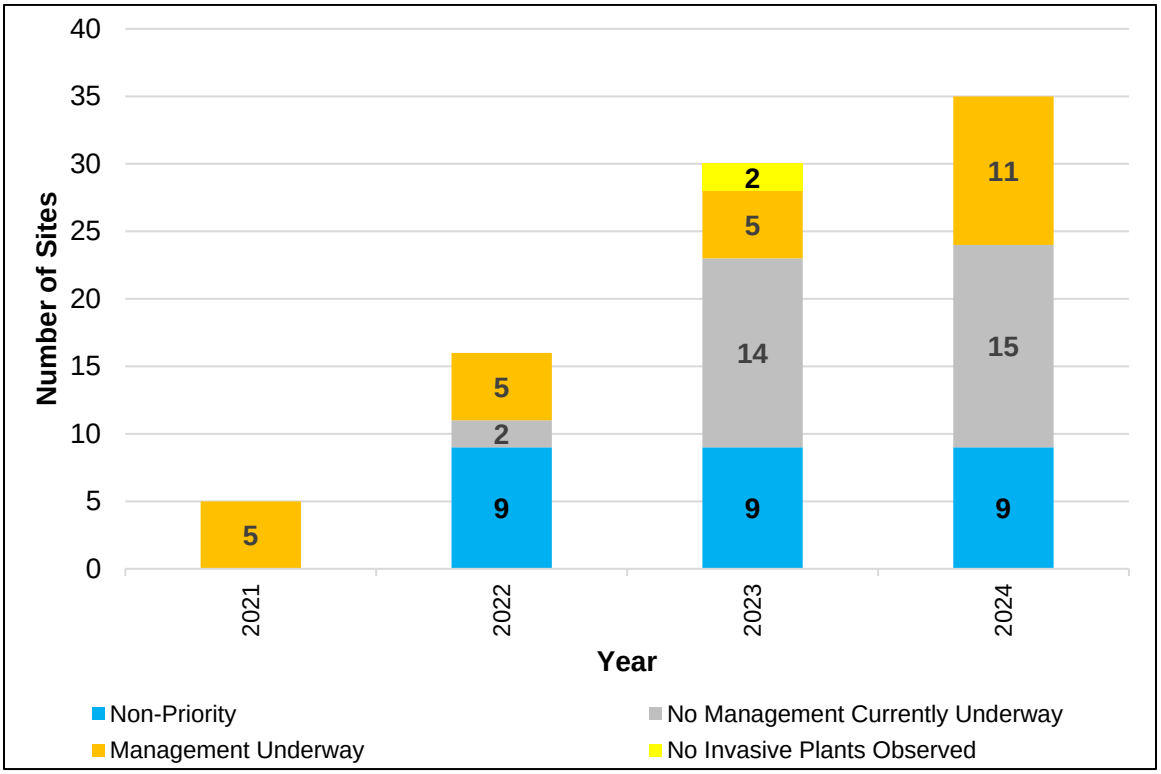


Figure 6. Annual management progress for the APIPP PRISM Japanese Stiltgrass Containment Project (2021-2024).

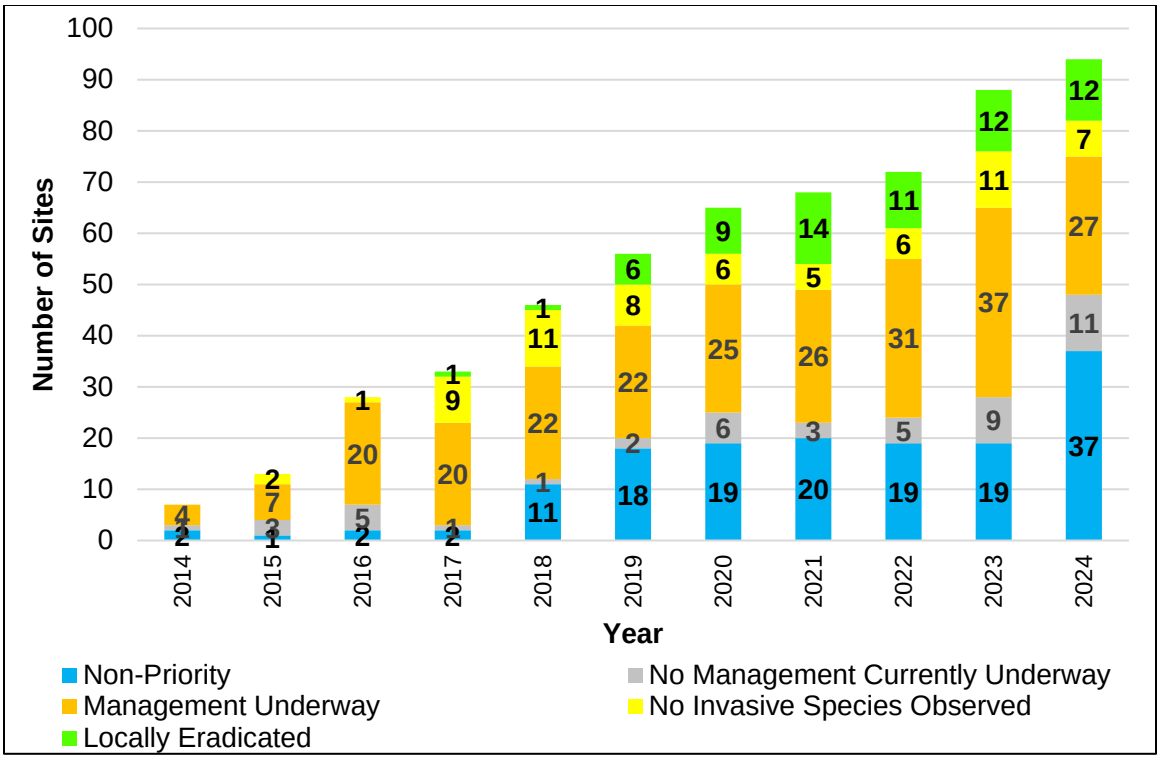


Figure 7. Annual management progress for the APIPP PRISM Swallow-wort Containment Project (2014-2024)

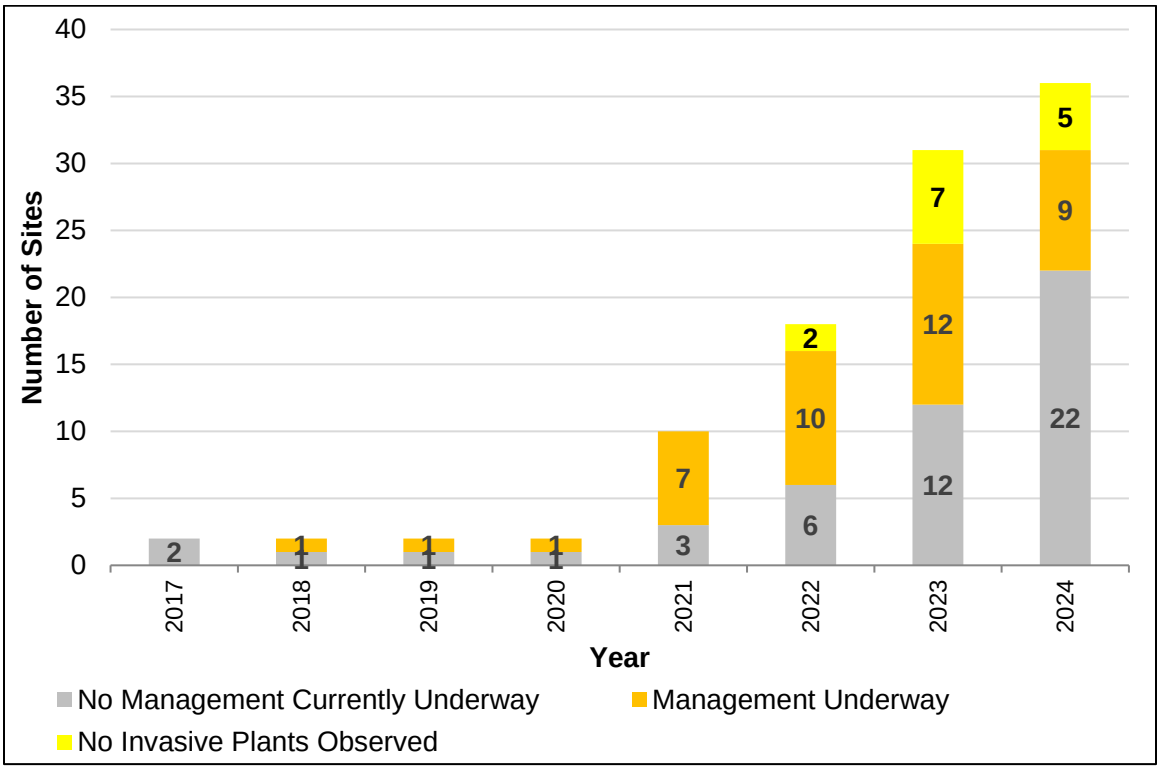


Figure 8. Annual management progress for the APIPP PRISM Tree-of-heaven Containment Project (2017-2024).

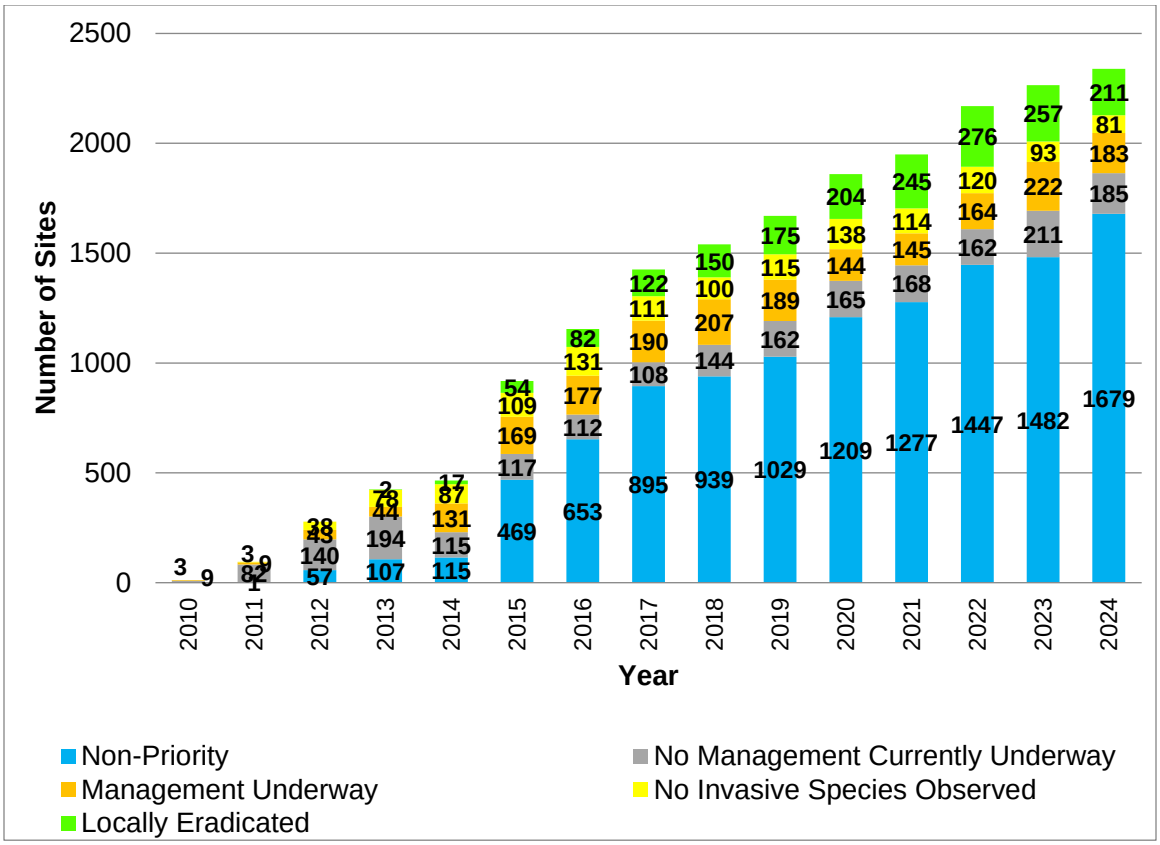


Figure 9. Annual management progress for the APIPP PRISM Common Reed Grass Suppression Project (2010-2024).

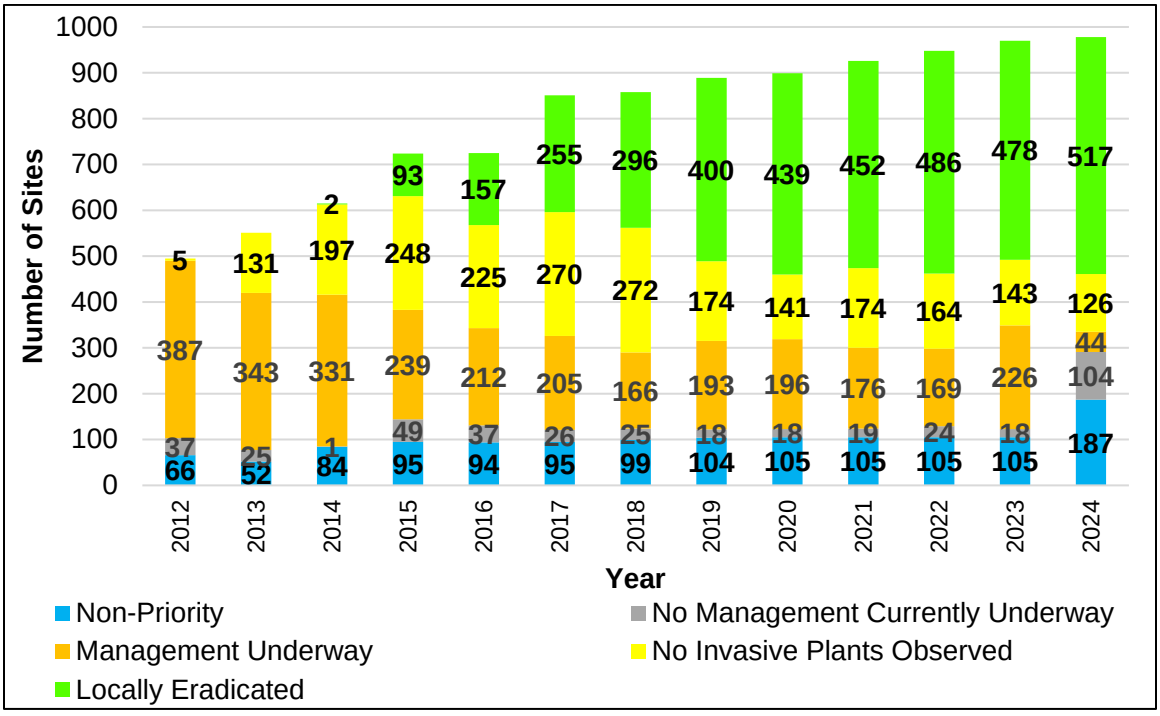


Figure 10. Annual management progress for the APIPP PRISM Garlic Mustard Suppression Project (2012-2024).

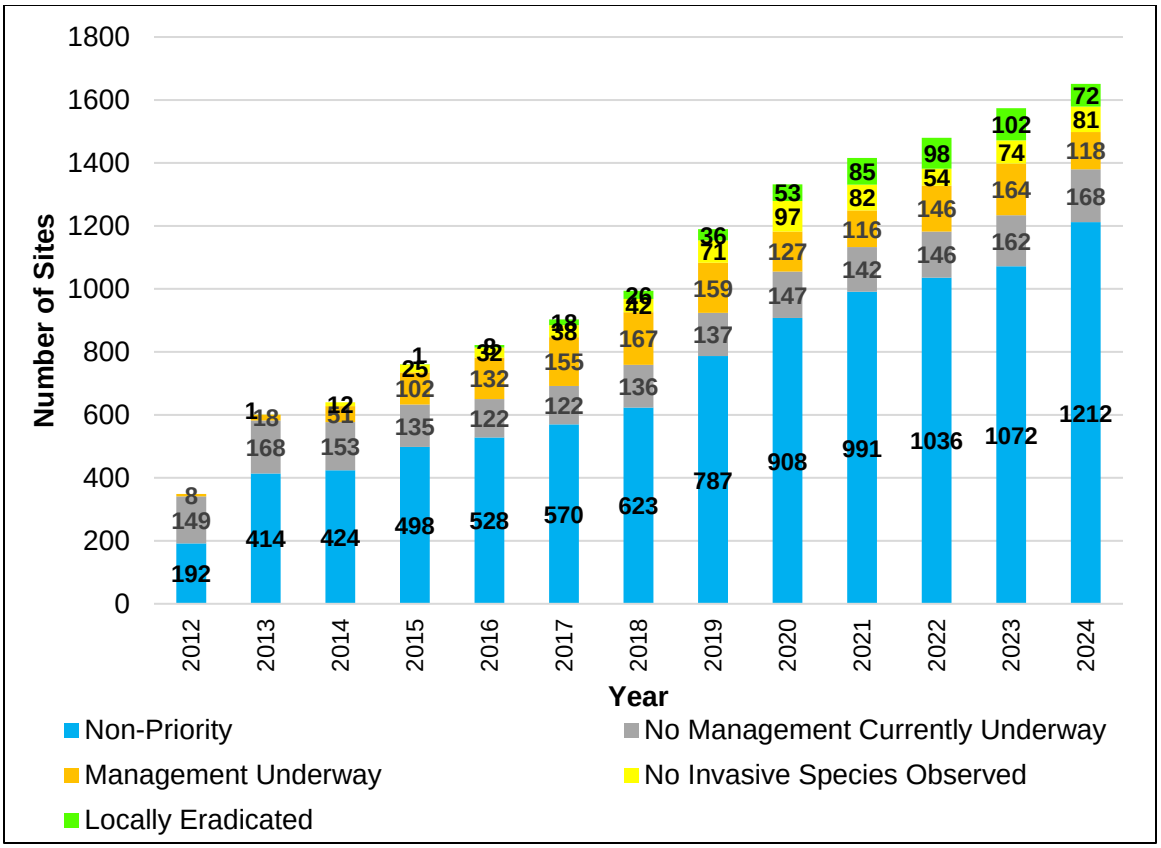


Figure 11. Annual management progress for the APIPP PRISM Knotweed Suppression Project (2012-2024).

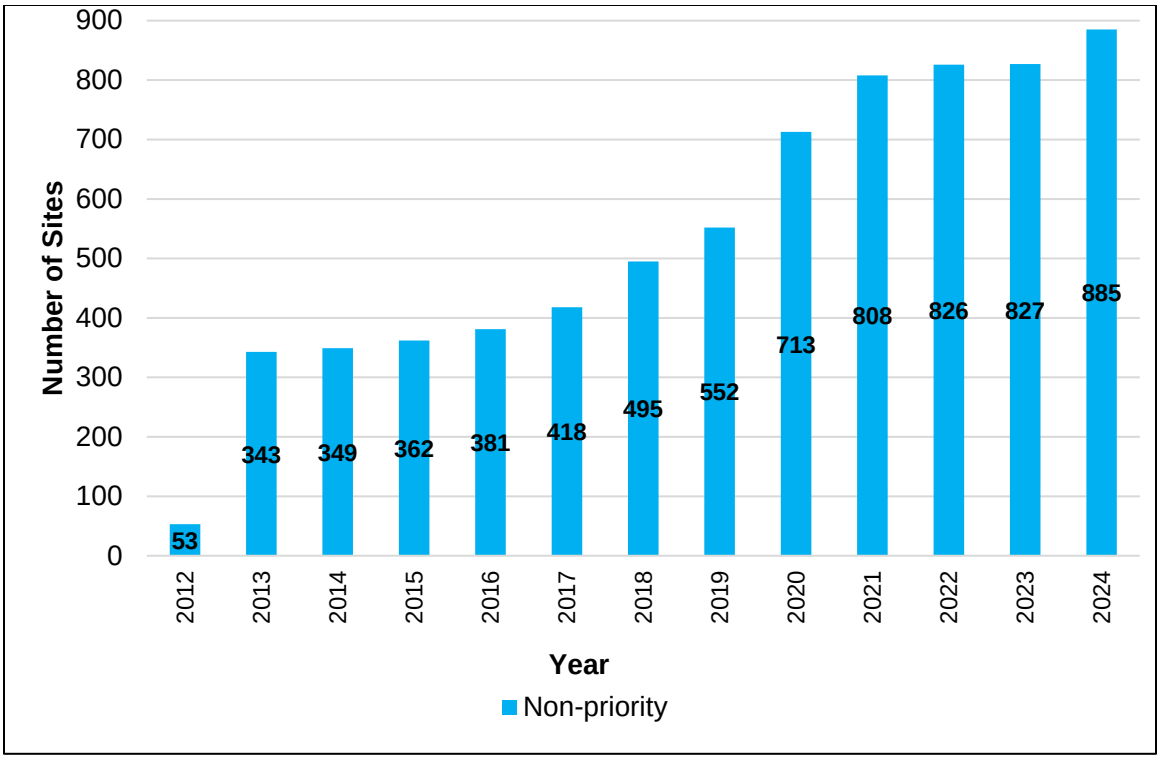


Figure 12a. Annual management progress for the APIPP PRISM Purple Loosestrife Suppression Project, with non-priority sites displayed (2012-2024).

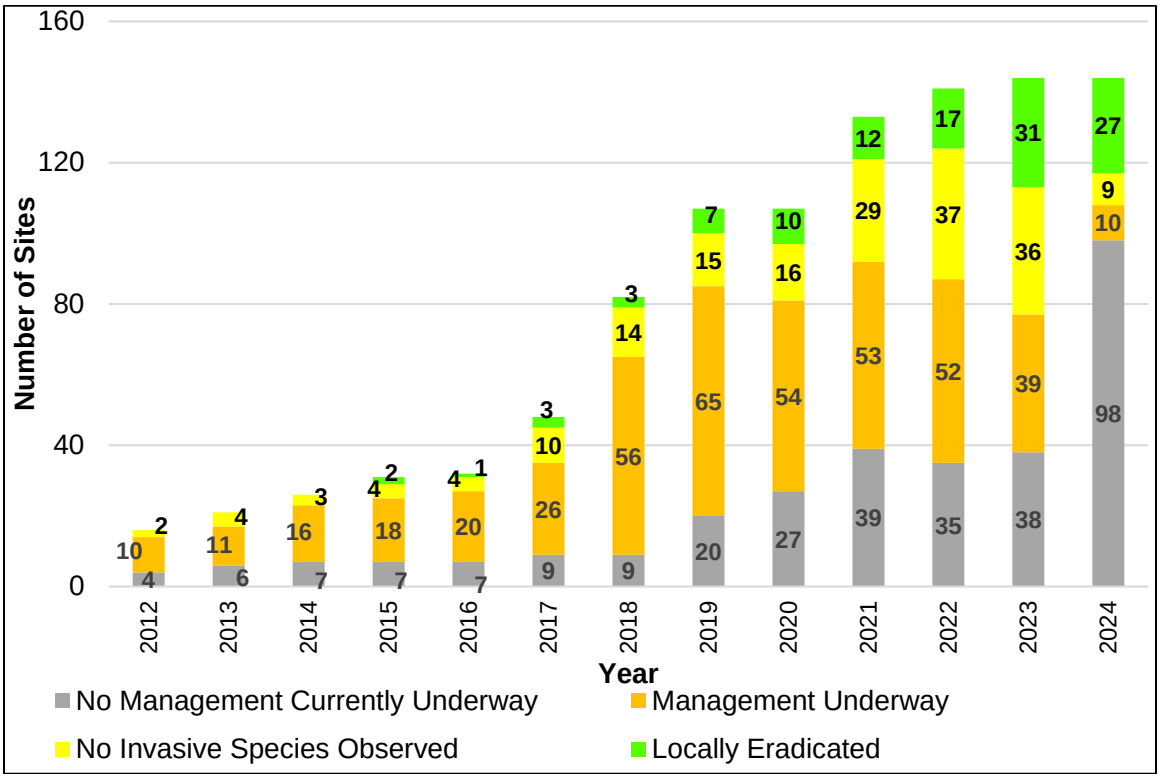


Figure 12b. Annual management progress for the APIPP PRISM Purple Loosestrife Suppression Project, priority sites only (2012-2024).

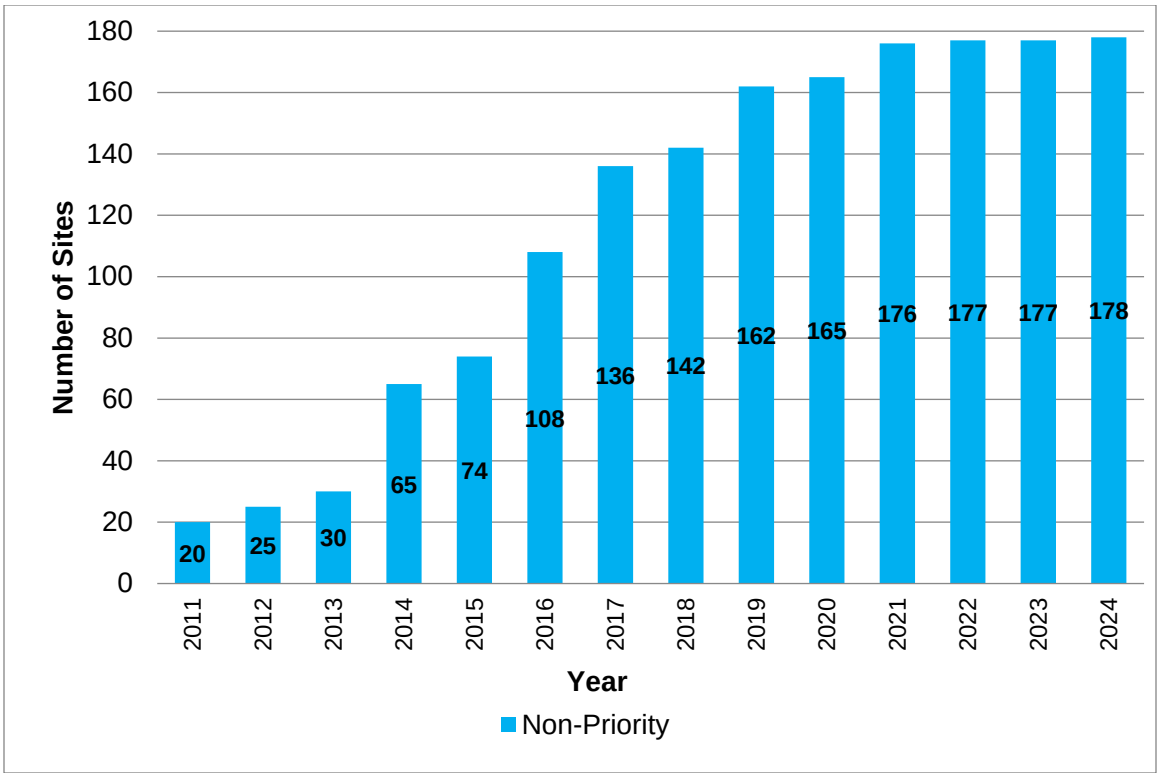


Figure 13a: Annual management progress for the APIPP PRISM Yellow Iris Suppression Project, with non-priority sites displayed (2011-2024)

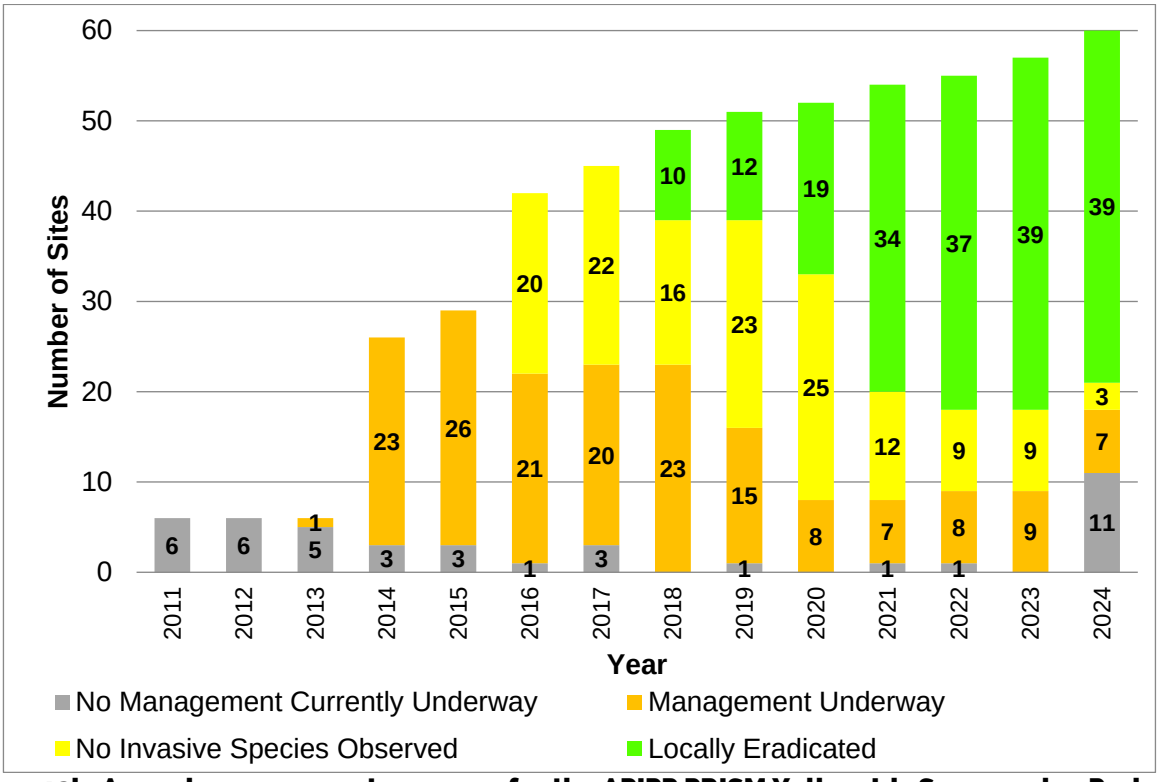


Figure 13b. Annual management progress for the APIPP PRISM Yellow Iris Suppression Project, only priority sites (2011-2024).

Adirondack Park Invasive Plant Program
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Appendix B:
Aquatic Invasive Species Progress Charts

The charts on the following pages provide additional detail for some of the Adirondack Park Invasive Plant Program's (APIPP) 2024 aquatic invasive species (AIS) program findings.

To see a list of newly-invaded waterbodies detected in 2024, see the table on page B5.

To see a summary of the status of all Tier 2-4 AIS, see page B6.

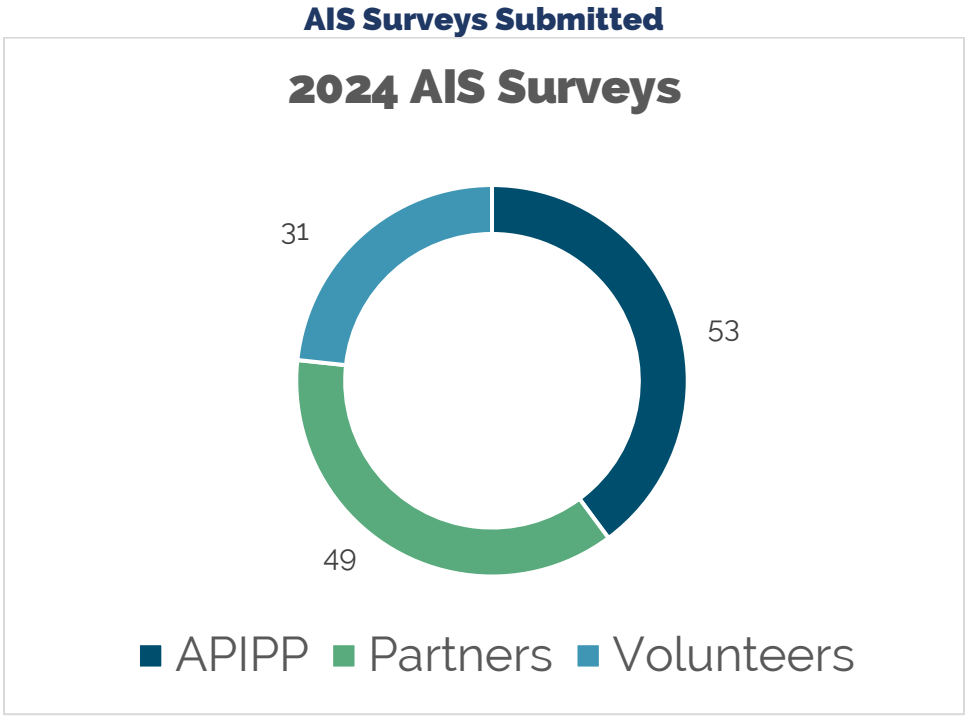

Figure 1 – 2024 surveys of waterbodies for aquatic invasive species submitted to APIPP; 133 surveys were reported by APIPP (APIPP staff and contractors), Partners (lake associations, environmental non-profits, etc.), and volunteers (general members of the public not affiliated with any organization).

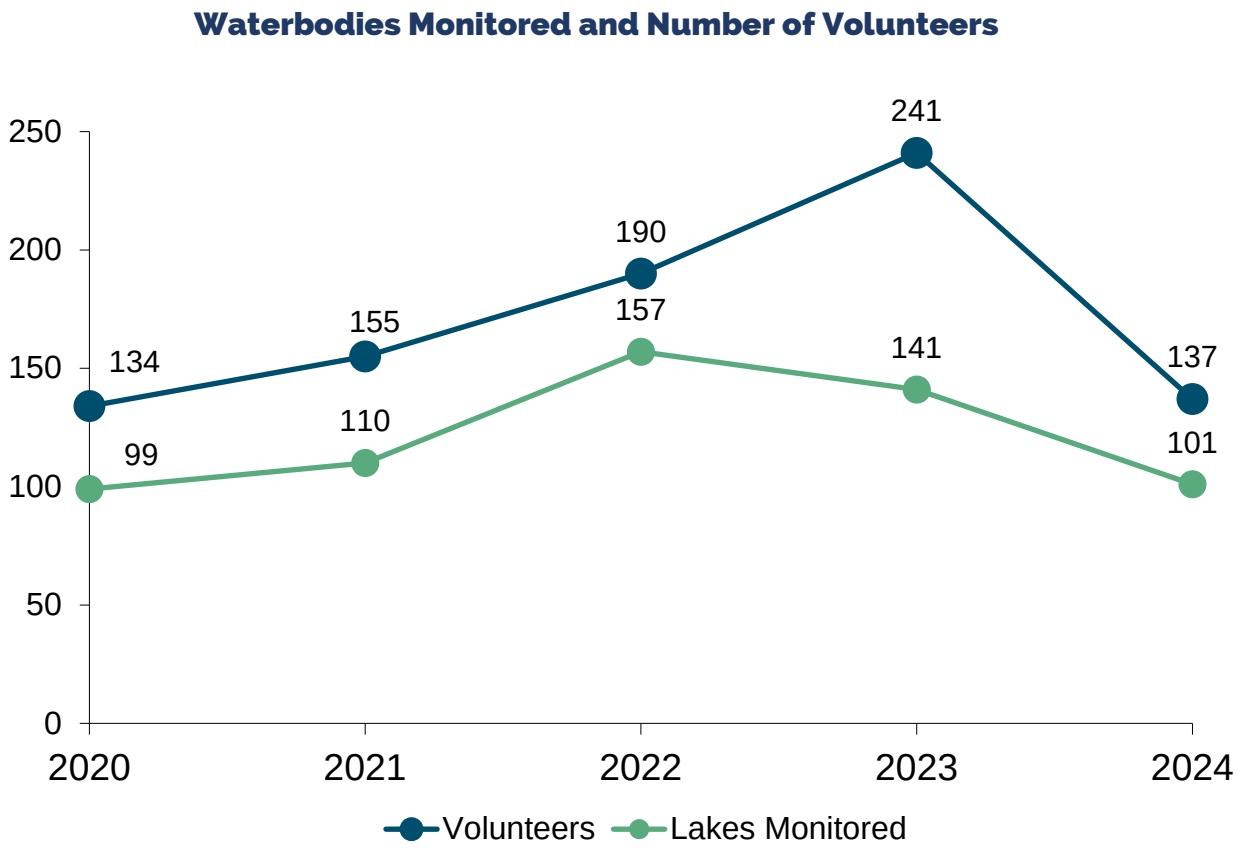

Figure 2 – Line graph from 2020-2024 surveys of total number of waterbodies with a survey (referred to as Lakes, but also includes ponds, wetlands, streams, and rivers) and the total number of volunteers that participated.

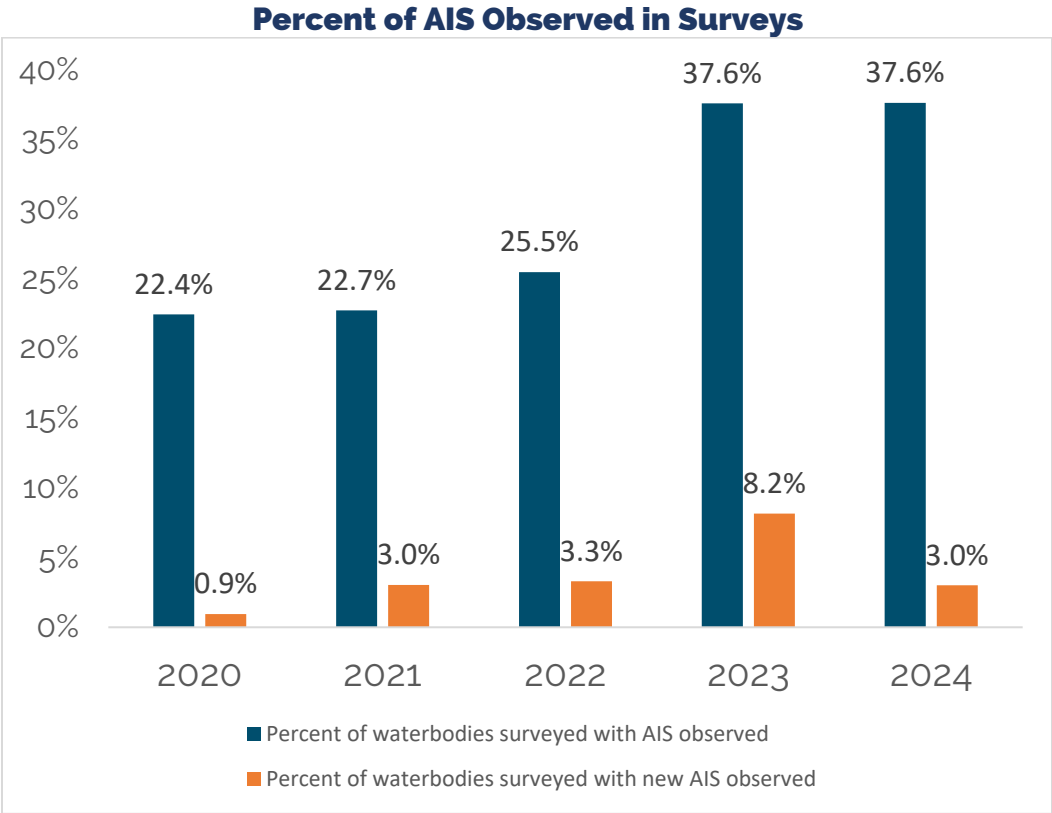

Figure 3 – Percent of waterbodies surveyed with AIS observed. This is calculated by dividing the number of waterbodies with an AIS reported (all and new) in a survey by the total number of waterbodies surveyed in that year as part of APIPP Lake Protectors.

Lake Management Tracker 2024 Summary

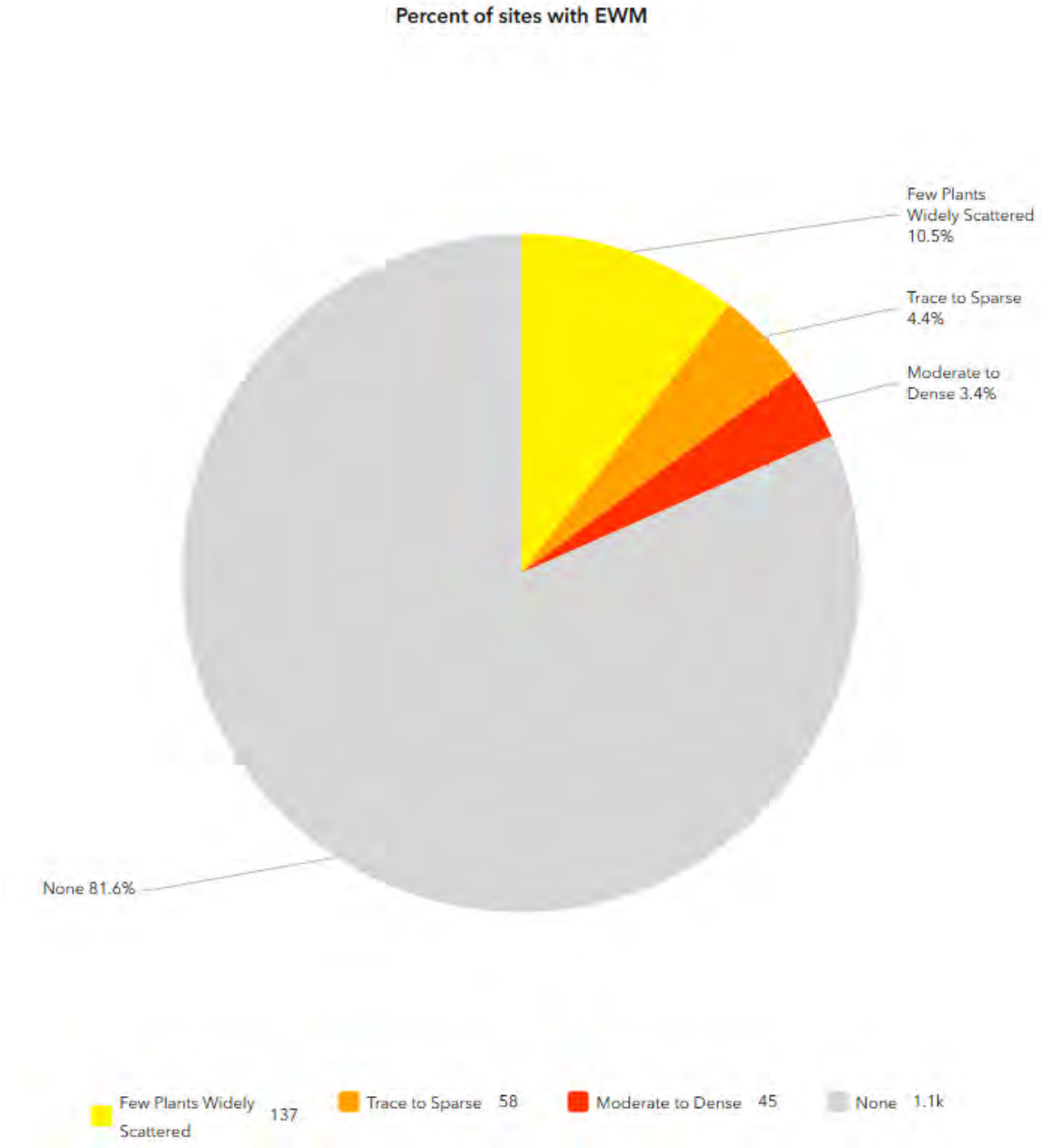

Figure 4 – Lake Management Tracker results from 2024 of the nine lake that participated. Shows the percent of sites and their abundance of Eurasian watermilfoil (EWM). Less than 1% of sites monitored had variable leaf milfoil present.

Table 1 - New AIS Observations in the Adirondack PRISM in 2024.

Hydrography Database Name	Local Name	Town	AIS observed in 2024	Previous AIS in waterbody	Notes
Lower Saint Regis Lake	Lower Saint Regis Lake	Paul Smiths	Chinese mystery snail	None	Likely spread via natural movement from connected waterbodies.
Fulton Chain Lakes	Old Forge Pond	Old Forge	Chinese mystery snail	Eurasian watermilfoil, variable leaf milfoil.	Likely spread via boats.
Friends Lake	Friends Lake	Chestertown	Eurasian watermilfoil	None	Likely spread via boats. Population is already being managed as part of EDRR plan.
South Bay	South Bay Lake Champlain	Whitehall	Asian /Golden Clam	Curly Pondweed, Eurasian watermilfoil, Variable milfoil, water chestnut, zebra mussel	Possible downstream spread from previously invaded waterbodies or via boat introduction.
Woodruff Pond	Woodruff Pond	Plattsburgh	European frog bit	Eurasian watermilfoil	Likely natural spread from Lake Champlain
Dead Creek	Dead Creek	Plattsburgh	European frog bit	Water chestnut	Likely natural spread from Lake Champlain

Table 2 – Summary of all AIS data from Adirondack PRISM in iMapInvasives.

Species (scientific Name)	Number of waterbodies with species present	New waterbodies in 2024 with species observed	2024 observations submitted to iMapInvasives	Total observations submitted to iMapInvasives
Tier 2 - These species are found in low enough abundance, with suitable treatment options available, to make eradication possible within the PRISM.				
Fanwort (*Cabomba caroliniana*)	3	0	0	15
Water chestnut (*Trapa natans*)	9	0	17	138
Tier 3 – These species are likely too widespread or well established for the possibility of eradication. However, strategic management can still contain them to the present location and slow their spread into neighboring areas that remain free of harmful infestations.				
Asian clam (*Corbicula fluminea*)	2	1	2	95
European frog-bit (*Hydrocharis morsus-ranae*)	15	2	20	112
Fishhook waterflea (*Cercopagis bengoi*)	1	0	0	1
Spiny waterflea (*Bythotrephes longimanus*)	9	0	0	40
Zebra mussels (*Dressina polymorpha*)	4*	0	7	258
Tier 4 – These species cannot be eradicated from the PRISM geography. Species are too widespread or too established and management is cost prohibitive. In these cases, focus shifts to localized suppression targeted at protecting high-priority resources such as rare habitats, endangered species, and recreational assets.				
Chinese mystery snail (*Cipangopaludina chinensis*)	18	2	6	36
Curly leaf pondweed (*Potamogeton crispus*)	26	0	12	138
Eurasian watermilfoil (*Myriophyllum spicatum*)	83	1	185	3,253
Variable leaf milfoil (*Myriophyllum heterophyllum*)	66	0	34	933

- *For Zebra mussels there are iMap observations from 4 waterbodies, but only waterbodies connected to Lake Champlain and the Saint Lawrence River are known to currently have viable populations.

Adirondack Park Invasive Plant Program (APIPP)
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Appendix C: Strategic Plan Impementation Tracking

The graphics and charts on the following pages show APIPP's progress toward implementing the Adirondack PRISM 2023-2027 Strategic Plan. The Strategic Plan can be found on www.adkinvasives.com.

The Strategic Plan calls for the creation of two dashboards and a Tracking Table.

- The Partner Accomplishments Dashboard captures the collective work of Adirondack PRISM partners in meeting the mission outlined in the Strategic Plan. Data is collected annually in late winter for the previous year's accomplishments. The updated Partner Accomplishments Dashboard is generally released in April and can be found on APIPP's website.

- The APIPP Strategic Plan Progress Dashboard illustrates key metrics that track outcomes related to meeting the APIPP staff strategies outlined in the Strategic Plan. It is found on the first page of this Appendix. The purpose of this dashboard is to provide a consistent way of reporting the data each year so that trends can be tracked over time and strategies can be adapted as needed.

- The APIPP Strategic Plan Implementation Tables track progress on implementing each of the objectives outlined under the staff strategies in the Strategic Plan. This table starts on page C5 of this Appendix.

INVASIVE SPECIES MANAGEMENT
ADIRONDACKS
WWW.ADKINVASIVES.COM

APIPP Strategic Plan Progress Dashboard 2024

This dashboard displays key metrics for how successfully APIPP is implementing the strategies outlined in the 2023-2027 Adirondack PRISM Strategic Plan.

✓Fully implemented ✓Partially implemented/room for improvement ✓Not yet implemented

Goal 1: Protect Adirondack PRISM lands from the most significant ecologic and economic impacts of terrestrial invasive plants and animals, including forest pests and pathogens

OUTCOME METRIC 1.1

Percent of Tier 2 infestations under active management and with "no plants observed" (NPO) status

- Baseline: 76%
- Benchmark: 100% of Tier 2 infestations under management within one year of identification
- 2024: 93% (27 of 29 Tier 2 infestations under management/NPO)

76%
2023 BASELINE

100%
BENCHMARK

93% ✓
2024 YEAR-END ACTUAL

OUTCOME METRIC 1.2

Percent of managed sites NPO or eradicated

- Baseline 63% (2019 = 55%, 2020 = 61%, 2021 = 63%, 2022 = 64%, 2023 = 72%)
- Benchmark: Remain at or above 5-year rolling average
- 2024: 74%

63%
5-YEAR AVERAGE BASELINE

≥63%
BENCHMARK

74% ✓
2024 YEAR-END ACTUAL

Goal 2: Protect Adirondack PRISM waters from the most significant ecologic and economic impacts of aquatic invasive plants and animals

OUTCOME METRIC 2.1
Annual rate of Tier 1 introductions per decade

- Baseline: Average 8 new species per decade (2000-2020), 2000-2009 = 9, 2010 – 2019 = 7
- Benchmark: No more than 5 Tier 1 introductions per decade
- 2020–2024: 0 new AIS species introduced

OUTCOME METRIC 2.2
Monitoring for AIS

OUTCOME METRIC 2.2A
Number of surveys submitted to APIPP

- Baseline: 140 (2019 = 96, 2020 = 106, 2021 = 132, 2022 = 182, 2023 = 184)
- Benchmark: Remain at or above 5 year rolling average
- 2024: 133

OUTCOME METRIC 2.2B
Number of new invasions, defined as the number of new species observed in a waterbody. This includes both new waterbodies and new species found in already invaded waterbodies

- Baseline: 7 (2019 = 3, 2020 = 3, 2021 = 5, 2022 = 7, 2023 = 17)
- Benchmark: Remain at or below 5-year rolling average
- 2024: 6

OUTCOME METRIC 2.2C
Percent of surveyed lakes in the Adirondack PRISM that are not invaded. This metric does not include streams or wetlands

- Baseline: 75% (2019 = 75%, 2020 = 75%, 2021 = 76%, 2022 = 76%, 2023 = 75%)
- Benchmark: Remain at or above 75%
- 2024: 75%

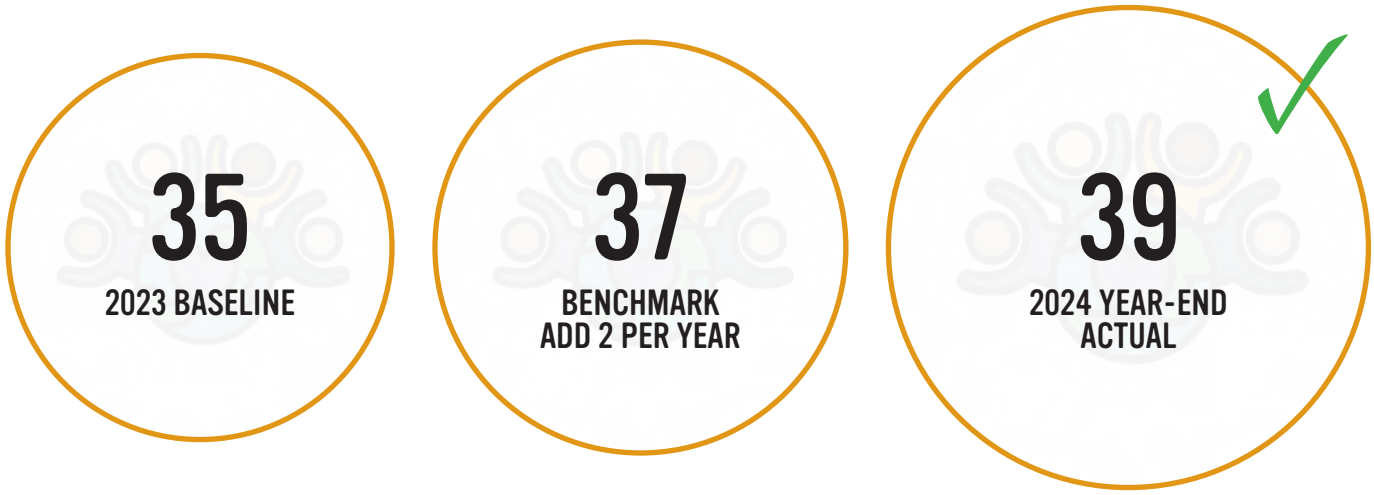
Goal 3: Build engaged and knowledgeable communities that are empowered to act on invasive species issues

OUTCOME METRIC 3.1
Number of participants at APIPP-led educational workshops

- Baseline: 616
- Benchmark: Increase by 10% each year
- 2024: 771

OUTCOME METRIC 3.2
Number of APIPP partners

- Baseline: 35
- Benchmark: Increase by 2 per year
- 2024: 39 (4 new partners in 2024 with a net gain of 4)



Goal 4: Engage in research and innovation to improve the monitoring and management of invasive species

OUTCOME METRIC 4.1

Number of research and innovation projects where APIPP is an active participant

- Baseline: 7.2 (2019 = 4, 2020 = 5, 2021 = 6, 2022 = 10, 2023 = 11)
- Benchmark: Remain at or above five-year average
- 2024: 8 projects

APIPP Strategic Plan Implementation Tracking Table

✓Fully implemented ✓Partially implemented/room for improvement ✓Not yet implemented

If the square is blank work was not planned to occur during this time period.

APIPP Priority Strategies	Year 1	Year 2	Year 3	Year 4	Year 5
 **Goal 1: Protect Adirondack PRISM lands from the most significant ecologic and economic impacts of terrestrial invasive plants and animals, including forest pests and pathogens**					
Objective 1.1: Minimize the introduction and spread of terrestrial invasive species					
Prioritize terrestrial invasive species that will be covered in spread-prevention education programs	✓	✓			
Develop specialized terrestrial invasive species spread-prevention materials for land managers (such as NYSDOT and other highway personnel)	✓	✓			
Promote, and assist partners with the creation of, spread-prevention infrastructure to address specific pathways of terrestrial invasive species spread (such as boot brush stations, bike wash stations, construction equipment cleaning stations)	✓	✓			
Objective 1.2: Monitor for terrestrial invasive species					
Prioritize species and locations to monitor based on the species' regional distribution, past monitoring results, "no plants observed" monitoring schedule, rare and endangered species information, and other factors	✓	✓			
Deploy contracted professionals and permanent and seasonal staff (such as campground stewards and forest pest research assistants) to monitor distribution and abundance of priority species, to monitor priority locations, and/or to evaluate management effectiveness at known infestation sites	✓	✓			
Train and coordinate volunteers to monitor for terrestrial invasive species, including forest pests and pathogens	✓	✓			
Objective 1.3: Manage priority infestations of terrestrial invasive species					
Prioritize infestations for management and secure required permits and permissions for treatment	✓	✓			
Deploy permanent and seasonal staff and contracted professionals to manage invasive species as follows: Work to eradicate infestations of Tier 2 species where possible; strategically manage infestations of Tier 3 species to contain their spread; strategically manage and suppress infestations of Tier 4 species that threaten high-value resources	✓	✓			
Objective 1.4: Collaboratively address terrestrial invasive species threats with partners					
Regularly update terrestrial invasive species best management practices	✓	✓			
Provide technical advice to landowners and partners on the identification and management of terrestrial invasive species	✓	✓			
Collaborate with partners to address terrestrial invasive species issues (such as the PRISM terrestrial invasive species coordinators group, regional working groups for emerald ash borer and hemlock woolly adelgid, and statewide giant hogweed and jumping worm working groups) and create additional working groups as needed	✓	✓			

APIPP Priority Strategies	Year 1	Year 2	Year 3	Year 4	Year 5
Goal 2: Protect Adirondack PRISM waters from the most significant ecologic and economic impacts of aquatic invasive plants and animals					
Objective 2.1: Minimize the introduction and spread of aquatic invasive species					
Prioritize aquatic invasive species that will be covered in spread-prevention education programs	✓	✓			
Assist AWI, LGPC, NYSDEC, and lake associations with the watercraft inspection steward and boat decontamination programs by providing information about steward programs and decontamination infrastructure and by offering technical assistance with monitoring and analyzing aquatic invasive species distribution	✓	✓			
Develop specialized aquatic invasive species spread-prevention materials for targeted user groups (such as organizers of fishing tournaments, partners working to slow the spread of invasive species via the canal system)					
Objective 2.2: Monitor the Adirondack PRISM for aquatic invasive species					
Prioritize species and locations to monitor with input from partners	✓	✓			
Deploy contracted professionals and staff to monitor distribution and abundance of priority species and/or to monitor priority locations using a variety of techniques (such as visual surveys, eDNA sampling, remote vehicles)	✓	✓			
Recruit and train partners and "Lake Protector" volunteers to participate in monitoring lakes and streams to detect aquatic invasive species	✓	✓			
Refine the Lake Management Tracker methodology, support the technology, and recruit participants to monitor aquatic invasive species to evaluate management effectiveness and to inform future management strategies	✓	✓			
Objective 2.3: Manage priority infestations of aquatic invasive species					
Lead projects and collaborations to remove small populations of aquatic invasive species that have a high probability of successful eradication or containment across the region (priority locations of Tier 2 and Tier 3 species)	✓	✓			
Help partners and volunteers manage Tier 3 and Tier 4 species by assisting with the assessment of various management techniques, and by providing information about the effectiveness of various management techniques and about the permitting process	✓	✓			
Objective 2.4: Collaboratively address aquatic invasive species threats with partners					
Convene a working group of key Adirondack aquatic invasive species partners to inform members about regional activities, recommend metrics and benchmarks for regional goals, and collaborate on projects	✓	✓			
Participate in regional working groups (such as the PRISM aquatic invasive species coordinators group, Northeast Aquatic Nuisance Species Panel, Lake Champlain Basin Program committees)	✓	✓			
Work with regional partners (such as the New York State Federation of Lake Associations, Adirondack Lake Assessment Program, Citizens Statewide Lake Assessment Program) to incorporate aquatic invasive species monitoring into other monitoring and study programs related to lake threats (such as water quality, harmful algal blooms, climate change)	✓	✓			
Regularly update aquatic invasive species best management practices		✓			

Goal 3: Build engaged and knowledgeable communities that are empowered to act on invasive species issues					
Objective 3.1: Increase public awareness of, and participation in, meaningful and effective invasive species prevention, monitoring, and management activities					
Create and implement an annual communications plan to reach a broad audience with spread prevention and other invasive species messages using a variety of outreach tools	✓	✓			
Develop an annual APIPP education calendar that includes core educational workshops (such as those for transportation professionals, pesticide applicators, volunteers) and topical workshops (such as those focused on specific pathways of spread, information about new species, management of specific species); include iMapInvasives training information as appropriate; secure speakers and promote workshops	✓	✓			
Participate in NY's Invasive Species Awareness Week	✓	✓			
Respond promptly to requests for information from the public	✓	✓			
Objective 3.2: Share information, resources, and expertise among Adirondack PRISM and statewide partners and build a strong partner network					
Provide a clearinghouse of information via a well-designed and maintained website that includes species information and best management practices, displays monitoring results, and serves as a mechanism for sharing reports, maps, and other resources	✓	✓			
Expand the Adirondack PRISM partnership to engage new constituencies as needs and opportunities arise	✓	✓			
Regularly coordinate with state and regional partners (such as NYSDEC, NYSDOT, NYSDAM, iMapInvasives, other NY PRISMs, AWI, and other Adirondack nonprofits) and create working groups as needed	✓	✓			
Support partners by sharing APIPP expertise and resources at partners' meetings, outreach events, and educational workshops	✓	✓			
Host or participate in conferences focused on sharing the latest invasive species technical information with partners, volunteers, and others	✓	✓			
Host a minimum of two partner meetings each year	✓	✓			
Convene and coordinate with Adirondack partners engaged in communications, outreach, and education	✓	✓			
Objective 3.3: Secure funding, programmatic, and legislative support for invasive species work from local, state, and federal governments					
Provide letters of support for partners seeking funding and share notices of funding opportunities with partners	✓	✓			
Seek funding for special projects as opportunities permit	✓				
Provide information about invasive species issues to policy makers, NY's Invasive Species Council, and others	✓	✓			
Assist state agencies with enforcement by providing information about invasive species laws to the public	✓	✓			
Work with regional partners to better understand invasive species prevention, monitoring, and management capacity constraints (such as lack of qualified pesticide applicators, lack of companies to AIS management, lack of funding) in order to identify opportunities for collective action		✓			

APIPP Priority Strategies	Year 1	Year 2	Year 3	Year 4	Year 5
 **Engage in research and innovation to improve the monitoring and management of invasive species**					
Objective 4.1: Implement and evaluate innovative prevention, monitoring, and management techniques and share findings with partners and the public					
Identify, deploy, and/or evaluate innovative approaches to invasive species prevention, monitoring, and management (such as use of remote sensing, eDNA analysis, new chemical treatment options for terrestrial and aquatic invasive species, biological controls)	✓	✓			
Foster the exchange of knowledge about innovative techniques with partners and the public	✓	✓			
Objective 4.2: Collaborate on invasive species research projects					
Coordinate with the NY Invasive Species Research Institute and other partners to identify and advance priority empirical and applied research projects	✓	✓			
Assist with statewide or region-wide research projects, including monitoring ash species plots for emerald ash borer-induced mortality, monitoring hemlock plots, and assessing the impact of deer on native vegetation	✓	✓			
Complete a within-lake spatial analysis to identify abiotic, biotic, and human factors that predict which areas in a lake would be most susceptible to invasive species invasion	✓				
Identify and prioritize applied research projects (such as revising the 2014 economic impact report, testing outreach message effectiveness, analyzing alternative knotweed treatments, evaluating tools for monitoring and managing common reed grass, assessing the effectiveness of targeted Eurasian watermilfoil removal) and secure funding and partnerships to implement as feasible	✓	✓			
Manage PRISM Operations					
Managing Adirondack PRISM operations is an important task for APIPP staff that contributes to the success of all four goals. Staff will deploy the following priority strategies in carrying out this work.					
Work closely with the NYSDEC Invasive Species Coordination Section to manage TNC's contract with NYSDEC	✓	✓			
Submit all required reports to NYSDEC	✓	✓			
Hire and support APIPP permanent and seasonal staff	✓	✓			
Integrate APIPP staff with TNC's programs	✓	✓			

Adirondack Park Invasive Plant Program
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Appendix D:
iMapInvasives Adirondack PRISM Metrics 2024

This report illustrates a few of the metrics (Tabs A and I) compiled by iMapInvasives for the Adirondack Partnership for Regional Invasive Species Management (PRISM). The full report provided by iMapInvasives is posted on www.adkinvasives.com. The full report includes the nine tabs listed below.

Tab A	**Top 10 Species Reported in the PRISM Geography. This includes: Detected (confirmed and unconfirmed), Not-Detected, Treated (including number) [See page D1]**
Tab B	**Number of Unique Species Reported (presence data only)**
Tab C	**Summary Numbers: Presence, Not-Detected, Searched Areas, Acres of Searched Areas**
Tab D	**Summary Numbers: Not-Detected and Presence by Data Entry Method**
Tab E	**Reason for Not Detecting**
Tab F	**STATEWIDE-Species that are confirmed and new to county**
Tab G	**PRISM-Species that confirmed and new to county in the PRISM**
Tab H	**Number of Unique Observers/Users [That Submitted Records in 2024]**
Tab I	**Top 10 organizations submitting Presence and Not-Detected Records [See page D2]**

There are two important notes related to the metrics.

1. **The data on the following pages appears as submitted by iMapInvasives; the data is not verified by the Adirondack Park Invasive Plant Program.**
2. **The data represents iMapInvasives reports from December 11, 2023, to December 13, 2024.**

Thank you iMapInvasives for being such a great partner!

INVASIVE SPECIES MANAGEMENT
ADIRONDACKS

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Table 1: Top Ten Species Reported: Presence (confirmed/unconfirmed), Not-Detected, Treatment (iMapInvasives 2024 Report Tab A).

Presence Detected	Statewide		APIPP	
1	Eurasian Water-milfoil	4,986	Common Reed Grass, Phragmites	2,312
2	Garlic Mustard	2,852	Garlic Mustard	1,769
3	Japanese Stiltgrass	2,826	Japanese Knotweed, Japanese Bamboo	1,365
4	Japanese Barberry	2,763	Eurasian Water-milfoil	510
5	Common Reed Grass, Phragmit	2,554	Purple Loosestrife	321
6	Multiflora Rose	1,993	Yellow Iris	255
7	Japanese Knotweed, Japanese E	1,799	Variable Watermilfoil; Broadleaf Watermilfoil	133
8	Oriental Bittersweet	1,737	Hemlock Woolly Adelgid	131
9	Asiatic Sand Sedge	1,650	Honeysuckle (species unknown)	122
10	Water Chestnut	1,415	Black Swallowwort	66

Not-Detected	Statewide		APIPP	
1	Garlic Mustard	2,066	Garlic Mustard	2,066
2	European Common Reed	1,339	European Common Reed	1,325
3	Hemlock Woolly Adelgid	1,241	Japanese Knotweed	262
4	Hydrilla	396	Yellow Iris	167
5	Water Chestnut	368	Purple Loosestrife	104
6	Curly Pondweed	292	Beech leaf disease nematode	69
7	Japanese Knotweed	272	Hemlock Woolly Adelgid	63
8	Yellow Iris	272	Hydrilla	50
9	Kudzu	247	Common Frogbit	49
10	Common Frogbit	199	Water Chestnut	49

Treatment	Statewide		APIPP	
1	Garlic Mustard	1,564	Garlic Mustard	1,538
2	Common Reed Grass, Phragmit	1,155	Common Reed Grass, Phragmites	1,113
3	Japanese Knotweed, Japanese E	884	Japanese Knotweed, Japanese Bamboo	784
4	Kudzu	526	Purple Loosestrife	237
5	Purple Loosestrife	278	Yellow Iris	197
6	Yellow Iris	203	Black Swallowwort	49
7	Spotted Knapweed	185	Honeysuckle (species unknown)	32
8	Pale Swallowwort	105	Japanese Barberry	22
9	Bull Thistle	92	Oriental Bittersweet	22
10	Water Chestnut	92	Wild Parsnip	17

Note: The treatment table for APIPP does not include the 187 sites of European common reed/common reed grass *(Phragmites australis)* managed by APIPP in 2024.

Table 2: Top Ten Organizations Submitting Presence and Not-Detected Records (iMapInvasives 2024 Report Tab I).

	Statewide				APIPP			
	Organization name	Total Records	Presence**	Not-Detected	Organization name	Total Records	Presence**	Not-Detected
1	Blank Organization	12,719	0	12,719	Adirondack Park Invasive Plant Program (APIPP)	**11,568**	**6,944**	**4,624**
2	Lower Hudson (LH) PRISM - Volunteer	12,469	12,469	0	Blank Organization	**1,285**	**0**	**1,285**
3	Adirondack Park Invasive Plant Program (APIPP)	11,584	6,958	4,626	Adirondack Research LLC	**181**	**145**	**36**
4	SOLitude Lake Management	4,388	3,771	617	Capital Region PRISM (CR-PRISM)	**34**	**3**	**31**
5	New York State Department of Environmental Conservation (NYSDEC) (NY)	3,145	2,584	561	New York State Department of Environmental Conservation (NYSDEC) (NY)	**31**	**18**	**13**
6	New York City Department of Parks and Recreation	3,041	3,041	0	No Organization Affiliation (NY)	**28**	**16**	**12**
7	Capital Region PRISM (CR-PRISM)	2,566	1,255	1,311	Hofstra University	**26**	**26**	**0**
8	New York State Office of Parks Recreation and Historic Preservation (NYS OPRHP)	2,071	1,896	175	New York Natural Heritage Program (NYNHP) - NY	**11**	**5**	**6**
9	Finger Lakes (FL) PRISM	1,860	1,859	1	New York State Office of Parks Recreation and Historic Preservation (NYS OPRHP)	**8**	**2**	**6**
10	St. Lawrence and Eastern Lake Ontario (SLELO) Partnership for Regional Invasive Species Management (PRISM)	1,509	767	742	Mirror Lake Watershed Association	**3**	**2**	**1**

** Confirmed and Unconfirmed

Note: The APIPP column does not include the APIPP Volunteer Forest Pest Project, which is the project code Forest Pest Hunters volunteers use to record their observations. In 2024 APIPP Forest Pest Hunter volunteers submitted 1,149 records: 138 presence records and 1011 not-detected records.