



2015 Annual Report

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*Adirondack Park Invasive Plant Program
The Adirondack Partnership for Regional Invasive Species Management*

*Adirondack Chapter of The Nature Conservancy
Keene Valley, New York*

The Adirondack Park Invasive Plant Program (APIPP) serves as the Adirondack Partnership for Regional Invasive Species Management (PRISM), one of eight regional partnerships across New York. APIPP is a partnership program among the Adirondack Chapter of The Nature Conservancy, New York State Department of Environmental Conservation (NYS DEC), New York State Department of Transportation (NYS DOT), New York State Adirondack Park Agency (APA), more than 30 cooperating organizations, and more than 700 volunteers. We thank all of our partners and collaborators who participate in the program and share their ideas, time, and resources to protect the Adirondacks from invasive species.

APIPP operates under contract with the NYS DEC with funding provided through the invasive species line of the NYS Environmental Protection Fund.



Year in Review

The threats posed by invasive species are an issue front and center of concern in the Adirondack region. Action is underway at local, regional, and statewide levels, contributing to a comprehensive approach to stop their spread. The APIPP partnership works every day – joining forces with great organizations, communities, and volunteers – to put strategic and innovative solutions into place.

2015 Highlights:

- **APIPP Hires New Terrestrial Invasive Species Project Coordinator!** Zack Simek joined the APIPP team on March 26th as the program's new Terrestrial Invasive Species Project Coordinator. Zack is originally from Gloversville, NY and graduated from Paul Smith's College in 2013 with a BS in natural resource management and policy. Prior to being hired by APIPP, Zack worked for the Paul Smith's College Adirondack Watershed Institute (AWI) Stewardship Program; first as a boat launch steward and then as a regional supervisor. He also gained experience with terrestrial invasive species management by working with the Regional Inlet Invasive Plant Program (RIIPP) as a certified pesticide applicator where he conducted treatments on knotweed species and wild parsnip. APIPP has had a strong team to-date with staff past and present as well as exceptional partners and volunteers. APIPP is happy to welcome Zack into the APIPP family!
- **Adirondack Aquatic Invasive Species (AIS) Prevention Pilot Program a Success!** Thanks to the leadership of Governor Cuomo, fourteen new boat launches were stewarded by boat inspectors and twelve new boat wash and decontamination stations were constructed and made available for the public's use under the Adirondack AIS Prevention Pilot Program. In collaboration with the NYS DEC, AWI and partners, APIPP coordinated the placement strategy for the 12 new wash stations which performed nearly 300 voluntary decontaminations on boats that did not meet the "Clean, Drain, Dry" standard for preventing the spread of AIS. In total, program staff performed courtesy inspections on nearly 45,000 watercraft while educating boaters and anglers on the threats posed by AIS and what can be done to prevent their spread. Nearly 1,400 visible AIS were intercepted on boats over the course of the boating season. Planning efforts are currently underway to build upon the successes of the pilot program in 2016.
- **Response Teams Ramp up APIPP's Surveillance and Management Efforts!** APIPP contracted with professional invasive species management organizations to provide both terrestrial and aquatic invasive species response teams in 2015. Invasive Plant Control Inc. served as the terrestrial team for the fourth season and the AWI provided APIPP's first ever aquatic team in 2015. The terrestrial response team managed over 440 infestations of APIPP's priority invasive plant species totaling approximately 22.2 acres. The team surveyed an additional 227 historically managed infestations and found no sign of invasive plant regrowth. The aquatic response team surveyed 38 lakes and only documented 1 to be newly invaded. This newly documented invaded lake, Square Pond (Franklin County), had likely been invaded for some time but had not been reported. Final reports documenting the work performed and results of both response teams can be found on APIPP's website at the links below.
http://adkinvasives.com/wp-content/uploads/2015/11/Terrestrial-Response-Team-2015_APIPP-Final-Report_FINAL_Nov17.pdf
<http://adkinvasives.com/wp-content/uploads/2015/12/AIS-Response-Team-Final-Report-2015.pdf>

- **APIPP Partners with ADK to Implement Backcountry Monitoring Program!** The Adirondack Mountain Club (ADK) partnered with APIPP in 2015 to educate and train backcountry hikers and paddlers on invasive species identification, surveillance techniques and how to report their findings. Through 4 separate workshops over 70 volunteers were trained as backcountry forest or water monitors in 2015 and these volunteers adopted 34 backcountry ponds or lakes and 58 forest areas to survey. Only one of the water bodies surveyed contained an AIS and none of the forest areas surveyed contained sign or symptoms of forest pests. Planning is currently underway to advance both monitoring programs in 2016.
- **Celebrating Partners!** APIPP continued its annual Volunteer Achievement/Agency Leadership Awards and recognized Leigh Walrath of the APA for his exemplary volunteer and agency leadership to protect Adirondack waterways from AIS.

Round-up of accomplishments, by the numbers:

- From project planning to boots-on-the-ground, more than 30 cooperating organizations worked together on invasive species prevention and management efforts.
- The Terrestrial Project managed approximately 476 infestations of target invasive plants and performed detailed trend analysis to better document management success over time.
- 164 aquatic volunteers spent nearly 1,500 hours surveying 98 waterways for aquatic invasive plants.
- As of this year, 98 Adirondack waterways have AIS and an additional 245 have no AIS observed.
- APIPP staff presented to over 2,050 people at more than 60 events this year. Partner efforts further increased the reach.

This is just a sampling of the great work underway, thanks to the sustained commitment of APIPP partners. What else have we been up to, and what is to come? Read on to find out!

Sincerely,
The APIPP Team

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Program Mission

APIPP serves as the Adirondack PRISM whose mission is to protect the Adirondack region from the negative impacts of non-native invasive species. Initiated in 1998 and housed by the Adirondack Chapter of The Nature Conservancy, the program coordinates two regional projects: the Aquatic Invasive Species Project and the Terrestrial Invasive Species Project. Staff members include Brendan Quirion, APIPP Coordinator; Erin Vennie-Vollrath, Aquatic Invasive Species Project Coordinator; Zachary Simek, Terrestrial Invasive Species Project Coordinator and, a seasonal educator position, which was filled this year by Jane Raffaldi.

Program Goals

- *Prevent new introductions of invasive species to the PRISM.*
- *Coordinate a region-wide early detection rapid response program to detect and eradicate new infestations.*
- *Manage existing priority infestations to mitigate their impacts.*

Regional Invasive Species Distribution

Aquatic Invasive Species

- At least 98 waterways have confirmed AIS in the Adirondack PRISM. In 14 seasons, more than 760 APIPP volunteers and AIS response teams surveyed 245 distinct waters and found no AIS (Map 1). With your assistance, APIPP has successfully established baseline information about the distribution of aquatic invasive plants in the Adirondack region and is currently working to establish the baseline distribution of aquatic invasive animals. Great thanks to partners and volunteers for their substantial contributions to invasive species prevention, surveillance, and early detection efforts.

Terrestrial Invasive Species

- The Terrestrial Project uses an electronic database to track invasive plant occurrences and conducts analysis of distribution and management trends over time. The database utilizes field computers with global positioning systems (GPS), geographic information systems (GIS), and the weed information management system (WIMS). A total of 2,570 terrestrial invasive plant occurrences have been mapped spatially using this system as of 2015 (Map 2 & 3). The majority of this mapping has occurred in what is known as the “Core Area” of the Adirondack PRISM. This area was delineated by APIPP founders as having the highest likelihood for long-term invasive plant management success based on its predominantly protected status, low levels of fragmentation and disturbance, low levels of human development, and low levels of invasion. Mapping outside the Core in areas like the Champlain Valley and Northern Franklin and Clinton counties has historically been limited but in 2015 some preliminary mapping was conducted in these areas. Areas outside of the Core are known to contain numerous invasive plant infestations, which are primarily not represented on the provided maps.

AQUATIC & TERRESTRIAL INVASIVE SPECIES PROJECT REPORTS

Prevention & Regulation

This section describes regulatory and preventative efforts implemented by state partners and APIPP staff to prevent new invasions in the PRISM.

Aquatic Invasive Species

- In July 2012 Governor Andrew Cuomo signed the Invasive Species Prevention Act, which creates a statewide regulatory system that prohibits or limits the transport and sale of known invasive plants and animals in New York. Regulations to implement the Invasive Species Prevention Act took effect 3/10/15. For the full list of invasive species that are affected by this preventative regulation visit the link below. <http://www.dec.ny.gov/regulations/93848.html>
- All trailered boats being launched into Lake George must undergo an inspection at a regional inspection station under a preventative regulation administered by the Lake George Park Commission (LGPC). Boats must be “clean, drained and dry” to pass inspection and enter the lake. If they are not, they receive decontamination through a high pressure, high temperature wash. There is no cost to the boaters for this program, thanks to funding from NYS, local municipalities and nonprofit organizations that support this effort. For more information on this preventative regulation visit the link below. <http://www.lgpc.state.ny.us/PDF/LGP%20-%20Revised%20regs%2012-12.pdf>
- New regulations now prohibit boats from launching from or leaving NYS owned launch sites without first draining the boat and cleaning the boat, trailer and equipment of visible plant and animal material. Many New York counties, towns and villages also have laws in place that prohibit the transport of aquatic invasive species on boats, trailers and equipment. For more information on these preventative regulations visit the following link. <http://www.dec.ny.gov/outdoor/98240.html>
- In 2015 the NYS DEC released draft Part 576 AIS Spread Prevention regulations requiring certain “reasonable precautions” be taken by boat operators prior to launching. For more information on these draft preventative regulations visit the link below. <http://www.dec.ny.gov/regulations/104431.html>
- In 2015 APIPP collaborated with the NYS DEC and AWI to implement the Adirondack AIS Prevention Pilot Program. The program staffed boat launch stewards at 14 priority launches expanding total regional stewardship coverage to nearly 50 launches. The program also established 12 new regionally placed boat inspection and decontamination stations which provided voluntary decontaminations to boaters that did not meet the “Clean, Drain, Dry” standard upon inspection. In total 44,897 courtesy inspections were performed resulting in nearly 1,400 visible AIS being found. Close to 300 decontaminations were performed on boats that visited or were referred to the wash stations. Of those boaters inspected, approximately 90% responded in favor of the pilot program. For more information please refer to the link below which will bring you to a recorded presentation on the program given by APIPP’s coordinator, Brendan Quirion, during the 2015 Cornell Invasive Species In-service. https://vod.video.cornell.edu/media/The+Adirondack+aquatic+invasive+species+%28AIS%29+spread+prevention+pilot+program+by+Brendan+Quirion/1_9qzllki
- In November of 2015, the NYS DEC announced a 2 million dollar Statewide AIS prevention grants program. The new grant program builds on the success of several boat steward programs,

which are already established in NYS. For more information on this grant opportunity visit the following link. <http://www.dec.ny.gov/pubs/103921.html>

Terrestrial Invasive Species

- A regulation remains in effect that prohibits the import of firewood into New York unless it has been heat treated to kill pests. The regulation also limits the transportation of untreated firewood to less than 50 miles from its source. Quarantines exist which further restrict firewood transportation to prevent the spread of forest pests and pathogens. For more information on this preventative regulation visit the link below. <http://www.dec.ny.gov/animals/28722.html>
- In July 2012 Governor Andrew Cuomo signed the Invasive Species Prevention Act, which creates a statewide regulatory system that prohibits or limits the transport and sale of known invasive plants and animals in New York. Regulations to implement the Invasive Species Prevention Act took effect 3/10/15. For the full list of invasive species that are affected by this preventative regulation visit the link below. <http://www.dec.ny.gov/regulations/93848.html>
- In 2013 a law was passed that immediately made it illegal to import, breed or release Eurasian boars in New York. In addition, as of September 1, 2015, it is now illegal to possess, sell, distribute, trade or transport Eurasian boars in New York. For more information on this preventative regulation visit the link below.
<https://govt.westlaw.com/nyerr/Document/I7e731427d47511e38c340000845b8d3e?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=%28sc.Default%29>

Target Species – Priority Threats

This section describes current high priority species threats that partners, APIPP staff and terrestrial and aquatic response teams work to address in the PRISM.

Aquatic Invasive Plants

The Aquatic Project surveys for eight target aquatic invasive plants that are known to be in the region: Eurasian watermilfoil (*Myriophyllum spicatum*), variable-leaf watermilfoil (*Myriophyllum heterophyllum*), water chestnut (*Trapa natans*), curly-leaf pondweed (*Potamogeton crispus*), fanwort (*Cabomba caroliniana*), European frog-bit (*Hydrocharis morsus-ranae*), yellow floating heart (*Nymphoides peltata*), and brittle naiad (*Najas minor*). These eight species are the only aquatic invasive plants known to be in the region making them priorities for surveillance and management.

- Eurasian watermilfoil (NYS Threat Ranking Score = Very High, 100) is widespread in the region and is known to be in 60 lakes in the PRISM. It is a submerged perennial that grows quickly, forming dense mats that can degrade native habitat and impede recreational use.
- Variable-leaf watermilfoil (NYS Threat Ranking Score = Very High, 93.62) is relatively widespread in the region and is known to be in 43 lakes in the PRISM. It is a submerged perennial that forms dense mats that can degrade native habitat and impede recreational use.
- European frog-bit (NYS Threat Ranking Score = Very High, 85.57) is known to be in at least six water bodies in the PRISM. It is a free-floating annual that forms dense mats that can limit light penetration and impede recreational use.
- Water chestnut (NYS Threat Ranking Score = Very High, 82) is only known to have established populations in two lakes in the region: Lake Champlain and Hadlock Pond. A small infestation was found in Loon Lake (Warren County) as well as a single plant in Lake George in 2015.

Water chestnut is a floating annual which forms dense mats that cover large expanses of water and can impact water quality, native species and impede recreational use.

- Curly-leaf pondweed (NYS Threat Ranking Score = High, 79.79) is relatively widespread in the region and is known to be in 15 lakes in the PRISM. It is a submerged perennial that begins growing early in the year and can outcompete native species.
- Yellow floating heart (NYS Threat Ranking Score = High, 74.47) has only been reported in Lake Champlain. It is an herbaceous, floating perennial that grows into dense mats and can shade out native plants, create stagnant areas with low oxygen, and impede recreational use.
- Fanwort (NYS Threat Ranking Score = High, 72.34) is known to be present in four private lakes in the PRISM: Efner Lake, Horseshoe Pond, Jenny Lake, and Mill Pond. It is a submerged aquatic plant that forms dense beds and can crowd out native plant species.
- Brittle naiad (NYS Threat Ranking Score = Moderate, 64.84) is known to be present in 3 lakes in the PRISM: Great Sacandaga Lake, Hadlock Pond, and Lake Champlain. It is a herbaceous annual that grows in dense beds and can inhibit the growth of native plants and impede recreational use.
- As of 2015, 94 Adirondack lakes are known to be invaded by one or more of these target aquatic invasive plants (Map 1).

Aquatic Invasive Animals

APIPP is expanding its monitoring network beyond plants to track the distribution of other priority aquatic invasive animals, such as spiny waterflea (*Bythotrephes cederstroemi*), Asian clam (*Corbicula fluminea*), Zebra mussels (*Dreissena polymorpha*), and Chinese mystery snail (*Bellamya chinensis*).

- Zebra mussels (NYS Threat Ranking Assessment Score = Very High, 83) are a filter-feeding freshwater mollusk that displace native species, attach to and cover many surfaces, and have sharp shells that are a nuisance to lake users. They are only known to be in two lakes in the region, Lake Champlain and Lake George. The majority of waterbodies in the region do not have sufficient calcium levels to support large populations of zebra mussels.
- Chinese mystery snail (NYS Threat Ranking Assessment Score = Very High, 83) is listed as invasive in some resources, but others list it as non-native. They are large snails that quickly reproduce, but APIPP only recently began tracking its distribution. The realized impacts of this snail are not well known, but they have the potential to decrease native snail populations and change water chemistry. The current number of lakes reported with Chinese mystery snail is 11, but the number is likely greater.
- Spiny waterflea (NYS Threat Ranking Assessment Score = Very High, 82.42) were detected in Lake Pleasant and Piseco Lake in Hamilton County and throughout Lake Champlain by APIPP partners in 2014. Previously, the only known populations in the PRISM were in Lake George, Great Sacandaga Lake, Pecks Lake, Stewarts Bridge Reservoir, and Sacandaga Lake. Spiny waterflea can reproduce rapidly through asexual reproduction and compete directly with juvenile fish for food. This direct competition can have cascading effects through the food chain.
- Asian clam (NYS Threat Ranking Assessment Score = High, 73.86) was discovered in Lake George in August of 2010. This detection was the first reported occurrence of this species within the PRISM. Several additional populations were discovered in the lake in 2011, 2012, 2013, 2014 and 2015 totaling at least 16 populations. Asian clam displaces highly vulnerable native mollusks that are often already threatened, reduces biodiversity, alters the food chain, and may cause algae blooms. They are also bio-foulers, clogging industrial and commercial water systems.

- As of 2015, 18 Adirondack lakes are known to be invaded by one or more of these target aquatic invasive animals (Map1).

Terrestrial Invasive Plants

In the late 90s, the Terrestrial Project identified four priority invasive plants that were already widespread in the Adirondack PRISM that had a high likelihood of spreading into natural areas: knotweed species (*Reynoutria spp.*), purple loosestrife (*Lythrum salicaria*), common reed grass (*Phragmites australis*), and garlic mustard (*Alliaria petiolata*). In 2010 an additional four newly emerging species were added to APIPP's targets based on their confirmed presence in the region and high levels of invasiveness; yellow iris (*Iris pseudacorus*), swallow-wort spp. (*Cynanchum spp.*), giant hogweed (*Heracleum mantegazzianum*), and oriental bittersweet (*Celastrus orbiculatus*).

- Knotweed species (NYS Threat Ranking Assessment Score = Very High, 97.94) are herbaceous perennials that have been present in the region since before APIPP's inception. They grow vigorously and quickly out-compete native vegetation for space and resources. There are currently 767 documented and mapped infestations of these species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. These species commonly invade forested wetlands, riparian areas, ditches, cultivated lands, yards, and roadsides. They are present in all counties located within the PRISM boundaries.
- Common reed grass (NYS Threat Ranking Assessment Score = Very High, 92.00) is a large perennial grass that has been present in the PRISM since at least 2000. It is an extremely aggressive wetland invader that outcompetes native vegetation and forms dense monocultures that have little value to wildlife. There are currently 925 documented and mapped infestations of this species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. Common reed can be found growing in wetlands, cultivated areas, and along roadsides. It is known to be present in all counties within the PRISM.
- Purple loosestrife (NYS Threat Ranking Assessment Score = Very High, 91.00) is an herbaceous perennial that has been present in the region since before APIPP's inception. It is a wetland invader and prolific seed producer, which allows it to outcompete surrounding native plants. There are currently 388 documented and mapped infestations of this species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. Purple loosestrife is primarily a wetland invader, but will also occupy cultivated areas, yards, roadsides and drainage ditches. It is known to be present in all counties within the PRISM.
- Black and pale swallow-wort (NYS Threat Ranking Assessment Score = Very High, 89.69/87.63) are perennial herbaceous vines that are capable of forming dense mats that smother native vegetation and climb into the forest canopy. Black swallow-wort was first documented in the PRISM in 2004 with pale swallow-wort being first documented in 2012. The distribution of both swallow-wort species remains limited within the interior of the PRISM with only 1 documented and mapped infestation of pale swallow-wort and 13 infestations of black swallow-wort. However, reports from partners and field observations suggest the distribution of black swallow-wort is much greater in the northern portions of Franklin County and within the Champlain Valley. Swallow-wort species will invade forested wetlands and riparian areas, cultivated lands, grasslands and fields, forests, and roadsides. Pale swallow-wort is known to be

present in Herkimer County and black swallow-wort is known to be present in Essex and Franklin Counties.

- Oriental bittersweet (NYS Threat Ranking Assessment Score = Very High, 86.67) is a perennial woody vine that has been present in the region since at least 2009. It grows in very dense mats that shade out low growing vegetation and climbs into the forest canopy, girdling trees and blocking sunlight. There are currently 22 mapped and documented infestations of this species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. Oriental bittersweet will invade forested wetlands and riparian areas, cultivated lands, grasslands and fields, forests, and roadsides. It is known to be present in Clinton, Essex, Fulton, St. Lawrence, and Warren Counties.
- Garlic mustard (NYS Threat Ranking Assessment Score = Very High, 84.00) is an herbaceous biennial that has been present in the PRISM since at least 2000. Early emergence in the spring and allelopathy allow garlic mustard to outcompete native understory species. There are currently 164 documented and mapped infestations of this species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. These infestations are primarily located in areas of high disturbance such as campgrounds, trailheads, and roadsides. Garlic mustard will also establish along forest edges or canopy openings and will slowly advance into the interior of forested areas. It is known to be present in all counties within the PRISM.
- Yellow iris (NYS Threat Ranking Assessment Score = High, 76.00) is an invasive ornamental perennial that has been documented in the PRISM since 2009. However, it has likely been established for a longer period of time due to its popularity as an ornamental/landscape species. Yellow iris is most problematic in wet areas where it forms dense monocultures that crowd out native wetland species that serve as forage and habit for aquatic organisms. There are currently 102 documented and mapped infestations of this species within the PRISM; however, the actual number of infestations is greater since not all areas of the PRISM have been surveyed extensively. Yellow iris will invade rivers/streams, lakes/ponds, reservoirs, wetlands, ditches and cultivated areas. It is currently known to be present in Essex, Franklin, Fulton, Herkimer, St. Lawrence, and Warren counties.
- Giant hogweed (NYS Threat Ranking Assessment Score = High, 72.00) is a large herbaceous biennial that can reach 15 feet in height. The plant contains a phytotoxic sap that can cause severe burns and permanent blindness upon contact. It was first documented in the PRISM in 2005 and there are currently 16 documented and mapped infestations. Nearly all infestations in the PRISM can be associated with an ornamental planting. Giant hogweed can occupy ditches, cultivated areas, grasslands/fields, forests, roadsides, and yards. It is known to be present in Essex, Franklin, Hamilton and Herkimer Counties.
- As of 2015, there are 2,570 mapped occurrences of these species in the Adirondack PRISM (Map 2).

Terrestrial Invasive Animals

In 2012 a breeding population of Eurasian boar was documented in the Champlain valley within the PRISM. This population is now believed to be eradicated.

- Eurasian boar (NYS Threat ranking Assessment Score = Very High, 82) was discovered in the town of Peru in Clinton County in early 2012. APIPP assisted the NYS DEC with management efforts during the summer of 2012 and early winter of 2013. In 2014, there were un-confirmed sightings of a single boar in the town of Peru as well as a group of swine in the vicinity of Long

Lake. These instances were investigated by the United States Department of Agriculture Animal Plant Health Inspection Services (USDA APHIS) Wildlife Services Unit but did not generate any additional observations of Eurasian boar or their sign. Wildlife Services searched and monitored these locations again in 2015 and found no evidence of Eurasian boar.

Watched Species – Potential Threats

This section describes approaching species threats that partners, AIPPP staff and terrestrial and aquatic response teams keep an eye out for in the PRISM.

Aquatic Invasive Plants

The Aquatic Project continues to elevate awareness on other plant threats, which have not yet been detected within the PRISM boundaries but are known to be highly invasive in other areas of the state, and advises volunteers to keep a watch out for these species: starry stonewort (*Nitellopsis obtusa*), parrotfeather (*Myriophyllum aquaticum*), hydrilla (*Hydrilla verticillata*), and Brazilian elodea (*Egeria densa*).

- Hydrilla (NYS Threat Ranking Assessment Score = Very High, 91.4) is a submerged aquatic plant that can quickly form an impenetrable mat that completely clogs waterways and restricts water flow, posing significant threats to aquatic ecosystems and recreational resources. In August 2011, hydrilla was detected in the Cayuga Lake inlet in the Finger Lakes. In 2013, hydrilla was also discovered in the southeast end of Cayuga Lake and in Fall Creek near the Cayuga Lake inlet. Infestations also exist in several small ponds in Broome County, Creamery Pond in Orange County, nine lakes and ponds in Long Island, and the Erie Canal in North Tonawanda, NY. In 2013, hydrilla was discovered in the tidal section of the Croton River, Westchester Co., NY. The population was already well-established and by November 2013 the infestation had reached the mouth of the Hudson River. In June 2014 a new infestation of hydrilla was found in Brooklyn's Prospect Park Lake. The most recent hydrilla infestation was reported in late September, 2015 in a small pond on Tinker Nature Park located in Henrietta, NY.
- Parrotfeather (NYS Threat Ranking Assessment Score = High, 76.67) is a submerged aquatic plant that forms dense mats in shallow water. The plant's tough stems can impede water flow and recreational use while providing ideal habitat for mosquito larvae. Parrotfeather has been found in the Peconic River on Long Island.
- Brazilian elodea (NYS Threat Ranking Assessment Score = High, 74.71) is a submerged, perennial that forms dense mats that can crowd out native plants, impact native fish populations, and interfere with recreational use. Brazilian elodea is primarily found on Long Island but populations are known in six counties in southern New York State.
- Starry stonewort (NYS Threat Ranking Assessment Score = Not Assessed) is a plant-like macro-algae which forms into dense beds, blanketing the bottom of the lake, reducing fish spawning habitat, outcompeting native plants and impeding recreational use. This invasive macro-algae is not new to New York State (it was first discovered in the St. Lawrence River in 1978), but it is not yet known to be in the Adirondack PRISM. Starry stonewort was first found in inland New York in 2005 in Oneida Lake. A study done in 2014 by the New York Botanical Garden discovered 21 new infestations across New York. Populations were found in Lake Ontario, the St. Lawrence River, the Finger Lakes, and in a few inland lakes spanning as far east as Otsego Lake.

Aquatic Invasive Animals

The Aquatic Project continues to elevate awareness on other animal threats, which have not yet been detected within the PRISM boundaries, but are known to be highly invasive in other areas of the state, and advises volunteers to keep a watch out for these species: rusty crayfish (*Orconectes rusticus*), fishhook waterflea (*Cercopagis bengoi*), quagga mussel (*Dreissena rostriformis bugensis*), round goby (*Neogobius melanostomus*) and Northern snakehead (*Channa argus*). The Aquatic Project also encourages volunteers to keep an eye out for banded mystery snail (*Viviparus georgianus*) which is present in the PRISM and considered invasive by some sources.

- Quagga mussel (NYS Threat Ranking Assessment Score = Very High, 88) is an invasive freshwater mussel that is an extremely efficient filter feeder, outcompeting native species for food. It also clogs water intake pipes and underwater screens. Quagga mussels were first reported in the Great Lakes in 1989 and have since been documented in the Erie Canal and the St. Lawrence River.
- Fishhook waterflea (NYS Threat Ranking Assessment Score = Very High, 84.04) is an invasive zooplankton that can alter the composition, structure, and function of the ecosystem by eating smaller zooplankton and by outcompeting native zooplankton and juvenile fish. It was introduced into Lake Ontario in 1998 and has since been spread throughout the Great Lakes and into the Finger Lakes region.
- Round goby (NYS Threat Ranking Assessment Score = High, 78.57) is a small, bottom dwelling fish that outcompetes native fish for food, shelter, and nesting areas. They also prey heavily on the eggs of native fish, including popular sport fish. The round goby are abundant in the St. Lawrence River and the Erie Canal.
- Rusty crayfish (NYS Threat Ranking Assessment Score = High, 78) is an invasive crayfish that displaces native crayfish and reduces native aquatic plant abundance and diversity. Its distribution in New York and neighboring states is not well known, but it is not yet known to be present in the PRISM.
- Northern snakehead (NYS Threat Ranking Assessment Score = High, 77) is a voracious predatory fish that feeds on a variety of aquatic fish and animals and outcompetes many native fish for food and habitat. Populations have been reported in the Long Island and Lower Hudson PRISMs.
- Banded mystery snail (NYS Threat Ranking Assessment Score = Not Assessed), is another snail that is reported in several locations in the PRISM that is considered invasive by some sources but non-native by others. These snails are striped and smaller than Chinese mystery snails, but can also reproduce quickly. At present, there are no known impacts associated with this species; however, in lab studies it has shown the potential to significantly reduce the survival of largemouth bass eggs and may prey on fish embryos. The current number of lakes known to contain banded mystery snail is 30, but the number is likely greater.

Terrestrial Invasive Plants

The Terrestrial Project and partners are also on the lookout for over 19 plant species that have not yet been documented in the Adirondack PRISM but are known to be highly invasive in other areas of the state such as Japanese stiltgrass (*Microstegium vimineum*), mile-a-minute vine (*Persicaria perfoliatum*), hardy kiwi (*Actinidia arguta*), lesser celandine (*Ranunculus ficaria*) and porcelain berry (*Ampelopsis brevipedunculata*). The project also keeps track of species that seem to be acting invasively in the PRISM, but whose true invasiveness is unknown. These species include Wild Caraway (*Carum carvi*), False spirea (*Sorbaria sorbifolia*), and Japanese tree lilac (*Syringa reticulata*) (Map 3). For the full list

of the Terrestrial Project's watched invasive plants, please contact APIPP's Terrestrial Project coordinator.

- Mile-a-minute (NYS Threat Ranking Assessment Score = Very High, 91.11) is a herbaceous vine that is native to India and Asia. Its distribution is widespread in southern NYS, with reports of isolated infestations in Cattaraugus and Broome Counties. As its name suggests, the plant has astonishing growth rates and can put on 6 inches of growth per day in ideal conditions. It forms dense mats that cover and shade out lower growing vegetation.
- Lesser celandine (NYS Threat Ranking Assessment Score = Very High, 85.56) is a low growing flowering perennial native to Europe. It grows in a variety of habitats from landscaped areas and roadsides, to forests, wetlands, and stream banks. It reproduces by seed and forms dense monocultures that crowd out native vegetation. It is currently widespread in southern NYS with additional infestations confirmed in Saratoga, Tompkins, Cayuga, Oswego, Monroe, Erie, and St. Lawrence Counties.
- Japanese stiltgrass (NYS Threat Ranking Assessment Score = Very High, 85.00) is native to India and Asia and is currently widespread in southern and central NYS. Isolated infestations have also been detected in Jefferson and Otsego Counties. It readily invades disturbed areas and is commonly found at trailheads, recreation areas, and roadsides. The invasiveness of Japanese stiltgrass is exacerbated in areas with high deer abundance. It grows in very dense mats that crowd and shade out native vegetation.
- Porcelain berry (NYS Threat Ranking Assessment Score = High, 71.26) is a climbing woody vine that is native to eastern Asia. It forms dense mats that climb into the forest canopy, shading out native vegetation. It is widespread in southern NYS and is commonly found along roadsides. Porcelain berry will also grow in forested wetlands and open fields.
- False spirea (NYS Threat Ranking Assessment Score = Unknown) is not native to the U.S. and is reported to grow aggressively from ornamental plantings. At least 15 occurrences are documented within the Adirondack region. Additional information is required to determine its invasiveness in the region.
- Japanese tree lilac (NYS Threat Ranking Assessment Score = Unknown) is not native to North America and was imported from northern Japan as an ornamental species. It is reported to easily escape cultivation and is capable of overtaking the forest understory, particularly in floodplain areas. Two occurrences have been reported in the Adirondack PRISM in the towns of Jay and Wells. Additional information is needed to determine its invasiveness in the region.
- Hardy kiwi (NYS Threat Ranking Assessment Score = Not assessed) is a woody vine that is native to northeastern Asia. It is commercially available as an ornamental/fruit crop species and is frequently planted in residential areas. While there is currently limited information available regarding the invasiveness of this species, anecdotal reports from Massachusetts and southern NYS suggest the plant can be highly invasive in natural areas. The vines can grow to extraordinary lengths and densities, shading out native vegetation below.
- Wild caraway (NYS Threat Ranking Assessment Score = Not assessed) is not native to the U.S. and colonizes roadsides and disturbed areas and is reported as invasive in some regions of Canada. It is a prolific seed producer, allowing it to spread rapidly and outcompete native vegetation. An occurrence was reported in 2011 on the Memorial Highway to Whiteface Mountain. The site was revisited and managed in 2012, 2013, 2014 and 2015.

Terrestrial Invasive Animals

A surveillance program for invasive forest pests that are not yet present in the Adirondack PRISM but pose a significant threat is currently underway in cooperation with the NYS DEC and Department of Agriculture and Markets (DAM). These species include Asian longhorned beetle (ALB) (*Anoplophora glabripennis*), emerald ash borer (EAB) (*Agrilus planipennis*), and hemlock woolly adelgid (HWA) (*Adelges tsugae*). Other invasive forest pests are present in the Adirondack PRISM but are either regionally widespread and beyond the point of control or are currently posing less severe impacts. Two of these species include balsam woolly adelgid (*Adelges piceae*) and sirex wood wasp (*Sirex noctilio*). The terrestrial project keeps an eye on these species as well to document any increased distribution or levels of impact.

- **Emerald ash borer** (NYS Threat Ranking Assessment Score = Very High, 96) is a small emerald green beetle that is native to Asia. It is an extremely destructive pest to ash trees in the *Fraxinus* genus. Extensive larval feeding activity cuts off nutrient and water flow throughout the tree, causing mortality. Emerald ash borer has been reported in 19 counties in central, western and southern NYS, but is not known to be present in the PRISM.
- **Hemlock woolly adelgid** (NYS Threat Ranking Assessment Score = High, 76) is a small insect that is native to East Asia. Adult insects insert a piercing-sucking mouthpiece into the base of a hemlock needle to feed on sap and the hemlock tree responds by walling off the wound. When this compartmentalization action is repeated on a large scale in response to a heavy adelgid infestation, nutrient and water flow is cut off within the tree, resulting in mortality. Hemlock woolly adelgid has caused widespread mortality of eastern hemlocks in the Catskill region of NYS and is now established in central and western New York. It is not known to be present in the PRISM.
- **Sirex wood wasp** (NYS Threat Ranking Assessment Score = High, 75.00) is native to Europe, Asia, and northern Africa. It is a pest of a wide variety of pine species and causes damage by laying its eggs underneath the bark of the host tree. Upon oviposition, the insect may also deposit a fungus that serves as a food source for its larvae, but is toxic to the host tree. Sirex woodwasp was first identified in NYS in 2004 in Oswego County. It now occupies virtually all counties in the western half of NYS and is present throughout the PRISM.
- **Asian long-horned beetle** (NYS Threat Ranking Assessment Score = High, 72.00) is a large beetle native to eastern China, Japan, and Korea that attacks a wide suite of hardwood trees. It is large (about 1.5" long) and has a black body with white spots. Adult beetles lay their eggs underneath the bark of hardwood trees. When the larvae hatch, they feed on the cambium and heartwood, girdling the tree and killing it from the inside out. Adults emerge from the tree and leave behind circular exit holes. Asian long-horned beetle has been reported in NYS in New York, Kings, Queens, and Nassau Counties, but is not known to be present in the PRISM.
- **Balsam woolly adelgid** (NYS Threat Ranking Assessment Score = not assessed) is a small insect native to Europe. Mature insects feed on the sap in branches, twigs, and the main stem of firs causing abnormal tree growth and compartmentalization that kills the tree. The balsam woolly adelgid has caused significant mortality of fir species in the Pacific Northwest, but its impacts in the Adirondacks have not been as severe. Mortality of individual trees has been observed, but widespread die offs have not yet occurred. Balsam woolly adelgid is currently known to be present in Essex and Hamilton Counties; however, it is likely widespread throughout the region as not all areas of the PRISM have been extensively surveyed.

Surveillance

This section describes survey efforts taken on by partners, APIPP staff and terrestrial and aquatic response teams to detect new invasions in the PRISM.

Aquatic Invasive Plants

- Coordinated 14th season of regional volunteer monitoring project for aquatic invasive plants.
- Since the start of the Aquatic Project in 2002, the number of waters surveyed annually has doubled and volunteer participation is more than three times the level of participation in the first year of the program (Figure 2).
- In 2015, 164 volunteer monitors and partner staff surveyed 98 Adirondack waterways for aquatic invasive plants (Table 1) and accrued almost 1,500 volunteer survey hours.
- Volunteer recruitment and retention remains high (Figure 3). Since 2002, the program has retained an annual average of 90 core volunteers and recruited an annual average of 56 new volunteers.
- In the first year of the Backcountry Water Monitors Project, 28 volunteers were trained and 14 ponds surveyed in the Lake Champlain Basin for aquatic invasive plants. A map of the adopted ponds can be found at the link below.
http://www.communitywalk.com/backcountry_waterbodies/backcountry_waterbodies/map/1853804
- Lakes historically invaded by one or more AIS with new AIS documented in 2015:
 - Eagle Lake (Essex Co.) – Curly leaf pondweed reported in fall of 2014 and identification confirmed in 2015. Eagle Lake is also known to be invaded by Eurasian water milfoil.
 - Franklin Falls (Franklin Co.) – An established population of variable leaf watermilfoil was found in Franklin Falls Flow in 2015. This lake is also known to be invaded by Eurasian watermilfoil.
 - Pecks Lake (Fulton Co.) – Variable leaf watermilfoil was discovered in Pecks Lake by the AIS Response Team in 2015. Pecks Lake is also known to be invaded by spiny waterflea.
 - Loon Lake (Warren Co.) – Water chestnut was found in Loon Lake in 2015. For details about the response see the Early Detection & Rapid Response section below.
 - Lake George – A single water chestnut plant was found in Lake George in 2015. This plant was removed upon discovery.
- Lakes newly invaded upon survey in 2015:
 - Square Pond (Franklin Co.) – Eurasian watermilfoil and variable leaf watermilfoil were both reported in Square Pond in 2015. Both species had established populations and are likely to have been present in the pond for quite some time.

Aquatic Invasive Animals

- Coordinated 3rd season of regional monitoring for invasive waterflea (spiny and fishhook).
 - APIPP's AIS response team conducted zooplankton tows on 38 lakes. No new infestations of spiny waterflea or fishhook waterflea were found.
- This was the fourth year of the lake-wide survey to identify new locations of Asian clams in Lake George. The survey was coordinated by Lake George Asian Clam Rapid Response Task Force. Two new locations were identified this summer. The full report documenting survey efforts can be found at the link below. <http://www.stoptheasianclam.info/>

Terrestrial Invasive Plants

- In collaboration with NYS DEC’s Invasive Species Campground Manager, inventoried and mapped garlic mustard, purple loosestrife, knotweed spp., common reed, wild parsnip, Japanese barberry (*Berberis thunbergii*), and honeysuckle spp. (*Lonicera spp.*) At 38 NYS DEC land-based campgrounds, 3 NYS DEC island campgrounds, and 12 other NYS DEC trailheads or intensive use areas in the Adirondacks. For more information on this project visit the following link. <http://adkinvasives.com/wp-content/uploads/2015/12/Adirondack-Park-State-Campground-Terrestrial-Invasive-Plant-Management-Program-Report-2015-FINAL.pdf>
- In collaboration with partners and APIPP’s terrestrial response team, surveyed and mapped some or all of the following right of ways: state routes 10, 11, 22, 28, 28N, 3, 30, 374, 458, 56, 73, 8, 86, 9, 9N, 9L, I-87 and county routes 25, 26, 27, 5, and 60.
- In collaboration with the terrestrial response team and APIPP’s seasonal educator, performed a one day survey of the Five Ponds Wilderness Area Invasive Species Prevention Zone. The team surveyed 44 roads and 4 recreation access points that were located in or near the Five Ponds Wilderness Area. Eight infestations of target plant species were detected, along with several infestations of lower threat species associated with open and disturbed areas such as spotted knapweed (*Centaurea stoebe*), chicory (*Cichorium intybus*), and sweetclover species (*Melilotus spp.*).
- In collaboration with the terrestrial response team and NYS DEC’s Invasive Species Campground Manager, surveyed for invasive plant infestations in the following forest preserve units:

Independence River WF	Horseshoe Lake WF	Split Rock Mountain WF
McKenzie Mountain WA	Jessup River WF	Sargent Ponds WF
Raquette River WF	Cranberry Lake WF	Moose River Plains WF
Grasse River WF	Saranac Lake WF	Ferris Lake WF
Giant Mountain WA	Wilcox Lake WF	Debar Mountain WF
Essex Chain Lakes Complex	Black River WF	Blue Mountain WF
Black River WF	Pharaoh Lakes WA	

WF = Wild Forest, WA = Wilderness Area

- New infestations of target plant species documented in the PRISM
 - Common reed grass – 327 infestations
 - Knotweed spp. – 109 infestations
 - Garlic mustard – 20 infestations
 - Yellow iris – 14 infestations
 - Oriental bittersweet – 3 infestations
 - Black swallow-wort – 6 infestations
 - Purple loosestrife – 16 infestations
- New infestations of watched plant species documented in the PRISM
 - Japanese tree lilac – APIPP received reports of two infestations of Japanese tree lilac in the towns of Jay and Wells. Site visits are still needed to confirm these infestations.

Terrestrial Invasive Animals

- Offered assistance as needed to state and federal partners for invasive forest pest and Eurasian boar surveillance.
- Collaborated with the ADK to implement the Backcountry Forest Monitoring Program. Volunteers under this program surveyed 58 forest areas for hemlock woolly adelgid. Hemlock woolly adelgid was not discovered during these surveys. Survey areas are identified on the map

at the link below

http://www.communitywalk.com/adopted_hemlock_stand_areastrails/map/1747076

- Conducted a forest pest survey as part of the National Plant Diagnostic Network Enhanced First Detector Training Program. Visual surveys were conducted near Goose Pond and Crane Pond in the Pharaoh Lakes Wilderness Area for hemlock wooly adelgid, emerald ash borer, and Asian longhorned beetle. No forest pests were detected during the survey.
- New infestations of target animal species documented in the PRISM
 - No new infestations of target animal species were detected in 2015.
- New infestations of watched animal species documented in the PRISM
 - Balsam woolly adelgid – Two new infestations were documented; one on the shoreline of Indian Lake in Hamilton County and one on the Intervale Lowlands Preserve in Lake Placid

Early Detection & Rapid Response

This section describes early detection and rapid response efforts taken on by partners, APIPP staff and terrestrial and aquatic response teams to quickly control new and/or small invasions in the PRISM.

Aquatic Invasive Species

- Loon Lake (Warren Co.) – On June 4th Aquatic Invasive Management, LLC. (AIM) discovered 10 water chestnut plants in the northern bay of the lake while harvesting Eurasian watermilfoil. AIM hand harvested the water chestnut plants and conducted a survey of the area looking for any other satellite populations. No other water chestnut plants were found. APIPP and the Loon Lake Association will continue to monitor the lake in future years to look for returning water chestnut plants.
- Fish Creek Ponds (Franklin Co.) – On June 28th a boater reported the sighting of a water chestnut nutlet near Fish Creek boat launch to an AWI boat launch steward. The AIS response team and the Upper Saranac Lake Foundation responded quickly by conducting extensive surveys in Fish Creek the next day. No water chestnut plants were found during the survey effort.

Terrestrial Invasive Species

- In collaboration with APIPP's terrestrial response team and NYS DEC's Invasive Species campground Manager, detected 300 new infestations of APIPP's target plant species that were under 0.1 acres in size. The Terrestrial Project was able to perform rapid response management on 152 of these infestations totaling 4.6 acres having acquired the proper permissions and/or permits.

Ongoing Management

This section describes ongoing management efforts taken on by partners, APIPP staff and terrestrial and aquatic response teams to control historic and/or large invasions in the PRISM.

Aquatic Invasive Plants

- APIPP implemented year 9 of the European frog-bit elimination project on the Grasse River near Lampson Falls (Figure 4).
- There are ongoing management efforts being conducted by APIPP partners across the region to mitigate the negative impacts of aquatic invasive plants

- Eurasian watermilfoil control efforts – Brant Lake, Caroga Lake, Chateaugay Lake, Follensby Clear Pond, Hadlock Pond, Lake George, Lake Luzerne, Loon Lake, Meacham Lake, Minerva Lake, Mountain View, Paradox Lake, Schroon Lake, Seventh Lake (Fulton Chain), Sixth Lake (Fulton Chain), and Upper Saranac Lake.
- Variable-leaf watermilfoil control efforts – Lake Placid, Paradox Lake, Raquette Lake, and Upper Saranac Lake.
- Water chestnut – Lake Champlain and Hadlock Pond.

Aquatic Invasive Animals

- In 2010, partners in Lake George established the Asian Clam Rapid Response Task Force to institute a rapid response for invasive Asian clam. Lake George's management of Asian clam continued from 2012 into 2013, featuring an over-winter management effort of seven acres of clam beds using benthic barriers. This was highly effective, achieving 98-100% clam mortality in covered areas. This gave the Task Force confidence about continuing this system and working to address the other 20 known affected acres in the lake. However, prior to implementing the fall 2013 control efforts, surveys noted that new areas of small Asian clams had developed outside of the managed areas. It appeared that unknown populations of almost microscopic juvenile clams were present in the areas surrounding the barriers, and those juveniles created new populations. As a result, the Darrin Fresh Water Institute (DFWI) developed a sampling and lab analysis methodology to identify populations of juveniles, and that method was employed at a newly discovered clam site in the Town of Putnam called Glenburnie. Following the new sampling efforts, the total affected area was managed with benthic barriers in October 2013. The mats remained in place over the winter. In 2014, divers removed just over a half acre of benthic barriers from the Glenburnie Asian Clam site. Following the removal of the mats, an intensive survey using 2 mm sieves was completed by DFWI. A total of 487 sieve samples were taken and no live Asian clams were found in the survey. A lake-wide survey was completed in early September of 2014 and no new significant locations were found, although one new small location was found and a number of existing sites expanded in size. The survey in 2015 identified two new locations and slight expansion of several existing sites. Control efforts continued in 2015 in Lake George with the management of one of the two newly identified infestations in the lake. Rogers Rock State Campground beach was identified as having a newly discovered population, and two acres of benthic barriers was laid over the entire infestation to smother the clams. The goal is to eliminate all of the Asian clams at this site as a rapid-response effort, working to keep these populations in check around the lake.

Terrestrial Invasive Plants

- In collaboration with APIPP's terrestrial response team and NYS DEC's Invasive Species Campground Manager, performed follow-up management actions on 313 infestations of APIPP's target and watched plant species totaling approximately 19.4 acres. Management actions follow BMP's outlined in the "Inter-Agency Guidelines for Implementing Best Management Practices to Control Terrestrial and Aquatic Invasive Species on DEC Administered Lands of the Adirondack Park". These guidelines can be found at the following link.
<http://adkinvasives.com/wp-content/uploads/2015/06/IAG-FINAL-2014-REVISION.pdf>
 - Common reed grass - A total of 162 infestations were revisited and received follow-up management. 160 infestations were treated with a herbicide, while two very small historic

- infestations were managed mechanically via pulling. A total of 7.95 acres of common reed grass were managed.
- Knotweed spp. - A total of 95 priority infestations were revisited and received follow-up management. 94 infestations were treated using an herbicide, while only 1 very small historic infestation was treated mechanically via digging. A total of 5.42 acres of knotweed species were managed.
 - Giant hogweed - All 16 known historic infestations were revisited during the 2015 field season. Rosettes were present at eight infestations, five were treated with a herbicide and three were managed mechanically via digging. A total of 0.16 acres of giant hogweed were managed.
 - Garlic mustard - A total of 11 historic infestations were revisited and managed in 2015 via pulling. A total of 0.56 acres of garlic mustard were managed.
 - Yellow iris - A total of 19 historic yellow iris infestations were managed in 2015. 15 were treated mechanically by digging or pulling and 4 were treated using an herbicide.
 - Oriental Bittersweet - One historic management site totaling 0.02 acres was revisited and treated using herbicide.
 - Purple loosestrife - Two historic infestations totaling 0.35 acres were managed mechanically via pulling. One purple loosestrife bio-control release was completed at the intersection of state routes 458 & 30. APIPP staff also assisted partners at the Essex County and Warren County Soil and Water Conservation Districts with bio-control agent collections for releases to be performed in other parts of the PRISM.
 - Black swallow-wort - A total of 6 historic black swallow-wort infestations, covering 0.70 acres, were revisited and treated with herbicide in 2015.
 - Wild caraway – Isolated infestations of wild caraway were managed around the summit of Whiteface Mountain in Wilmington via pulling.

Terrestrial Invasive Animals

No ongoing management of terrestrial invasive animals was performed in the PRISM in 2015.

Species Distribution & Management Trend Analysis

This section describes trends seen in species distribution and ongoing management efforts being implemented in the PRISM.

AIS Distribution Trend Analysis

- Over 70% of the lakes and ponds surveyed by APIPP volunteers and partners since 2001 are reported as being free of aquatic invasive plants (Table 2, Figure 5).
- On average 4.2 Adirondack lakes are newly documented with AIS each year (Figure 5).
- 2010 was the first year aquatic data was recorded in GIS, which has been updated each year. Utilizing GIS allows the Aquatic Project to conduct more detailed spatial analysis of the distribution of invaded and uninvaded lakes in the region. This analysis helps APIPP prioritize where early detection surveys should occur as well as identify current pathways of invasion. APIPP's lake survey and distribution data are available on the iMap invasives website at the following link. <http://imapinvasives.org/>.

AIS Management Trend Analysis

- Implemented year 9 of the European frog-bit elimination project on the Grasse River near Lampson Falls (Figure 4). The initial infestation was less than one quarter acre in size. Thirty-six buckets of plant material were harvested the first year of control in 2007. In 2015, a single plant was found and removed. Additional surveys and harvesting will be conducted by the Aquatic Project until no new frog-bit plants are observed for at least three consecutive years.
- Management efforts of Eurasian watermilfoil have been taking place since 2006 in Schroon Lake. Using their 10 year history of recorded management data, the East Shore Schroon Lake Association (ESSLA) commissioned a report to evaluate their success of removal. Over 10 years, almost 67,000 plants were removed and there was a downward trend in the amount of Eurasian watermilfoil harvested in eight of the twelve control zones. The full report documenting ESSLA's management progress can be found at the following link.
<http://essla.org/publication/view/ewm-10-year-comparison-hand-harvesting-results/>.
- The Upper Saranac Lake Foundation has been controlling Eurasian watermilfoil since 2004. They have seen a continued reduction of Eurasian watermilfoil density and quantity around the lake over that time from a record high harvest of around 40,000 lbs. removed in 2004 to 307.5 lbs. removed in 2015. A report documenting the Foundation's management efforts and progress can be found at the link below.
<http://usfoundation.net/blog/milfoil/>

Terrestrial Invasive Species Distribution Trend Analysis

- Twenty-seven of 38 land-based NYS DEC Adirondack campgrounds have target invasive plants present: 20 have garlic mustard, 10 have purple loosestrife, five have knotweed species, and two have common reed. Of the three island campgrounds surveyed, only Indian Lake Islands had a target invasive plant present with approximately 200 purple loosestrife plants removed. Mapping and management efforts indicate that invasive plant distribution is increasing at 9 state campgrounds, decreasing at 14 and stable at 5; with 13 having no invasive plants present (Table 3).
- According to the Terrestrial Project's invasive plant distribution database, approximately 1108 of 2570 mapped target invasive plant infestations have been documented within the jurisdictional right-of-ways (ROW) of NYS DOT and local highway departments; however, this number underrepresents the actual number of infestations along the ROW as not all road corridors in the PRISM have been surveyed extensively.
- According to the Terrestrial Project's invasive plant distribution database, approximately 549 of 2570 mapped target invasive plant infestations have been documented on the forest preserve or other NYS DEC administered lands within the Adirondack PRISM. However, this number underrepresents the actual number of infestations present on NYS DEC administered lands as none of the forest preserve units in the PRISM have been surveyed completely.
- Although the total number of invasive species occurrences in the Adirondacks is unknown, the majority of the infestations within the interior Adirondacks are small (approximately 0.08 acres). According to research conducted by Rejmanek and Pitcairn, elimination of infestations < 1 ha (2.47 acres) in gross area (area over which the plant is distributed) have been shown to have the highest likelihood of success.

Terrestrial Invasive Species Management Trend Analysis

- Common reed grass - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 924 common reed infestations have been identified within the PRISM, with 337 occurrences located within the core area. As of 2015, 56 of these infestations have been deemed eliminated after having no common reed plants observed for at least three consecutive years. An additional 58 infestations have had no common reed plants observed for two consecutive years, while 50 infestations had no common reed plants observed for the first time in 2015. As of 2015, 41% of the common reed infestations managed by APIPP within the core area have been documented to have no common reed observed for at least one year (Figure 6).
- Knotweed species - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 767 infestations of knotweed species have been identified within the PRISM, with 370 located in the core area. Of these 370 infestations, 225 have been deemed of highest priority for management due to their close proximity to a riparian corridor or state highway ROW. As of 2015, 5 of these infestations have been deemed eliminated after having no knotweed plants observed for at least three consecutive years. An additional 5 infestations have had no knotweed plants observed for two consecutive years, while fourteen infestations had no knotweed plants observed for the first time in 2015 (Figure 7).
- Garlic Mustard - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 176 garlic mustard infestations have been identified within the PRISM, with 120 occurrences located within the core area. APIPP staff are currently in the process of evaluating garlic mustard management efforts that have taken place since 2010 to produce a more detailed management trend analysis.
- Purple Loosestrife - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 388 purple loosestrife infestations have been identified within the PRISM. APIPP manages new, small, isolated infestations of purple loosestrife on a case by case basis. Since the plant is regionally widespread APIPP has relied heavily on bio-control releases over the past three years to suppress larger infestations of purple loosestrife. In the past three years, APIPP has conducted purple loosestrife bio-control releases at 7 large high priority infestations within the "Core Area" of the Adirondack PRISM.
- Giant Hogweed - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 16 giant hogweed infestations have been identified within the PRISM. Since 2010, all of these infestations have been actively managed by APIPP. As of 2015, 5 of these infestations have been deemed eliminated after having no giant hogweed plants observed for at least three consecutive years. Three additional sites have gone through one year of having no giant hogweed plants observed. In addition, all other sites that were actively managed in 2015 only contained basal rosettes. Therefore, no new seeds were added to the seed bank and management trends should continue to improve over time with sustained control efforts (Figure 8).
- Yellow Iris - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 102 yellow iris infestations have been identified within the PRISM, with 88 occurrences falling inside the core area. Since 2010, 88 of these yellow iris infestations have been actively managed. As of 2015, 1 of these infestations has been deemed eliminated after having no yellow iris plants observed for at least three consecutive years. An additional 7 infestations have been documented as having no yellow iris observed for their first year, and a single infestation was documented as having no yellow iris observed for two consecutive years (Figure 9). There was an increased number of yellow iris infestations with lost data in 2015 as a result of a GPS malfunction during the early field season.

- Oriental Bittersweet - Since the beginning of APIPP's target terrestrial invasive plant mapping efforts, 22 oriental bittersweet infestations have been identified in the PRISM, with 11 occurrences located in the core area. Since 2010, 3 of these infestations have been actively managed by APIPP. APIPP hopes to expand its oriental bittersweet management efforts over the coming years.
- Swallowwort Species - Since the beginning of APIPP's priority terrestrial invasive plant mapping efforts, 14 swallowwort species infestations have been identified within the PRISM. As of 2015, 4 of these infestations are actively being managed due to their close proximity to the core area. One black swallowwort infestation, and the only known pale swallowwort infestation transitioned into having no swallowwort observed for the first time in 2015. APIPP is currently seeking permission from private landowners to manage several other high priority infestations of swallowwort that are located in close proximity to the core area.

Post-Management Monitoring

This section describes post-management monitoring efforts implemented by partners, APIPP staff and contractors to evaluate native species recovery at previously invaded sites.

Aquatic Project

- The aquatic response team conducted monitoring on Lake Luzerne, Paradox Lake, and Schroom Lake, all of which are actively being managed for Eurasian watermilfoil. The team delineated aquatic plant beds and documented species found for these lakes in their final report which can be found at the following link http://adkinvasives.com/wp-content/uploads/2015/12/Supplemental_Data_2015.pdf.

Terrestrial Project

- APIPP contracted with Adirondack Research LLC. in 2015 to conduct monitoring on 60 of the Terrestrial Project's historically managed common reed and knotweed spp. infestations. The monitoring project found that the number of species documented between treated and reference areas was similar. However, plant density was still greater in reference areas than treated areas even after several years of recovery. For more information on this project visit the final report located at the link below.
http://adkinvasives.com/wp-content/uploads/2015/12/121217_Final-Report.pdf

APIPP ACTIVITIES

Seasonal Staffing

This section describes seasonal staffing opportunities advanced by partners and APIPP staff in the PRISM.

- Offered one seasonal invasive species educator position: Jane Raffaldi served as APIPP's seasonal educator. Jane assisted with the education, outreach and training activities described throughout this report.
- Collaborated with NYS DEC and SUNY ESF to offer one seasonal state campground invasive species specialist position. Steven Slonosky served in this position. Steven conducted mapping and management of terrestrial invasive plants at state campgrounds and trailheads throughout the Adirondack Park and was supervised by APIPP's Terrestrial Project Coordinator.
- Collaborated with NYS DEC's Adirondack SCA team members who assisted in invasive plant management and surveillance at campgrounds during three weeks of the summer.
- Contracted out with Invasive Plant Control Inc. and the AWI to staff two seasonal response teams; one for terrestrial invasive plants and one for AIS. APIPP's Terrestrial and Aquatic Project Coordinators supervised these teams.
- Collaborated with the AWI to staff nearly 70 boat launch stewards and boat wash technicians under the Adirondack AIS Prevention Pilot Program.

Education and Outreach

This section describes invasive species education and outreach efforts advanced by partners and APIPP staff in the PRISM.

- Participated in more than 60 events and workshops.
- Reached more than 2,050 individuals through formal presentations by APIPP staff.
- Coordinated numerous events during the 2nd Annual NY Invasive Species Awareness Week which can be reviewed at the link below.
<http://adkinvasives.com/calendar/invasive-species-awareness-week/>
- Collaborated with specific groups on the following invasive species awareness projects:
 - Collaborated with the Essex County Adirondack Garden Club (ECAGC) to host the workshop "New York State's Invasive Plant Regulations: What Nursery Growers, Landscapers & Gardeners Need to Know" at Fort Ticonderoga.
 - Collaborated with the ADK to implement the Adirondack Backcountry Forest and Waters Monitoring Program.
 - Workshop presentations and training materials can be found on APIPP's website at the following link <http://adkinvasives.com/resources/training-materials/>
- Staffed information tables at the following community events: The Elizabethtown, Keene Valley, Willsboro, Warrensburg, Keeseville, Saranac Lake and Old Forge farmer's markets, The Wild Center Festival, the Mayor's Cup Regatta, the Schroon Lake Association Arts & Crafts Fair, Hamilton County Waterfest, Adirondack Lakes Alliance Symposium, the Adirondack Chapter of The Nature Conservancy's annual meeting, the Essex County Fair and Fish Creek Pond Campground, Canton Local Living Festival, Old Forge Paddlefest,

- Presented to groups at the following schools: Saranac Central high school, Lake Placid high school, Clarkson University, SUNY Potsdam and Pathways and Technology Early College high school.
- Offered AIS presentations to the following groups: Mirror Lake Watershed Association, Community Development Commission, Lake Placid Land Conservancy, Lake Placid Shore Owner's Association, Village of Lake Placid, Chateaugay Lake Association, Adirondack Park Agency Board, Cranberry Lake Association, ADK Mountain Club, Adirondack Lakes Alliance and the NYS Invasive Species Advisory Committee.
- APIPP staff Presented during the following conferences: New York Chapter of American Fisheries Society Conference, Cornell Local Roads Conference, Cornell Invasive Species In-service, Adirondack Lakes Alliance Inaugural Symposium.
- Distributed one newsletter which can be found at the link below
<http://adkinvasives.com/wp-content/uploads/2015/06/ROOTS-Spring-Summer-2015.pdf>
- Distributed three APIPP brochures: one about the program, one about our target invasive plants, and one about invasive animals. Made available other program materials including door hanger notifications and management guidelines for landowners.
- Received and responded to over 45 “Contact Us” inquiries through the adkinvasive.com website
- Utilized PRISM email listserv, hosted by Cornell at cce-apipp-1@cornell.edu, to reach interested audiences.
- Prepared and distributed APIPP’s 2015 Annual Report.

Training Sessions

This section describes invasive species related training sessions advanced by partners and APIPP staff in the PRISM.

Aquatic Project

- Provided three training sessions on invasive and native aquatic plant identification and surveillance techniques. Partners who assisted with the sessions included Larry Eichler, DFWI, Scott Kishbaugh NYS DEC, and Corey Laxson AWI.
 - Trained 96 participants (Figure 1): 14 participants in Bolting Landing, 27 in Paul Smith, and 55 in Speculator.
- Provided one training session on aquatic invasive animal identification. Mark Malchoff, Lake Champlain Sea Grant Program, assisted with the session.
 - Trained 11 participants in Warrensburg.
- Partnered with the ADK to host two training sessions in aquatic invasive plant identification and monitoring techniques for the Adirondack Backcountry Waters Monitoring Program.
 - Trained 32 participants at sessions offered at the ADK Loj in Lake Placid.
- Materials from these trainings are posted on APIPP’s website and can be found at the following link. <http://adkinvasives.com/resources/training-materials/>
- Distributed training manuals and secondary education resources for volunteer use.

Terrestrial

- Provided three training sessions on invasive plant identification and management techniques to land owners.
 - Trained 25 participants at sessions offered in Elizabethtown, Warrensburg and Westport.

- Partnered with the ADK to host a backcountry forest pest monitoring training workshop
 - Trained 27 participants at the ADK Loj in Lake Placid
- Partnered with the Local Living Venture in Canton to provide a Terrestrial Invasive Plant Management Training during the Local Living Festival.
 - Trained 8 participants on control techniques for APIPP's target terrestrial invasive plants.

APIPP co-sponsored or was invited to participate in the following training sessions:

- Cary Institute of Ecosystem Studies – Invasive Species Science & Management Forum. A video recording of the presentation given during this forum can be found at the link below.
<http://www.caryinstitute.org/discover-ecology/science-management-forums/invasive-species-hudson-valley-0/utilizing-terrestrial>
- ADK Backcountry Forest Pest Monitoring Trainings
- ADK Backcountry Waters Monitoring Trainings
- NYS DEC Region 5 Operations Training
- NYS DEC Backcountry Steward Training
- NYS DOT Statewide Environmental Research and Training Webinar Series
- iMap Invasives New & Advanced User Training
- Cornell Local Roads Highway School
- Adirondack SCA Training
- Paul Smith's College Watershed Stewardship Program Training
- Fort Ticonderoga Gardening and Landscaping Workshop
- The Nature Conservancy's Invasive Species Learning Network Webinar Series. A video recording of the presentation given during this webinar can be found at the link below.
<https://nethope.webex.com/cmp04011sp13/webcomponents/jsp/docshow/closewindow.jsp>

Regional Planning and Coordination

This section describes APIPP's efforts to serve in a regional invasive species planning and coordination role for the PRISM.

- Collaborated with the NYS DEC and Paul Smiths College AWI to coordinate and implement the Adirondack AIS Prevention Pilot Program.
- Collaborated with the Adirondack Common Ground Alliance to identify and begin discussions on regional terrestrial invasive species issues.
- Advised the Adirondack Lakes Alliance as they expanded their network and held their inaugural symposium.
- Collaborated with and provided guidance to the Regional Inlet Invasive Plant Program and Bolton Terrestrial Invasive Plant Program <http://www.noknotweed.org/index.html>.
- Held two full APIPP partner meetings. Meeting minutes can be found at the links below.
http://adkinvasives.com/wp-content/uploads/2015/11/2015-Fall-Partner-Meeting-Minutes_Final.pdf
<http://adkinvasives.com/wp-content/uploads/2015/05/2015-APIPP-Spring-Partner-Meeting-Minutes.pdf>
- Collaborated and attended quarterly meetings with the other seven PRISMs and DEC's Invasive Species Coordination Unit.
- Participated in monthly PRISM webinars.

- Contributed research priorities to the NYS Invasive Species Research Institute (NYS ISRI).
- Submitted all invasive species related data to be incorporated into the statewide iMap invasives database.

Research

This section describes recent research on invasive species in the Adirondack PRISM conducted by academic institutions, partners, APIPP staff and contractors.

- SUNY College of Environmental Science & Forestry: “Recreational use patterns and their influence on terrestrial invasive plant introductions in the Adirondacks” (Daniel Rockefeller - Master’s Thesis)
- Binghamton University: “Mitigating Aquatic Invasion: Implementation of Predictor Models in New York’s Adirondack Park” (Artur Yakubov - Master’s Thesis)
- Fordham University: “Evidence for Evolution in Glyphosate Tolerance, But Not Resistance, Based on History of Exposure to the Herbicide in Japanese Knotweed in New York (Acer VanWallendael - Master’s Thesis)
- Hamilton College: “Assessing the Relative Importance of Stressors on Aquatic Invasive Species Spread in the Adirondack Park” (Amelia Denney and Annie Emanuels – Adirondack Semester Internship)
- Union College: “Applying Decision Analysis Tools to Invasive Species Management: A Retrospective Analysis of Garlic Mustard control (Dr. Jeffrey Corbin, Matthew Wolford, Brendan Quirion and Chris Zimmerman – Joint Research Project)
- Adirondack Research LLC: “Native Vegetation Reestablishment Analysis; Post Treatment surveys of Japanese Knotweed and *Phragmites australis* in the Adirondack Park” (Dr. Ezra Schwartzberg & Owen Hardy - Contracted through APIPP)

APIPP Achievement Awards

- The APIPP team awards Achievement and Agency Leadership Awards to recognize individuals or agencies who demonstrate dedication and innovation in invasive species prevention and management. This year’s Agency Leadership Award was presented to Leigh Walrath of the APA in appreciation of his exceptional agency leadership to protect Adirondack waterways from AIS.

Regional Milestones

- APIPP and the NYSDEC held a ribbon cutting ceremony/press event at the Second Pond boat wash and decontamination station in Saranac Lake during New York State’s Invasive Species Awareness Week to commemorate the start of the Adirondack AIS Prevention Pilot Program.
- The Lake George Park Commission instituted its second year of a mandatory boat inspection and decontamination program and committed to continue the program permanently into the future.
- The Adirondack Lakes Alliance recruited new lake and river associations and held its inaugural symposium at Paul Smiths College in July.
- The Common Ground Alliance identified terrestrial invasive species as a top priority for policy.
- The AWI expanded its Watershed Stewardship Program at boat launches and staffed 12 new boat wash & decontamination stations in 2015.

State & Federal Partner Updates

Information supplemented by the NYS DEC Invasive Species Coordination Unit, NYS DAM, NYS DOT, APA, NYS LGPC, and USDA APHIS. Information is provided to give a snapshot of invasive species initiatives being advanced by State and federal partners.

NYS DEC Invasive Species Coordination Unit

- NYS DEC hired its first AIS coordinator, Cathy McGlynn
- NYS DEC is in the process of hiring two invasive species coordinators under an agreement with SUNY College of Environmental Science and Forestry
- The FY15-16 State Environmental Protection Fund included \$5.7 million to implement the recommendations of the Invasive Species Task Force and included \$1 million for eradication and control, \$550K for Lake George, and \$1,000,000 for the Adirondack AIS Spread Prevention Pilot Program.
- The Governor, NY Invasive Species Advisory Committee, Invasive Species Council, and PRISMs endorsed NY's second invasive species awareness week held July 12 – 18.
- The NYS DEC released draft regulations prohibiting the launch of boats and associated equipment and floating docks without having taken AIS spread prevention actions before launching at any public boat launch.
- Regulations to implement the Invasive Species Prevention Act, which was signed by the Governor in July 2012, resulting in New York's first lists of prohibited and regulated invasive species took effect 3/10/15.
- The NYS DEC finalized the New York State AIS Management Plan.
- All eight NY PRISMS are now funded and have coordinators; some PRISMs are approaching the end of their contract terms with NYS and administration of these PRISMs will be under a competitive bidding process to continue delivery of services for the next five years.
- NY PRISMs continued to meet with partners to implement regional initiatives, and, PRISM Leaders participated in quarterly conference calls and meetings to identify opportunities for inter-PRISM collaboration.
- iMap Invasives enhanced the functionality of its statewide database.
- The New York Invasive Species Education and Outreach program completed a statewide invasive species awareness poll under NYS DEC funding.
- The NY Invasive Species Clearinghouse maintained its website, www.nyis.info.
- The NYS DEC, in cooperation with The Nature Conservancy and PRISM Leaders, facilitated monthly statewide invasive species conference calls.
- The NY Invasive Species Council met three times and the NY Invasive Species Advisory Committee met four times.
- NYS DEC funded interns to detect and control invasive species and to assist with the NY iMapInvasives database.
- NYS DEC funded research on what techniques are effective in decontaminating boats of AIS
- NYS DEC funded research and eradication of Eurasian Boar
- NYS DEC funded research testing a biological control agent for Water Chestnut
- NYS DEC funded a full time forest invasive insect outreach and education position
- NYS DEC continued funding hydrilla control in Cayuga Lake (Tompkins County)
- NYS DEC funded southern pine beetle control on Long Island

- NYS DEC funded a survey of the Hudson River from the vicinity of Croton to Kingston and Croton River (Westchester Co) for hydrilla to gather information to inform control options.
- NYS DEC funded a study to inform control options for the hydrilla infestation in the Croton River.
- NYS DEC funded water chestnut control in Lake Champlain

NYS DAM

- NYS DAM staff conducted outreach presentations at several horticultural meetings throughout the state to raise awareness among nursery and landscape industry professionals on the implementation of the Part 575 regulations.
- NYS DAM Staff conducted 903 Grower inspections and 694 Dealer Inspections that included Part 575 compliance between March and September 2015.
- NYS DEC and NYSDAM revised the emerald ash borer regulations to create regulated zones in the areas of the state with active infestations
- NYS DAM continues to work closely with USDA APHIS PPQ to survey for exotic, invasive pests that could threaten NYS plant resources.
- NYS DAM continues to work closely with USDA, APHIS PPQ to eradicate Asian longhorned beetle and plum pox virus from NYS.

NYS DOT

- NYS DOT staff mapped any new and assessed the status of any previously identified infestations of common reed grass, knotweed species and purple loosestrife along the Northway in Essex County. Infestations were flagged as necessary for treatment.
- A team of NYS DOT certified applicators treated approximately 30 infestations along the Northway, with an emphasis on knotweed species and common reed. Only a few infestations of Japanese knotweed were identified and all were treated. Many of the common reed infestations were moderate in size and 50-70% of those identified were treated. Infestations of purple loosestrife along the Northway in Essex County were numerous, and only a small subset could be treated with herbicide. Evidence of *Galerucella* beetles or beetle damage was not observed in the purple loosestrife infestations found along the Northway. NYSDOT Region 1 staff will be releasing *Galerucella* beetles into selected areas of infestation along the Northway in order to initiate bio-control for purple loosestrife in 2016.
- NYS DOT staff treated 5 infestations of purple loosestrife along the route 30 corridor in the vicinity of Long Lake.
- NYS DOT staff assisted with site preparations and signage placement for boat wash and decontamination stations located along the state ROW under the Adirondack Invasive Species Prevention Pilot Program.
- NYS DOT helped provide funding to Cornell University to begin developing a bio-control for common reed grass.
- NYS DOT invited APIPP to present on invasive plant best management practices during one of its Statewide Environmental Research and Training Webinars.

NYS APA

- In June of 2015 the APA Board approved GP2015G-1, an AIS rapid response / containment general permit authorizing the use of hand harvesting and benthic barriers.

- In November of 2015 the Agency's Board approved general permit 2015G-2 for rapid response of AIS, which replaces a general permit that had been in place since 2008.
- APA staff assisted APIPP with siting of the new boat wash and decontamination stations constructed under the Adirondack AIS Prevention Pilot Program.
- APA staff assisted APIPP in adapting the Lake Champlain Basin Rapid Response Action Plan for AIS into an Adirondack Region Rapid Response Action Plan for AIS.
- The Agency re-authorized the use of a mechanical harvester on Hadlock Pond. The harvester is used to control nuisance and invasive species on the lake. Staff worked with the applicant to develop a plan which greatly improved operation efficiency and which included the removal of plant fragments (which were being generated by harvesting operation) from the lake.
- APA staff inspected more than a dozen water bodies to understand the extent of AIS within each water body, and to provide support to the local lake associations and shore owners.

NYS LGPC

- 2015 marked the second year of Lake George's mandatory trailered boat inspection and decontamination program as a keystone effort to prevent the introduction of AIS into the lake. All trailered boats must be "clean, drained and dry" to pass inspection and enter Lake George, and if they are not, they receive decontamination through a high pressure, high temperature wash. There is no cost to the boaters for this program, thanks to funding from both NYS and local municipalities and nonprofit organizations that support this effort. Through this program, more than 10,000 boats were inspected prior to launch into Lake George in 2015, and a similar amount of boats were inspected on their way out to minimize exporting any AIS to other water bodies. The LGPC administers this program, and is pleased to report that through programmatic efficiencies the cost of the 2015 program was reduced by approximately 25% over the previous year while administering more boats than 2014. A recent Siena Research Institute Poll concluded that 96% of recreational users of Lake George support this effort; an astounding level of backing for a state regulatory initiative. Given the support and success of the program, the Commission voted unanimously in September of 2015 to move forward with making this program permanent.
- Lake George continued its aggressive battle against Eurasian watermilfoil, expending \$400,000 in 2015 in a concerted hand-harvesting effort to greatly reduce populations of the invasive plant in the lake. More than 100,000 pounds of milfoil was removed in 2015, in the second of a three-year push to eliminate all dense beds in the lake and reduce populations in the 200+ known locations found throughout the 32 mile long lake.
- Efforts to control Asian clam populations also continued in 2015 in Lake George, with the management of one of the two newly identified sites in the lake. Rogers Rock State Campground beach was identified as having a newly discovered population, and two acres of plastic mat was laid over the clams to smother them. The goal is to eliminate all of the Asian clams at this new site as a rapid-response effort.

USDA APHIS

- New York previously had Eurasian boar breeding populations in six counties: Clinton, Onondaga, Cortland, Tioga, Delaware, and Sullivan Counties. USDA APHIS Wildlife Services (WS) developed a five-pronged approach to monitor the state of New York for feral swine as part of its elimination plan. The 5 prongs of the plan are: on the ground management and surveillance, an early detection network, collaborating with law enforcement, aerial surveillance,

and canine surveillance. WS obtained permission to monitor 150 properties for swine in 2015. This gave WS access to over 70,550 acres of land that had a history of feral swine activity or were in the vicinity of historical feral swine activity. WS searched and monitored all of the locations and found no evidence of feral swine activity in 2015. WS received 28 feral swine sightings from either the public or through NYS DEC's electronic feral swine reporting system. WS investigated all reported sightings with no evidence of feral swine being found.

Online Resources & Videos

- Hamilton County Soil and Water Conservation District's Giant Hogweed video, <http://www.youtube.com/watch?v=wg9Y9LZjCh4>,
- Northern Forest Canoe Trail's "Clean Drain Dry for Paddlers" video, <http://www.youtube.com/watch?v=AUFmOPNb2cU>
- St. Lawrence Eastern Lake Ontario (SLELO) PRISM "Digital Short" video, <http://www.youtube.com/watch?v=z3EAD1EUw04>
- Northeast Aquatic Nuisance Species Panel Online Guide to Aquatic Nuisance Species: <http://www.northeastans.org/online-guide/>
- AIS instructional video for seaplane operators, <http://www.aopa.org/Education/Safety-Videos/How-to-Stop-the-Spread-of-Invasive-Plants-and-Animals-by-Seaplane.aspx>
- "Lake Defenders," PBS Documentary, <http://www.mountainlake.org/programs/documentaries-and-specials/lake-defenders.html>;
- Lake George Association's "Clean, Drain, Dry" video, <http://youtu.be/CjnSpm6v7WM>;
- Hamilton County Soil and Water Conservation District's Forest Pest Detection video, <http://www.youtube.com/user/hamiltoncoswcd>
- The USDA, USFS, and The Nature Conservancy, among others, produced a DVD, "Lurking in the Trees," which describes the infestation and response to Asian longhorned beetle in Worcester, MA
- The American Wildlife Conservation Foundation, which is active in the Capital – Mohawk PRISM, produced a forest pests CD, <http://www.vimeo.com/8981916>
- At the federal level, the US Forest Service produced a video on spread prevention methods for hunters and fishermen, <http://www.fs.fed.us/invasivespecies/prevention/defending.shtml>.
- A documentary video, "Playing Smart Against Invasive Species: How to Enjoy and Protect the Great Outdoors," was released by the USDA Forest Service as part of the National Invasive Species Threat Campaign, with support from many organizations, <http://www.fs.fed.us/invasivespecies/prevention/playingsmart.shtml>.
- The Cayuga Lake Watershed Network and Cornell University's Outdoor Education and Environmental Departments completed an educational film on the Hemlock Woolly Adelgid in 2015, <https://vimeo.com/142058610>

Statewide Invasive Species Program Links

- NYS DEC website for invasive species information: <http://www.dec.ny.gov/animals/50121.html>
<http://www.dec.ny.gov/animals/6986.html>.
- New York Invasive Species Clearinghouse, <http://nyis.info/>
- iMap invasives, <http://imapinvasives.org/>
- New York State Invasive Species Research Institute, <http://nyisri.org/>

2016 Objectives

- APIPP's 2016 Adirondack PRISM Staff Work Plan will be uploaded to its website in the spring of 2016 and will include a complete list of objectives and tasks. Priorities will include:
 - Recruit a seasonal Invasive Species Educator
 - Coordinate Aquatic and Terrestrial Response Teams
 - Coordinate and advance the Adirondack AIS Prevention Pilot Program
 - Expand the early detection program for aquatic invasive animals
 - Develop a 5-year strategic communications and marketing plan for APIPP
 - Move through a 3-tier priority setting process to re-evaluate and assess APIPP's priority species, management areas and projects.
 - Complete and share APIPP's first prevention and management training videos.
 - And much more!

**Thank you for your help in protecting the Adirondack region from invasive species.
With thanks to past and present cooperating partners and more than 760 Volunteers!**

Adirondack Association of Towns and Villages
Adirondack Cooperative Loon Program
Adirondack Council
Adirondack Information Group, Inc.
Adirondack Lakes Alliance
Adirondack Lake Survey Corporation
Adirondack Landowners' Association
Adirondack Local Governmental Review Board
Adirondack Mountain Club
Adirondack Museum
Adirondack North Country Association
Adirondack Park Agency
Adirondack Park Agency Visitor Interpretive Centers
All Taxa Biodiversity Inventory
Au Sable River Association
Bass Angler Sportsmen Society
Boquet River Association
CAP-21
Clinton and Essex County Master Gardeners
Cornell Cooperative Extension County Offices (Clinton, Essex, Hamilton, St. Lawrence and Warren)
Cornell University
Darrin Fresh Water Institute
NYS Department of Agriculture and Markets
NYS Department of Environmental Conservation
NYS Department of Transportation
Essex County Adirondack Garden Club, Garden Club of America
Federal Highways Administration
Great Sacandaga Lake Advisory Committee
Hamilton College
Hamilton County Soil and Water Conservation District
Hudson River Black River Regulation District
Lake Champlain Basin Program
Lake Champlain Sea Grant
Lake George Land Conservancy
Lake George Park Commission
Lake George Association
The Fund for Lake George
Lake Placid/Essex County Visitors Bureau

Massawepie Scout Camps
National Grid
Natural History Museum of the Adirondacks
NYS Department of State
NYS Invasive Species Council
NYS Invasive Species Advisory Committee
North Country School and Camp Treetops
Paul Smith's College Adirondack Watershed Institute
Protect the Adirondacks
Regional Inlet Invasive Plant Program
Student Conservation Association
St. Regis Mohawk Tribe
SUNY ESF Wanakena, Newcomb
SUNY Plattsburgh
The Nature Conservancy
Town of Inlet
Town of Webb, DPW
Trout Unlimited
United State Department of Agriculture, APHIS/PPQ
Village of Saranac Lake
Warren County Soil and Water Conservation District
Wildlife Conservation Society

Shoreowner groups including, but not limited to
6th and 7th Lake Association
Beaver Lake Association
Bellmont Mountain View Indian Lakes Foundation
Big Moose Property Owners' Association
Big Wolf Lake Association
Blue Mountain Lake Association
Brandreth Lake Association
Brant Lake Association
Brantingham Lake Association
Canada Lake Protective Association
Chateaugay Lakes Association
Chazy Lake
Cranberry Lake Boat Club
East Caroga Lake Protective Association
East Shore Schroon Lake Association
Friends Lake Association

Fulton Chain of Lakes Association
Great Sacandaga Lake Association
Gull Pond Association
Hadlock Lake Association
Horseshoe Pond/Deer River Flow Association
Indian Lake Association
Jones Pond Association
Lake Colby Association
Lake George Association
Lake Placid Shore Owners' Association
Lake Pleasant Sacandaga Association
Lake Luzerne
Lewis Creek Association
Little Long Lake Association
Livingston Lake Association
Long Lake Association
Long Pond Association
Loon Lake Association
Lower Saranac Lake Association
Minerva Lake
Mirror Lake Association
Mt Arab Eagle Crag Association
Mt View and Indian Lakes Association
Osgood Pond Association
Paradox Lake Association
Piseco Lake Association
Rainbow Lake Association
Raquette Lake Property Owners' Association
Schroon Lake Association
Silver Lake Association
St. Regis Chain of Lakes Association
Star Lake Protective Association
Spy Lake Association
Upper Saranac Lake Foundation
Upper Saranac Lake Association
West Caroga Lake Association
And More!