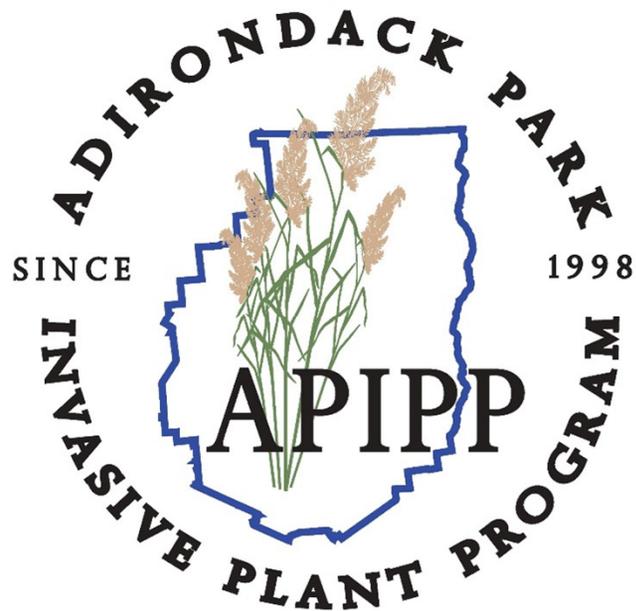




The Adirondack Park Invasive Plant Program; Leveraging Partnerships to Model Invasive Species Prevention & Management Success

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Mission:

To protect the Adirondack region from the negative impacts of invasive species

Goals:

1. Prevent new introductions.
2. Rapidly detect and respond to new infestations.
3. Manage existing priority infestations to mitigate impacts.

Funding:

NYS Environmental Protection Fund

APIPP is a Partnership Program



Department of
Environmental
Conservation



Transportation



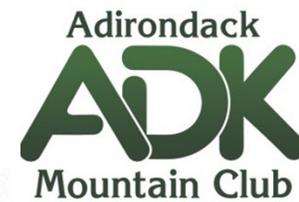
Adirondack
Park Agency



The Nature
Conservancy



Adirondack
Research LLC
Invasives species|Climate Change



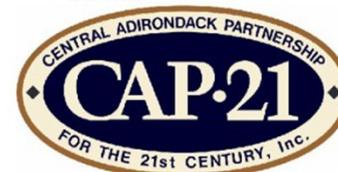
Lake Champlain
Basin Program



ADIRONDACK
WATERSHED INSTITUTE
PAUL SMITH'S COLLEGE



Cornell University
Cooperative Extension



What is an Invasive Species?

Native Species



Species indigenous to the region/present prior to European settlement

Non-native Species (*Exotic, Introduced, Alien*)



Accidental or purposeful introduction of a species outside of its historic range

Nuisance Species (*pest*)



Species that we put our own value judgments on

Invasive Species (*Noxious*)



Non-native species that rapidly reproduces, displaces native species and causes **ecological, economic, or societal harm**

Ecological Impacts



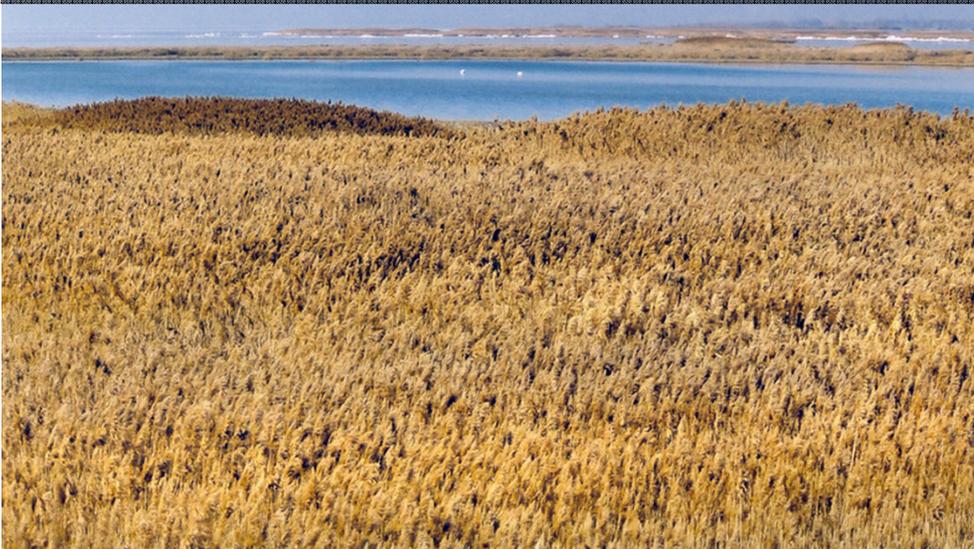
Zebra & Quagga Mussels



Water Chestnut



Phragmites



Hemlock Woolly Adelgid



Economic Impacts



Tree removal costs & reduced property values



Reduced shoreline property values & visitor spending



Reduced crop production



Increased construction costs

Human Health Impacts



Hazard Trees & Reduced Air Quality



Blocked Signage & Lines of Sight

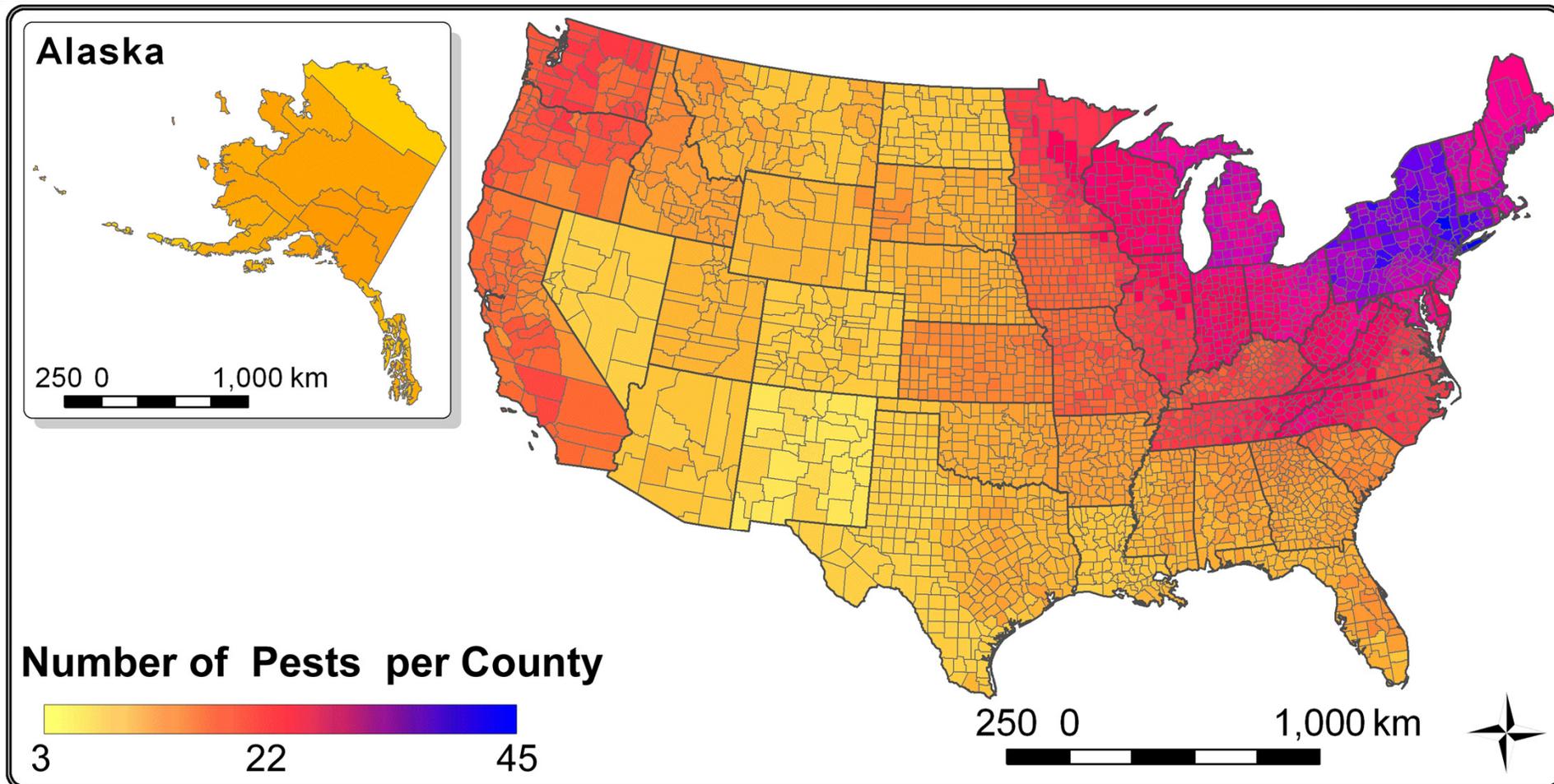


Tick Borne Diseases



Burns & Rashes

Why does New York take the invasive species threat so seriously?



Implications for the Adirondacks



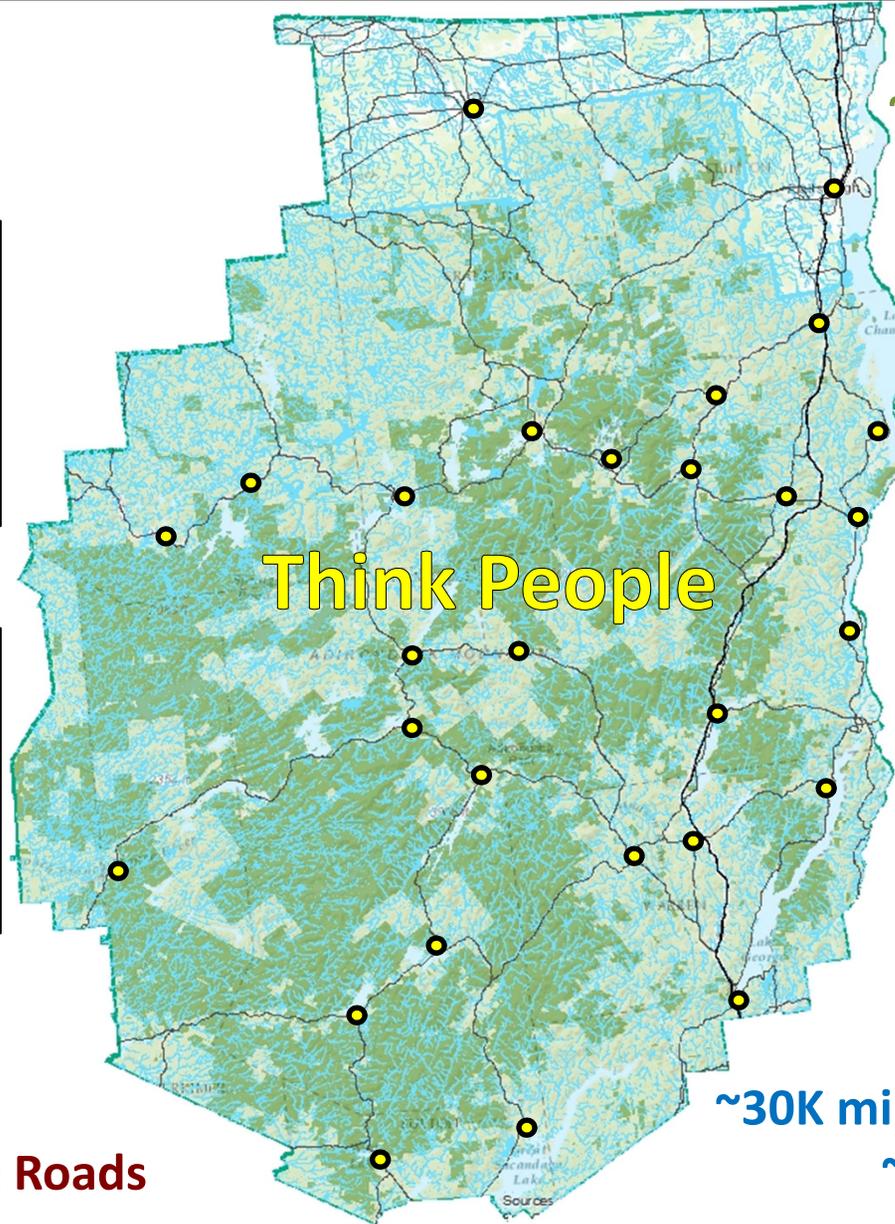
The Adirondacks in a Nutshell



Think BIG
~7.2 million acres



Think REMOTE
~1700 miles of State Roads



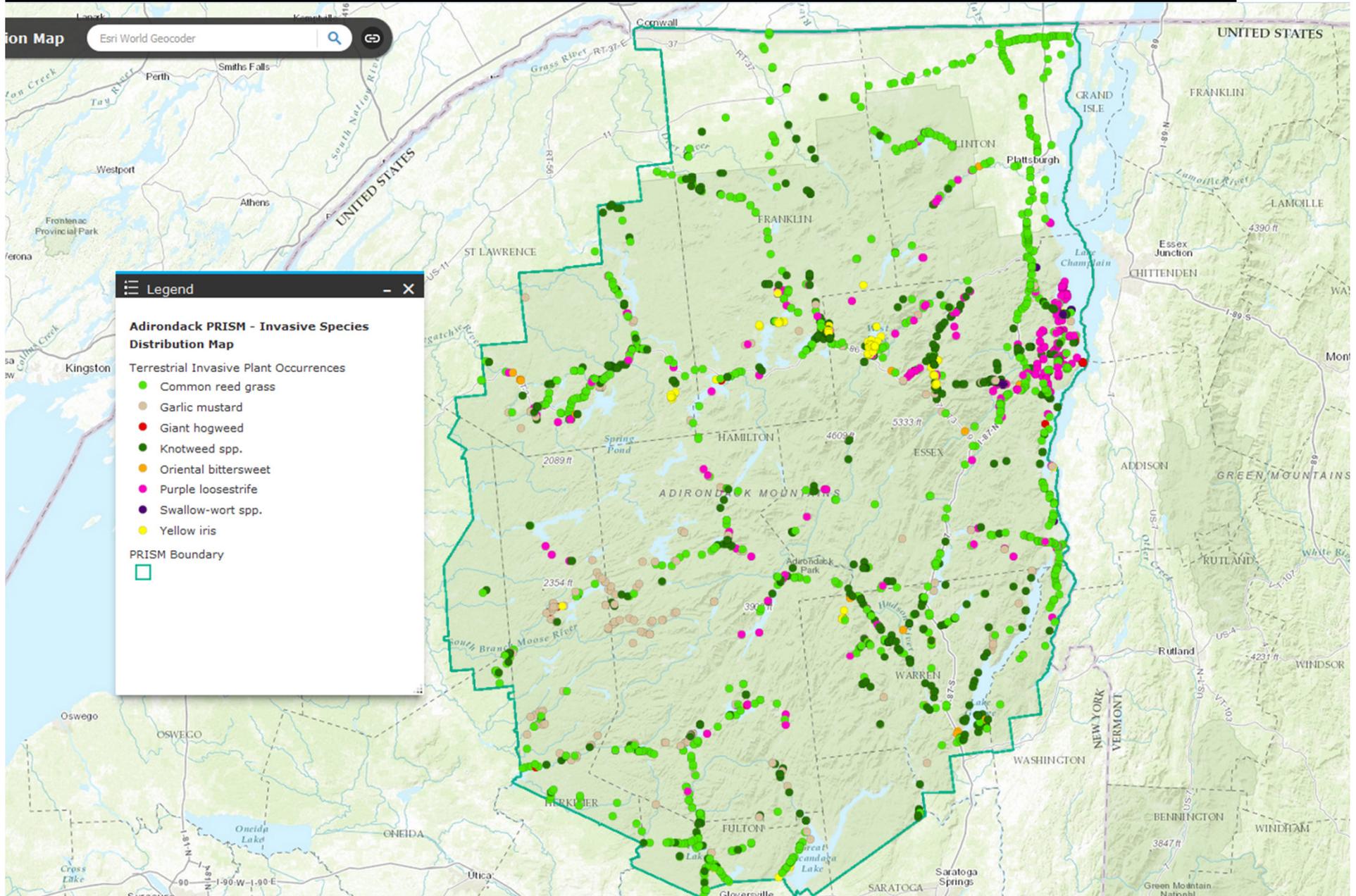
Think People

Think Protected
~3.4 Mil. Ac. Forest Pres.



Think WET
~3K Lakes & Ponds
~30K miles of rivers and streams
~ 600K acres of wetlands

Terrestrial IS Distribution



Legend

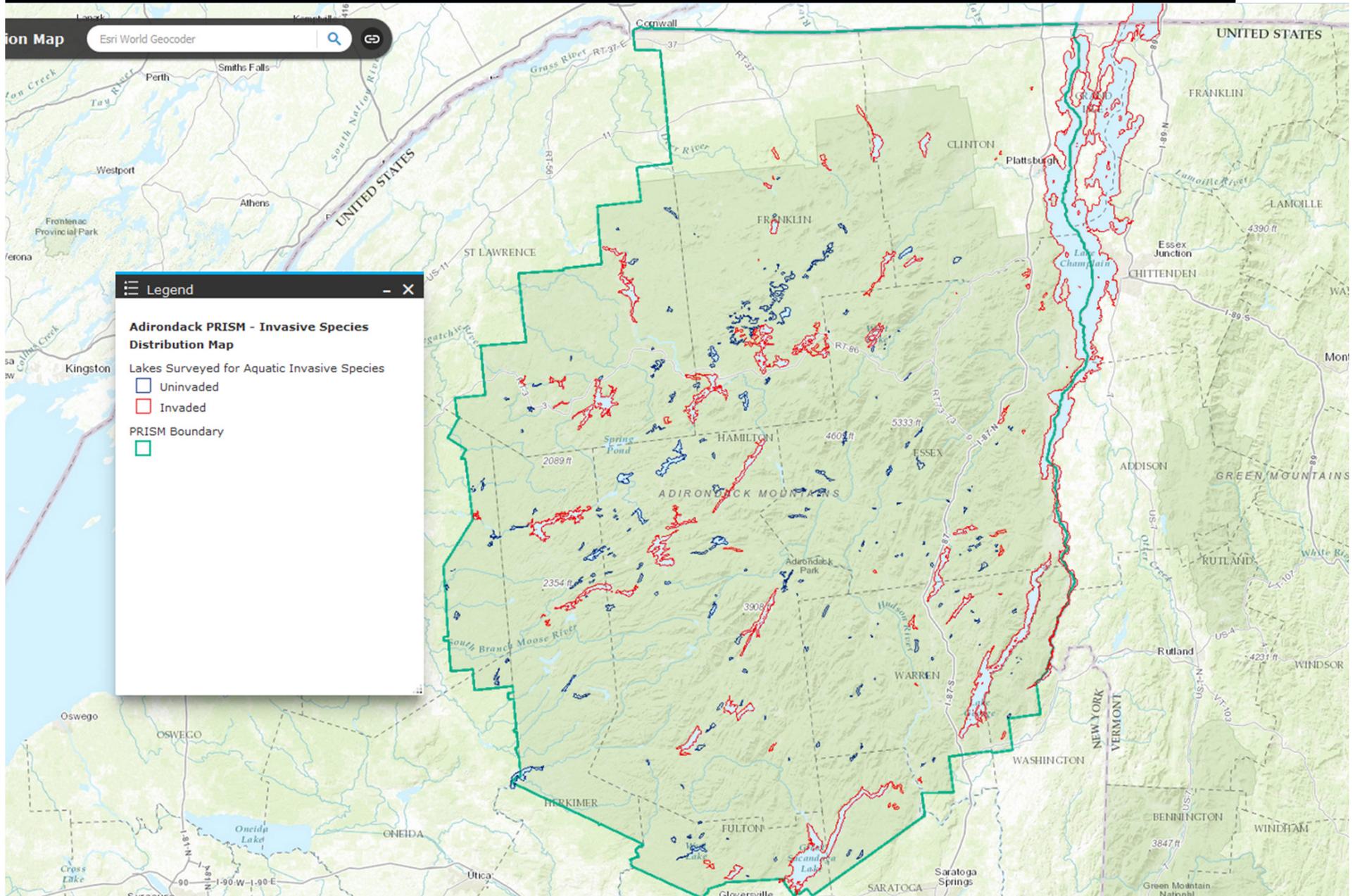
Adirondack PRISM - Invasive Species Distribution Map

Terrestrial Invasive Plant Occurrences

- Common reed grass
- Garlic mustard
- Giant hogweed
- Knotweed spp.
- Oriental bittersweet
- Purple loosestrife
- Swallow-wort spp.
- Yellow iris

PRISM Boundary

Aquatic IS Distribution



The Case for Action



- Excluding Lake Champlain, only 12 aquatic invasive species (AIS) have been detected within the Adirondack Region. Three out of every four lakes surveyed are still free of AIS
- A newly detected terrestrial invasive plant infestation is usually under .1 acres in size. Infestations are most commonly associated with human disturbance (roads, trails, etc.) and have not yet invaded the interior forest.
- Highly destructive forest pests such as emerald ash borer and hemlock woolly adelgid are still isolated in the region



What is Being Done?

Awareness Building



Educational Events & Trainings



AIS Identification & Survey Trainings



Nearly 2000 people reached through presentations and trainings alone so far in 2017

Invasive Plant Identification & Management Trainings



Over 15000 people reached since 2009

Prevention



Promoting CDD under the Adirondack AIS Prevention Program
www.adkcleanboats.com

Promoting the use of native plants and clean fill in gardening and landscaping

Know Before You Grow

have a devastating effect. Invasive plants are non-native, grow quickly and rapidly reproduce. They cause major changes to the areas where they become established. They can harm the environment, economy and even human health.

PLANTWISE ADK
PROMOTES RESPONSIBLE GARDENING AND LANDSCAPING USING NON-INVASIVE PLANTS

PLANT WISE ADK

Most of today's worst invasive plants arrived as ornamental additions that escaped our gardens and landscapes. If we want to keep invasive plants out of our natural areas, we need to place non-invasive plants into our gardens. The good news – and an outcome that few others areas can claim – is that within the Adirondack Park, opportunities still exist to prevent invasive plants from becoming widespread. You can help.

VISIT adkinvasives.com TO LEARN MORE ABOUT NATIVE AND INVASIVE PLANTS AND TO GET INVOLVED

Plantwise ADK is a partnership between the Essex County Adirondack Garden Club and Adirondack Park Invasive Plant Program.

PLANT WISE ADK



Promoting the use of local firewood for camping and heating

Early Detection



AIS Volunteer Monitoring Program

Backcountry Monitoring Programs



700+ volunteers assisted/assisting with surveillance and early detection efforts.

Rapid Response



Terrestrial & Aquatic Rapid Response Teams



Over 2203 infestations of invasive plants managed since 2011. 471 historically managed infestations documented as having no plants observed.

Surveyed 126 lakes for AIS since 2015. Only 10 documented as having newly existing infestations.

Lower Cherrypatch Wetland - 2003



Lower Cherrypatch Wetland - 2010





Monitoring & Restoration

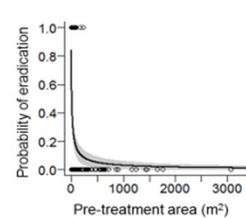


Data Analysis & Research



Cornell University

Management of invasive *Phragmites australis* in the Adirondacks: a cautionary tale about prospects of eradication

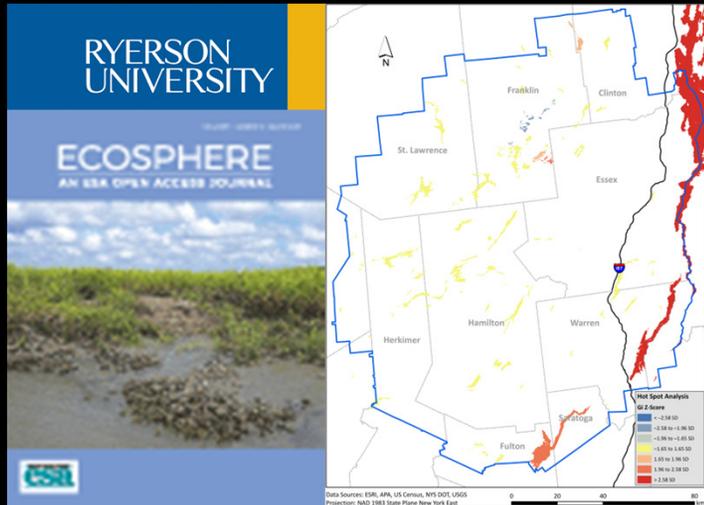


0.36 m²
Small 83%

Medium
45 m² 26%

Large
>3000 m² 1%

Figure 3. Probability of *P. australis* eradication according to pre-treatment patch size (m²). Lines depict model predictions from a Generalized Linear Model with binomial errors and shaded areas represent 95% CI based on model predictions (Quirion et al. 2016)



Predicting aquatic invasion in Adirondack lakes: a spatial analysis of lake and landscape characteristics

Assessing feasibility in invasive plant management: a retrospective analysis of garlic mustard control

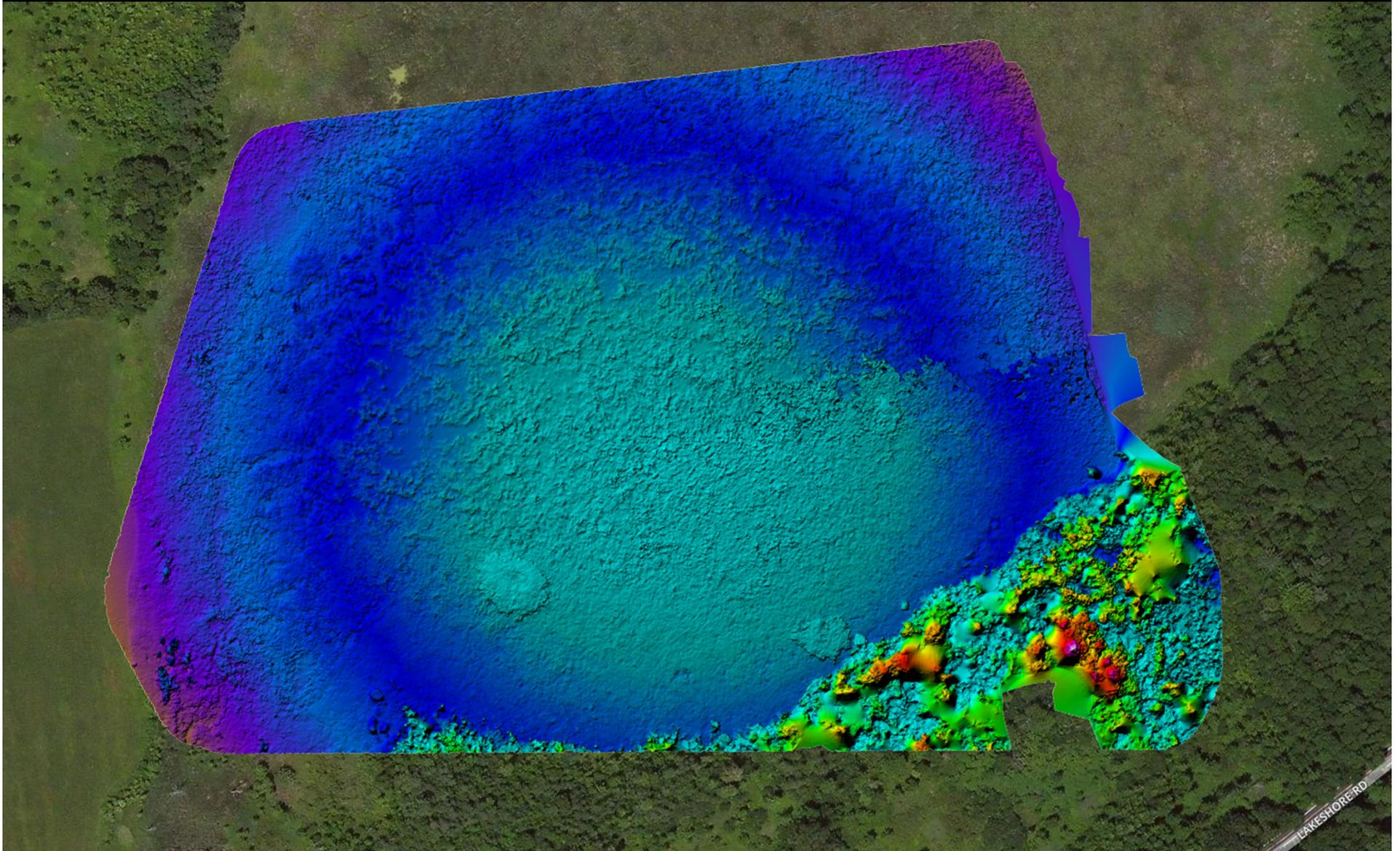


INVASIVE PLANT MANAGEMENT
IPMDAT
DECISION ANALYSIS TOOL

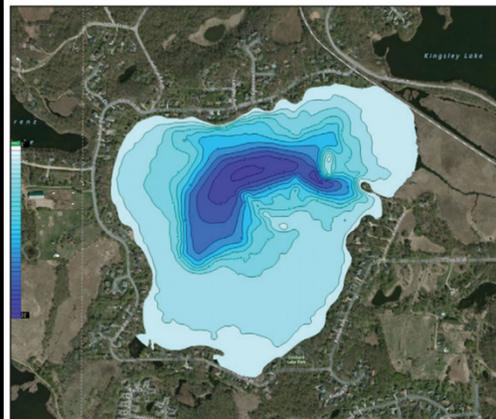
Innovation & Adaptive Change



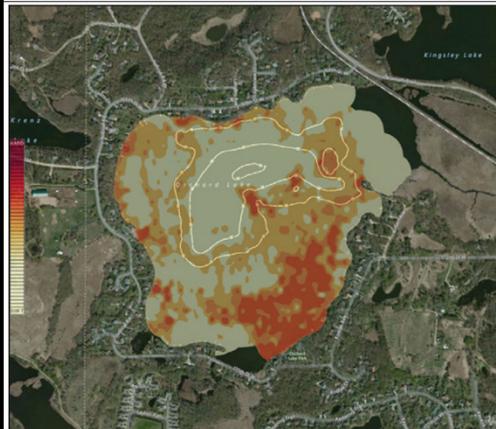
Remote Sensing Infestations



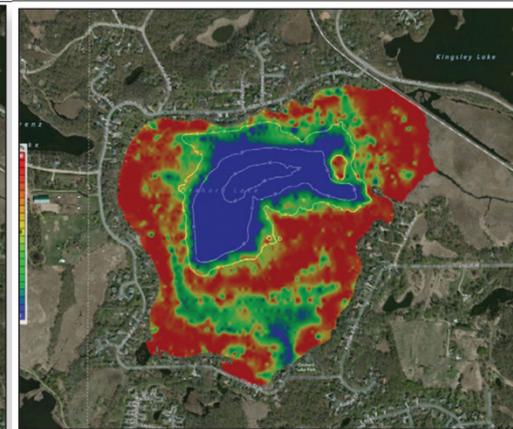
Predicting Lake Vulnerability



Bathymetry



Bottom Hardness

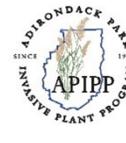


Vegetation Density (% biovolume)

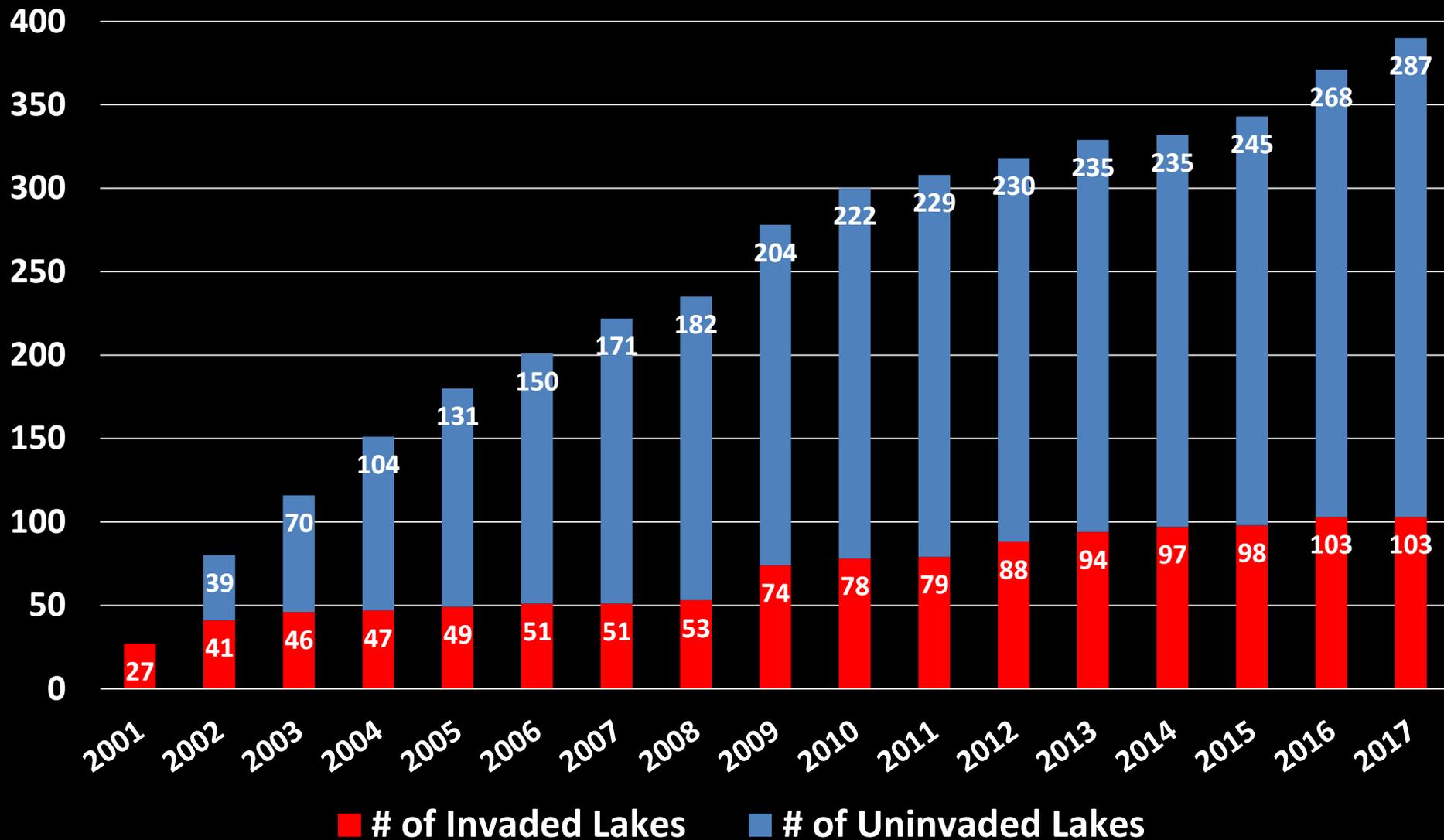


Is it working?

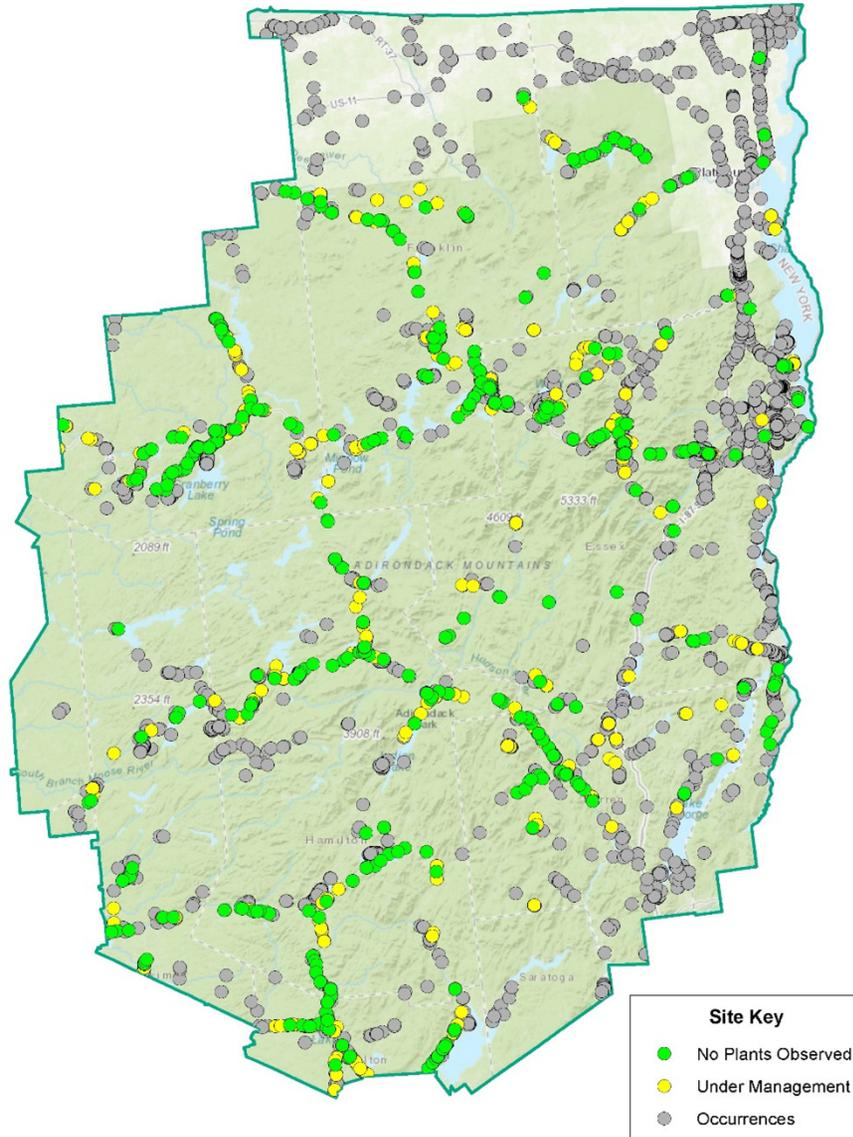
Score Card for Adirondack Waters



Status of lakes/ponds surveyed by APIPP



Score Card for Adirondack Lands



~500 priority infestations actively being managed

~500 have no invasive species observed or have been deemed eradicated

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**APIPP is only as strong as its partners.
Will you join us?**



Adirondack
Research LLC
Invasives species|Climate Change



Sharing information for
strategic management



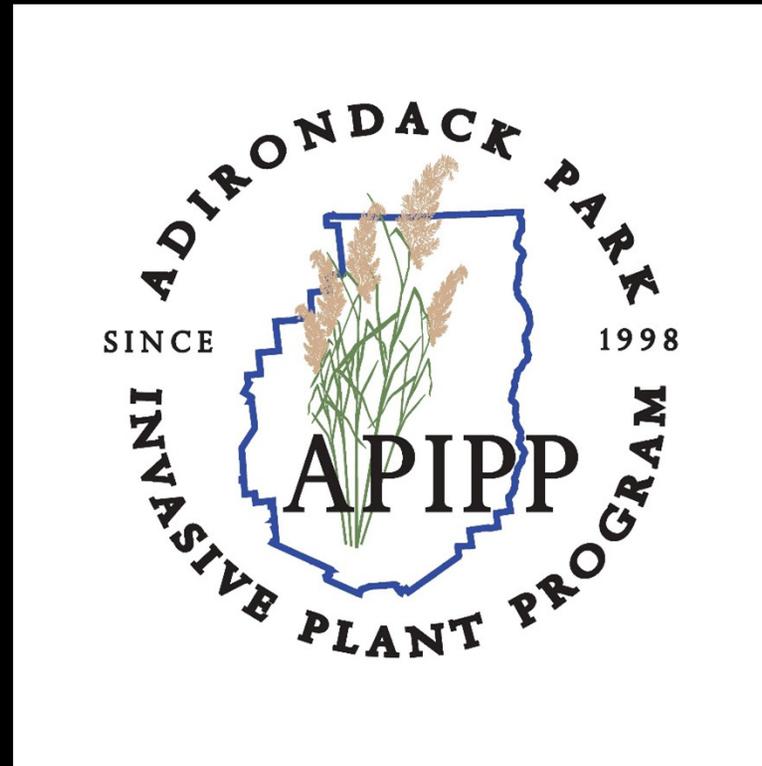
Lake Champlain
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Thank You



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