



Rediscovery of Two Federally Listed Rare Plant Species in New York



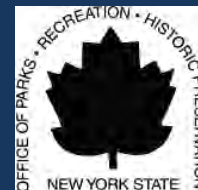
Kimberly J. Smith, NY Natural Heritage Program and NYS Office of
Parks, Recreation, and Historic Preservation

and

Steve Young, NY Natural Heritage Program
Northeast Natural History Conference 2011



**New York
Natural Heritage
Program**





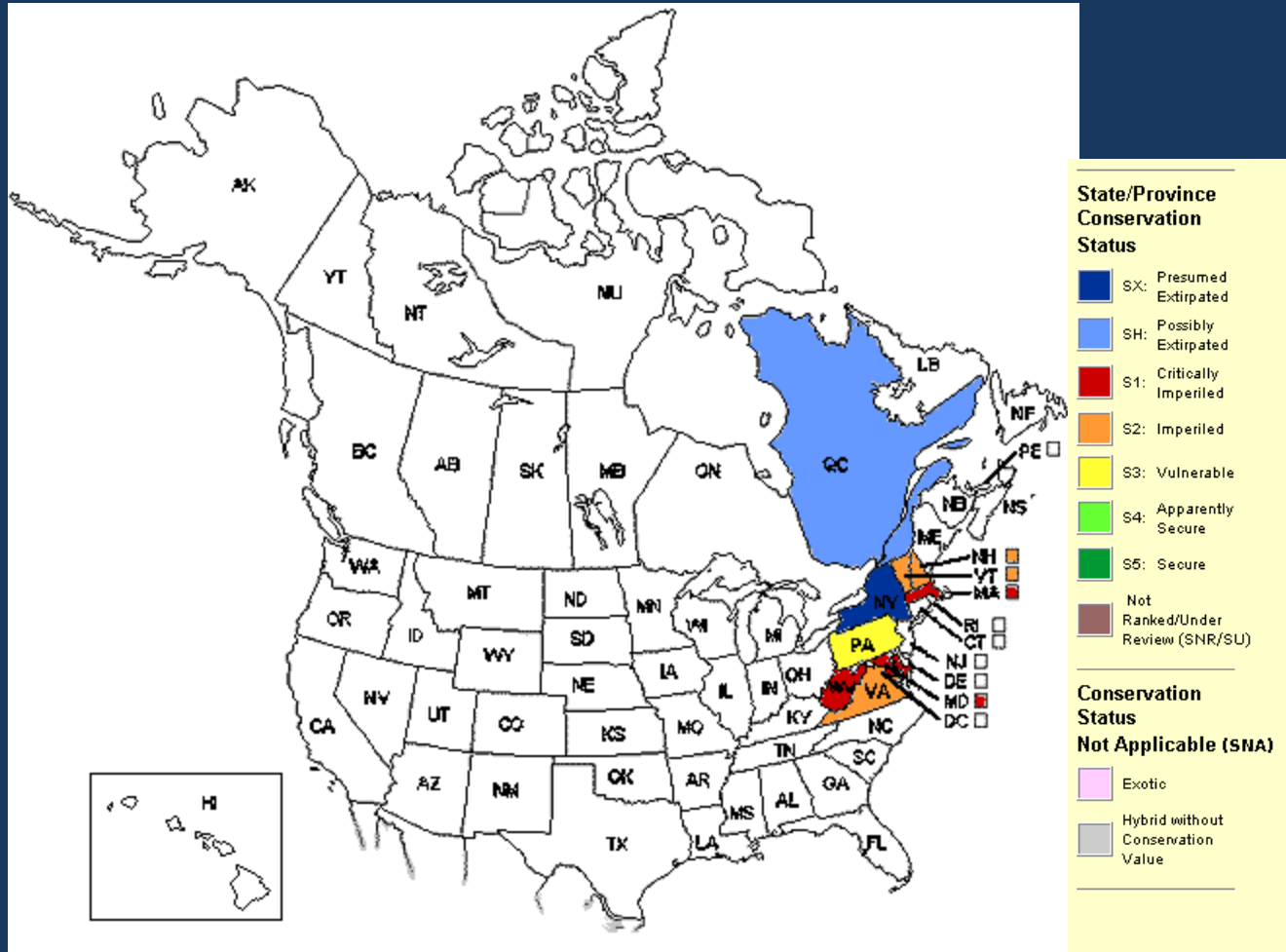
Scirpus ancistrochaetus (northeastern bulrush)



- Federally Endangered
- Last recorded in New York in 1900

Scirpus ancistrochaetus (northeastern bulrush)

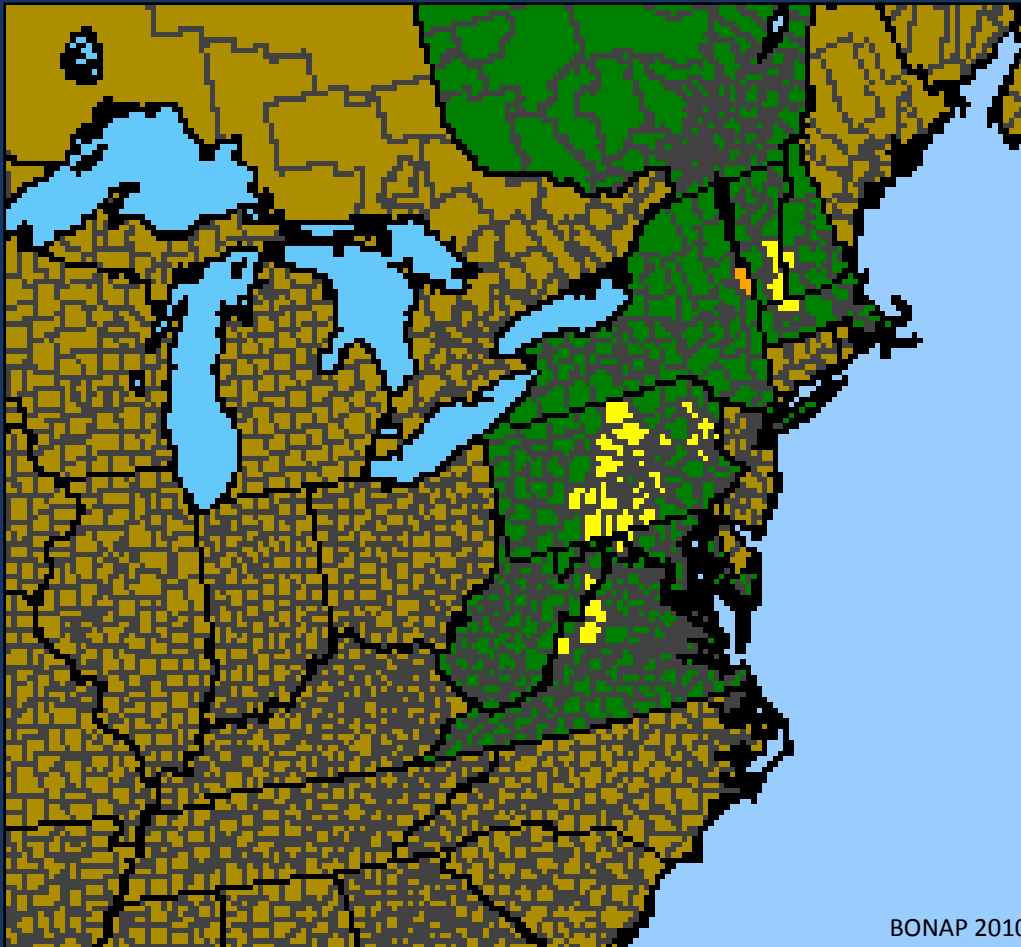
Conservation Status





Scirpus ancistrochaetus (northeastern bulrush)

Rarity/Conservation Status



- 113 extant populations
- Surveys in NY:
 - 1995 – 53 wetlands surveyed in northeast NY
 - 2009-2010 - new effort focused mainly on the southern tier

Scirpus ancistrochaetus (northeastern bulrush)

2009-2010 Study

OBJECTIVES:

- Conduct habitat analysis to identify natural wetlands in New York that are most likely to provide habitat for *S. ancistrochaetus*
- Survey selected wetlands to determine if *S. ancistrochaetus* still occurs in New York



Scirpus ancistrochaetus (northeastern bulrush)

2009-2010 Study

METHODS:

- Gather information from other states, primarily PA
- Analyze maps (topographic, geology, soils, National Wetland Inventory (NWI), aerial photos)
- Survey selected wetlands to determine if *S. ancistrochaetus* still occurs in New York





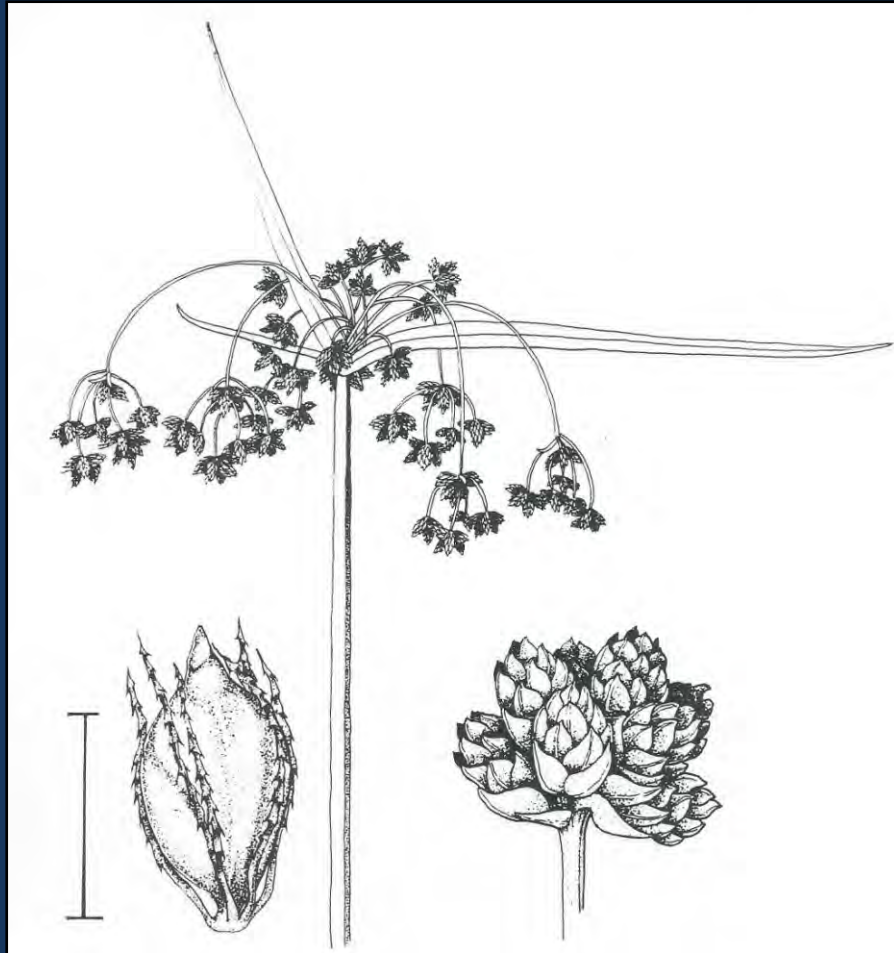
Scirpus ancistrochaetus (northeastern bulrush) Identification



Is this it?

Scirpus ancistrochaetus (northeastern bulrush)

Identification



- Dark scales
- Bulblets at nodes
- Stems decumbent and rooting in mud
- Arching rays
- Achenes have stiff bristles with large, retrorse barbs
- Fruiting late spring-early summer



Scirpus ancistrochaetus (northeastern bulrush)

Habitat

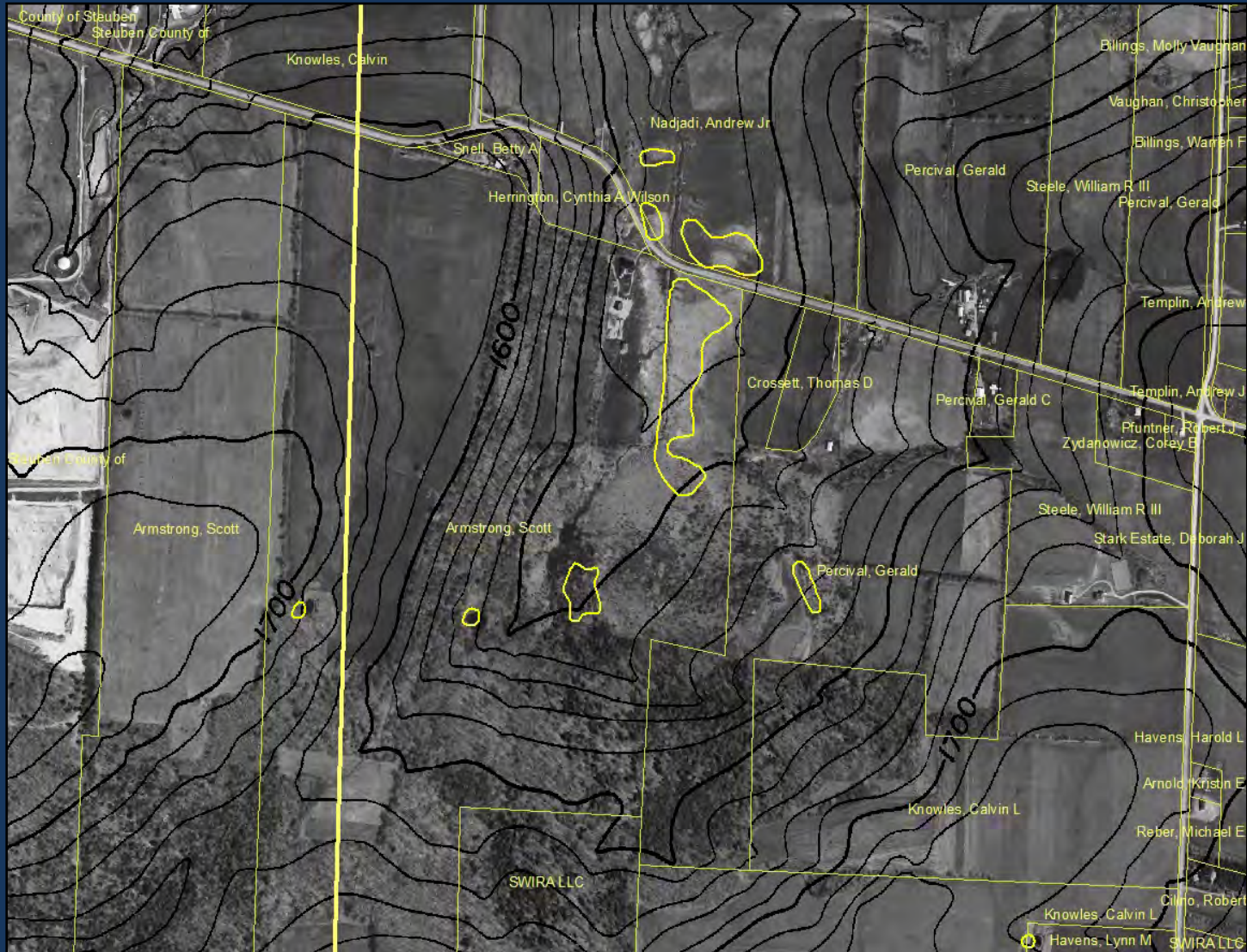


- Small, open, isolated wetlands
- Sandstone or sand substrate
- Fluctuating water levels



Scirpus ancistrochaetus (northeastern bulrush)

Site Analysis





Scirpus ancistrochaetus (northeastern bulrush)

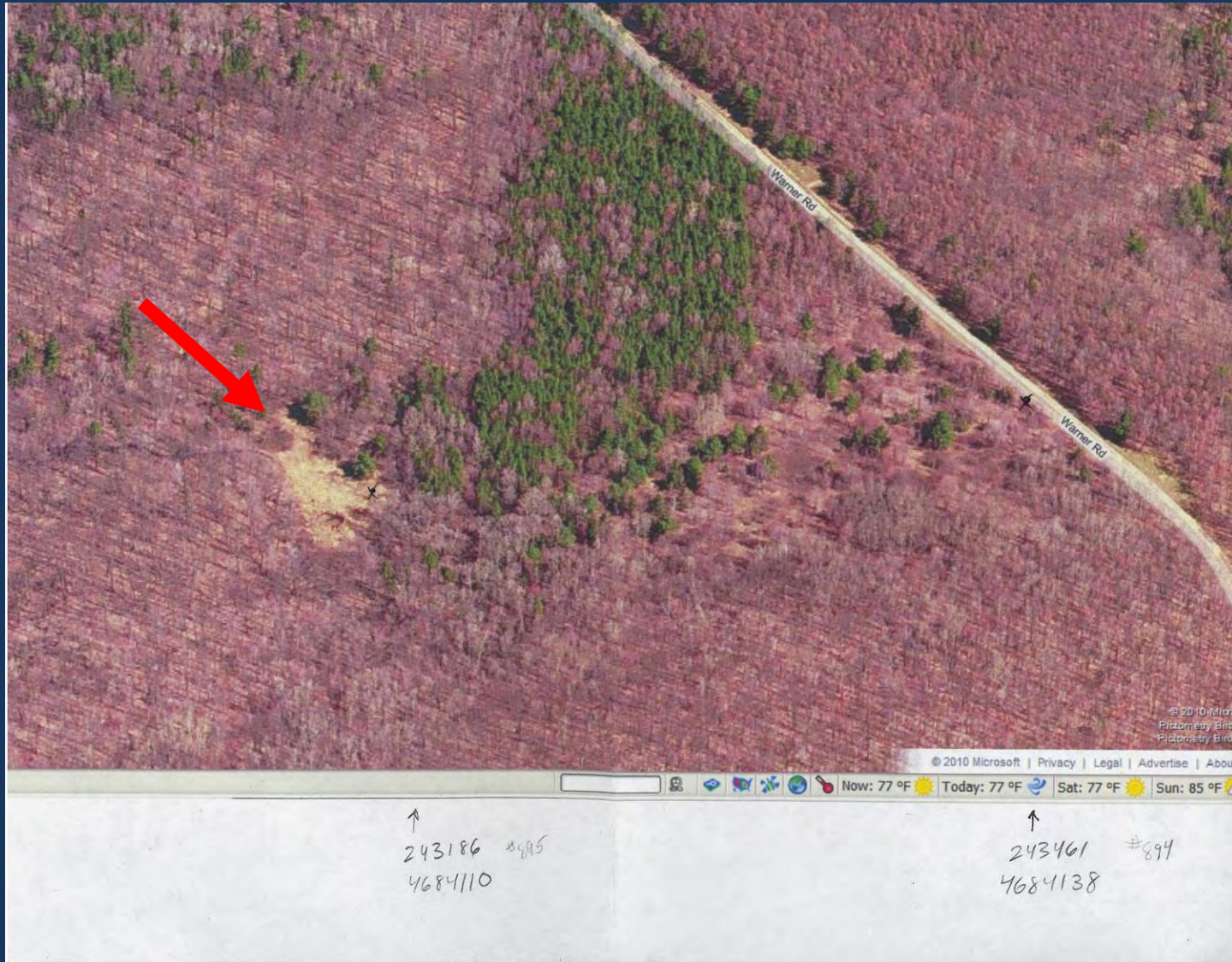
Site Analysis





Scirpus ancistrochaetus (northeastern bulrush)

Site Analysis



Scirpus ancistrochaetus (northeastern bulrush)

2009-2010 Study

RESULTS:

- Southern tier: 18 wetlands surveyed, 12 with good habitat
- Shawangunks and Adirondacks: 19 sites surveyed, 5 with good habitat



1 population found!



Scirpus ancistrochaetus (northeastern bulrush)

Threats

- Habitat loss and alteration
- Alteration of hydrologic regimes
- Change in forest species composition and disturbance regimes
- Herbivory
- Limited genetic diversity





Isotria medeoloides (small whorled pogonia)



- Federally Threatened
- Last recorded in New York in 1976



I. medeoloides
(small whorled pogonia)



I. verticillata
(large whorled pogonia)



I. medeoloides
(small whorled pogonia)

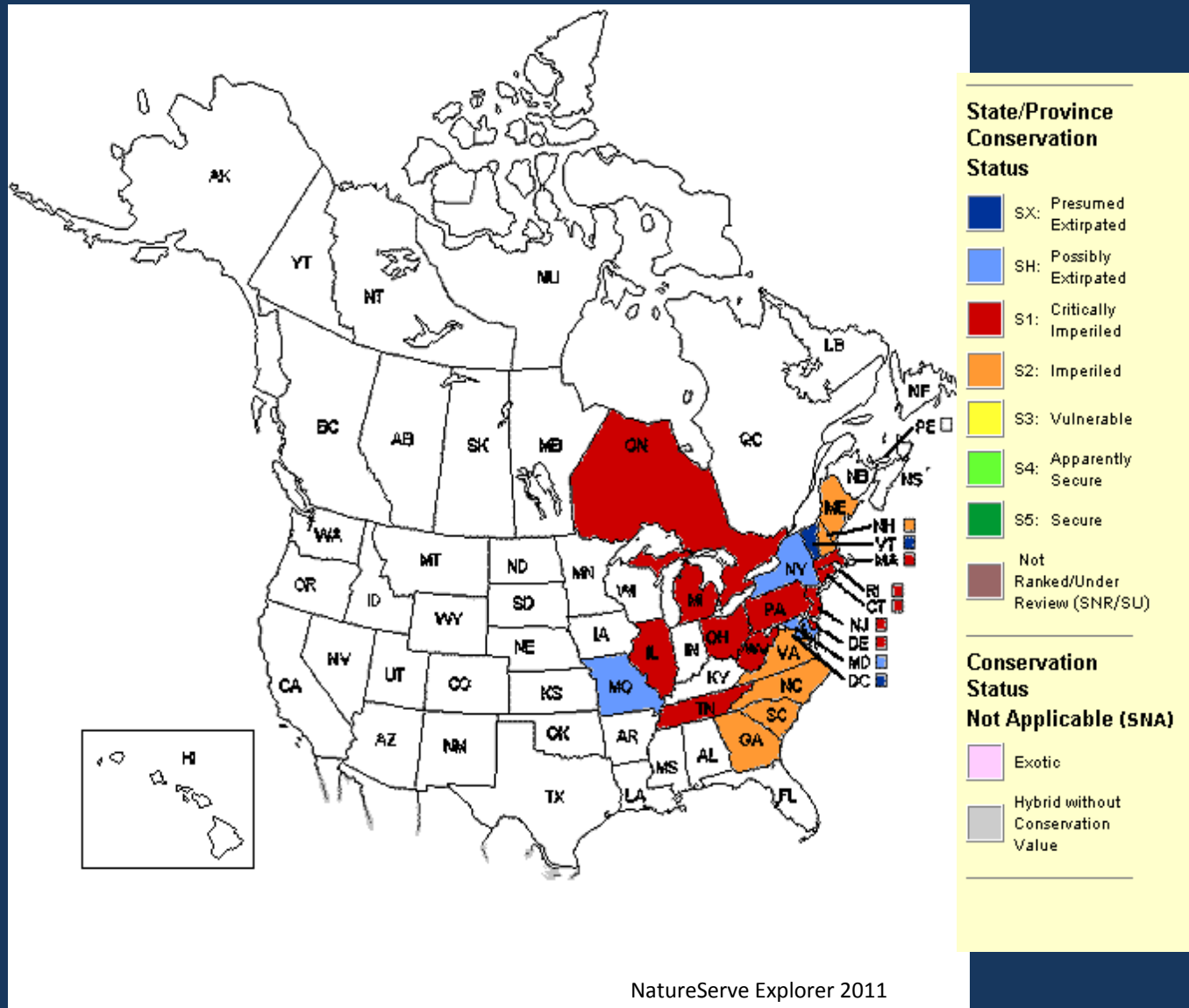


I. verticillata
(large whorled pogonia)



Isotria medeoloides (small whorled pogonia)

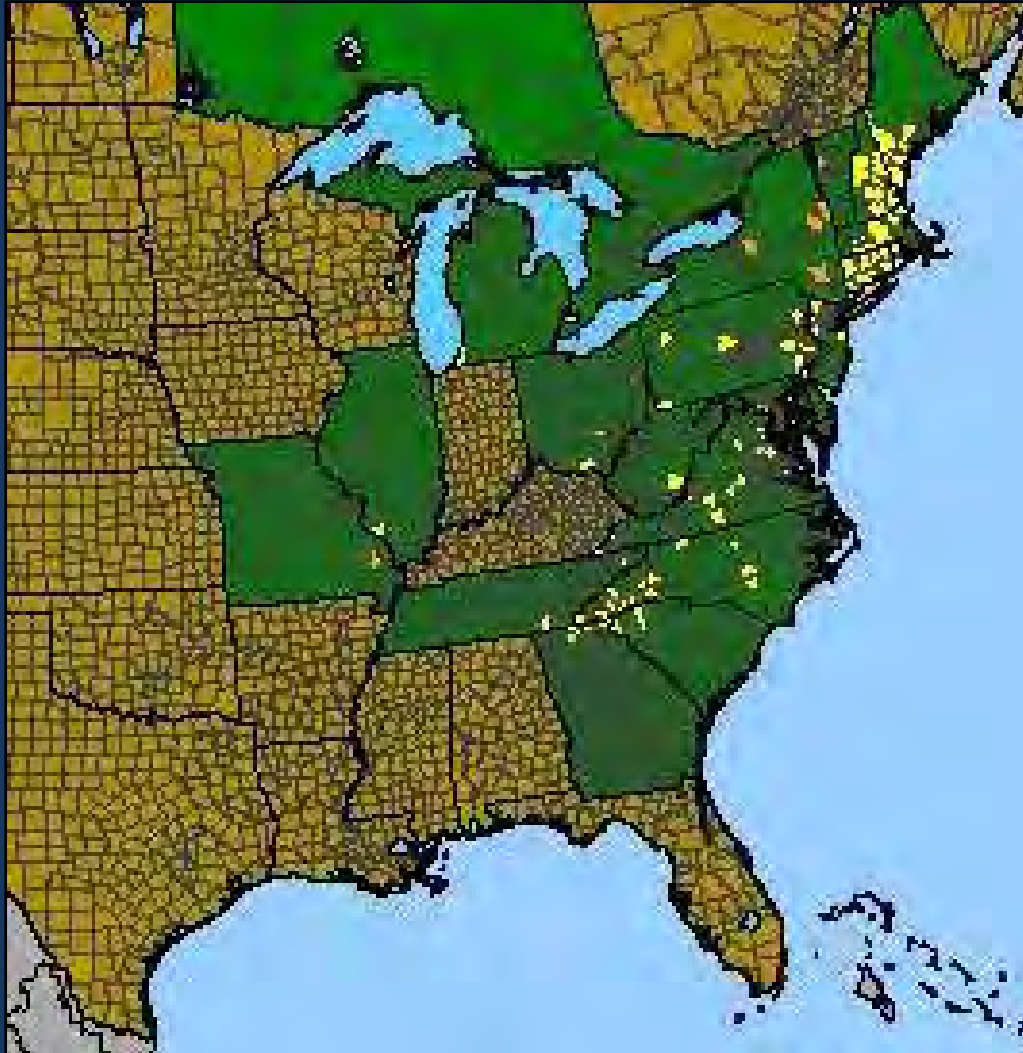
Conservation Status





Isotria medeoloides (small whorled pogonia)

Conservation Status



- 150 extant populations, 90 historical
- 22 eastern states and Ontario



Isotria medeoloides (small whorled pogonia) 2010 Survey Efforts

OBJECTIVES:

- Fully document newly discovered population including:
 - Population assessment
 - Habitat characterization
 - Protection needs
- Identify and survey lands with potential habitat in nearby areas



Isotria medeoloides (small whorled pogonia) 2010 Survey Efforts

METHODS:

- Gather information from other states and current and historical sites in NY
- Analyze maps (topography, geology, soils, forest type, aerial photos)
- Survey selected sites for *Isotria medeoloides*





Isotria medeoloides (small whorled pogonia)

Habitat



- Acidic sandy loams with impervious pan layer
- 11-17% slope or at base of slope
- Along microdrainages
- Mid-successional hardwood or mixed forest
- Decaying woody debris
- Canopy gaps and openings



Isotria medeoloides (small whorled pogonia)

2010 Survey Efforts





Isotria medeoloides (small whorled pogonia) 2010 Survey Efforts

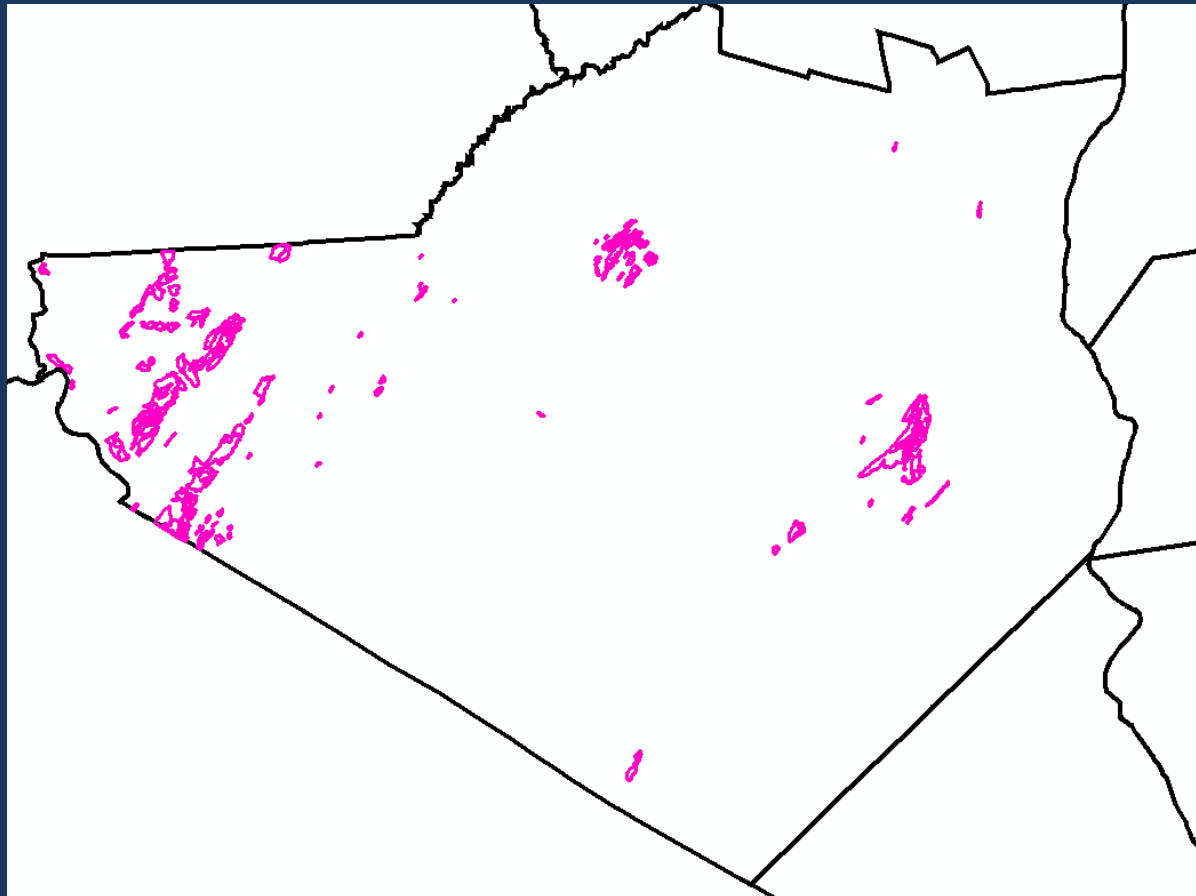
Habitat characterization:

- Forest type
- Associated species
- Topography
- Geology/Soils
- Slope
- Canopy openness





Isotria medeoloides (small whorled pogonia) 2010 Survey Efforts



Arnot Complex soils in Orange County

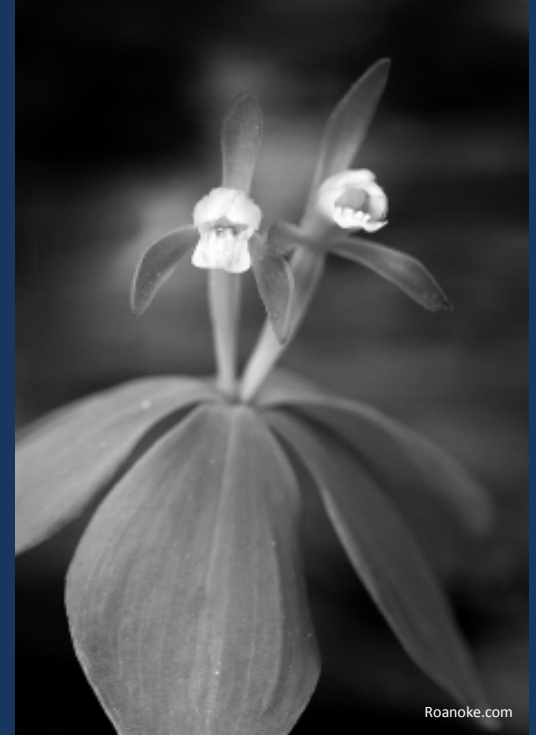
Isotria medeoloides (small whorled pogonia) 2010 Survey Efforts

RESULTS:

- 5 sites surveyed
- No new populations found

FUTURE WORK:

- 4 site visits in 2011
- Revisit historical locations
- Analyzing habitat characteristics of sites throughout its range
- Protect extant population





Isotria medeoloides (small whorled pogonia)

Threats



- Habitat loss and alteration
- Herbivory

- Limited genetic diversity
- Changes to forest structure
- Trampling and collection





Summary

- Two species considered historical or extirpated were rediscovered
- Knowledge of rare species is related to survey effort
- Identification and documentation necessary for protection
- Still many unknowns in New York's flora



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**New York
Natural Heritage
Program**

