Invasives Management Planning and Prioritization

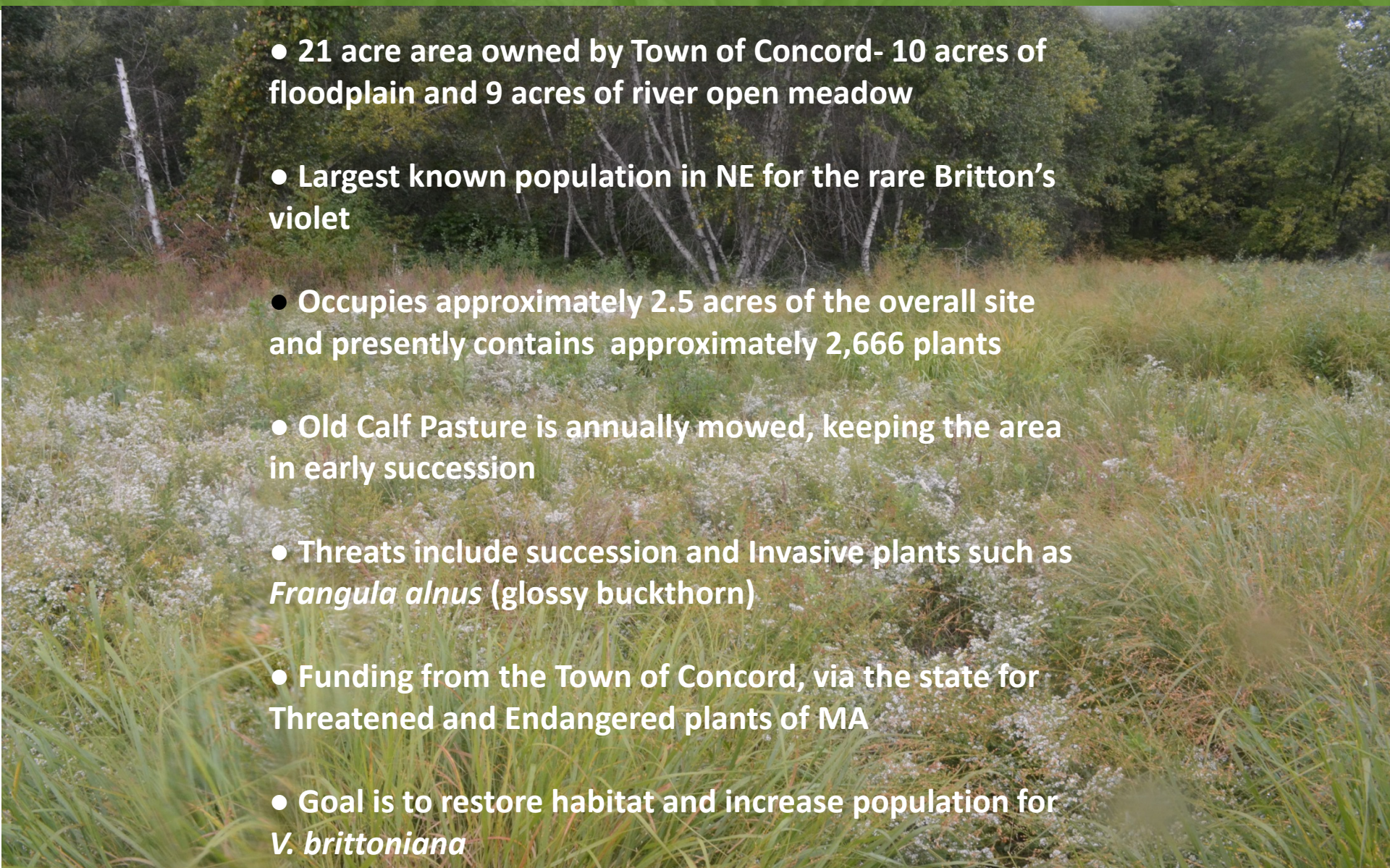
SuAsCo CISMA
COOPERATIVE INVASIVE SPECIES MANAGEMENT AREA

CISMA SuAsCo

Early Detection and Control Subcommittee

4/11/19

Viola brittoniana Management
Old Calf Pasture, Concord, MA

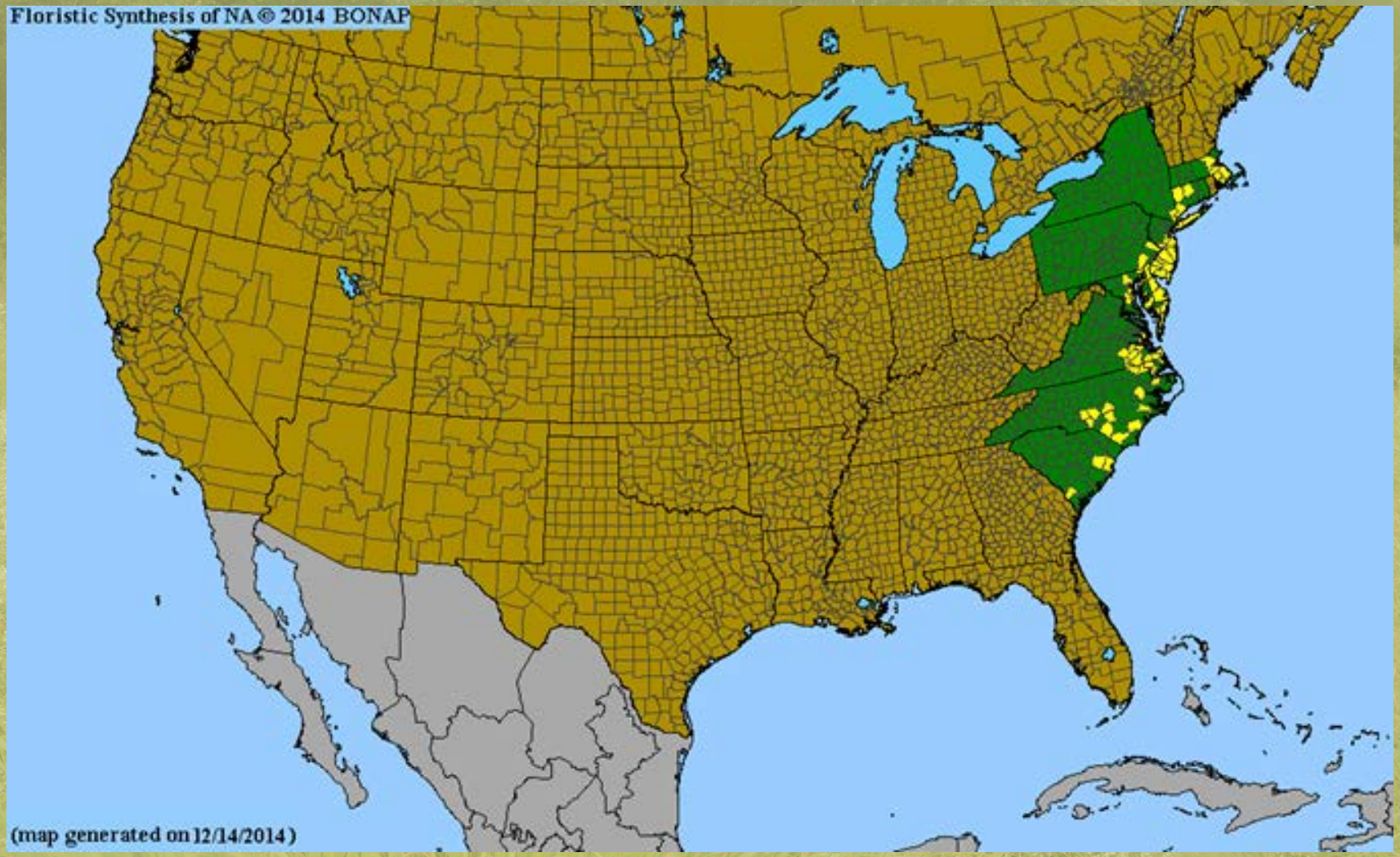


- 21 acre area owned by Town of Concord- 10 acres of floodplain and 9 acres of river open meadow
- Largest known population in NE for the rare Britton's violet
- Occupies approximately 2.5 acres of the overall site and presently contains approximately 2,666 plants
- Old Calf Pasture is annually mowed, keeping the area in early succession
- Threats include succession and Invasive plants such as *Frangula alnus* (glossy buckthorn)
- Funding from the Town of Concord, via the state for Threatened and Endangered plants of MA
- Goal is to restore habitat and increase population for *V. brittoniana*

Viola brittoniana Species Profile

Habitat: ***found mostly between the upper part of the annually flooded zone and the 100-year flood line of freshwater rivers-in wet meadows, and can occur in drier mowed areas and along woodland trails***

Viola brittoniana Range Map



Viola brittoniana management-Old Calf Pasture-Pre-management in 2009

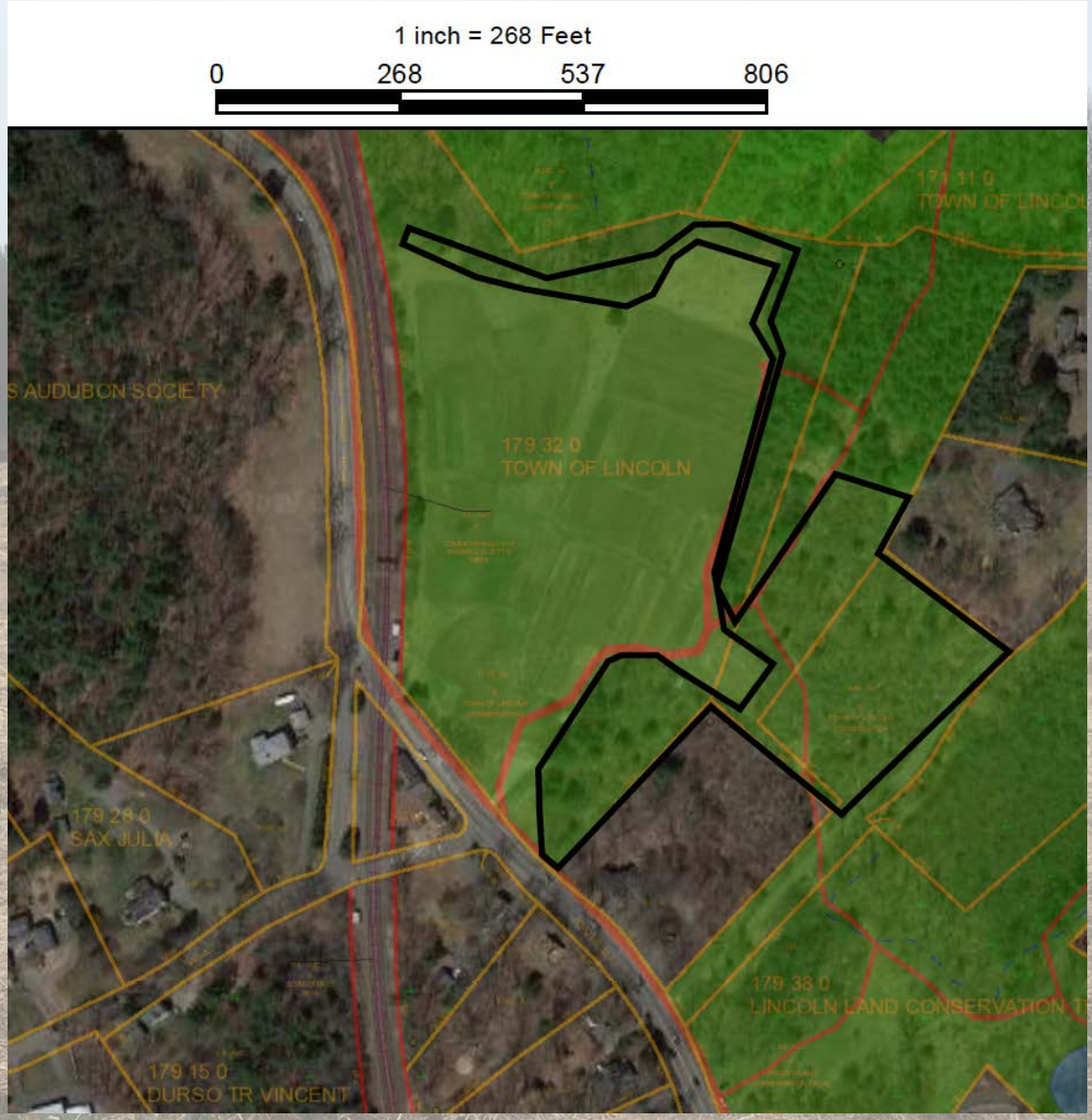
Umbrello Field – Lincoln, MA

- 32 acres of upland oak-pine forest, wetlands and open agriculture fields
- Fields are not currently in use
- Property, field and forest boundaries are choked by autumn olive, other woody invasives

Umbrello – Then and Now

Prioritizing Umbrello

- Property use transitions
- Desirable open field habitat
- Clear management boundaries
- Promise of future stewardship



Goals at Umbrello

Remove invasive shrubs from field edges and easy-to-manage open spaces

From Japanese Knotweed to Black-eyed Susans Gowing's Swamp, Concord MA

Sudbury Valley Trustees

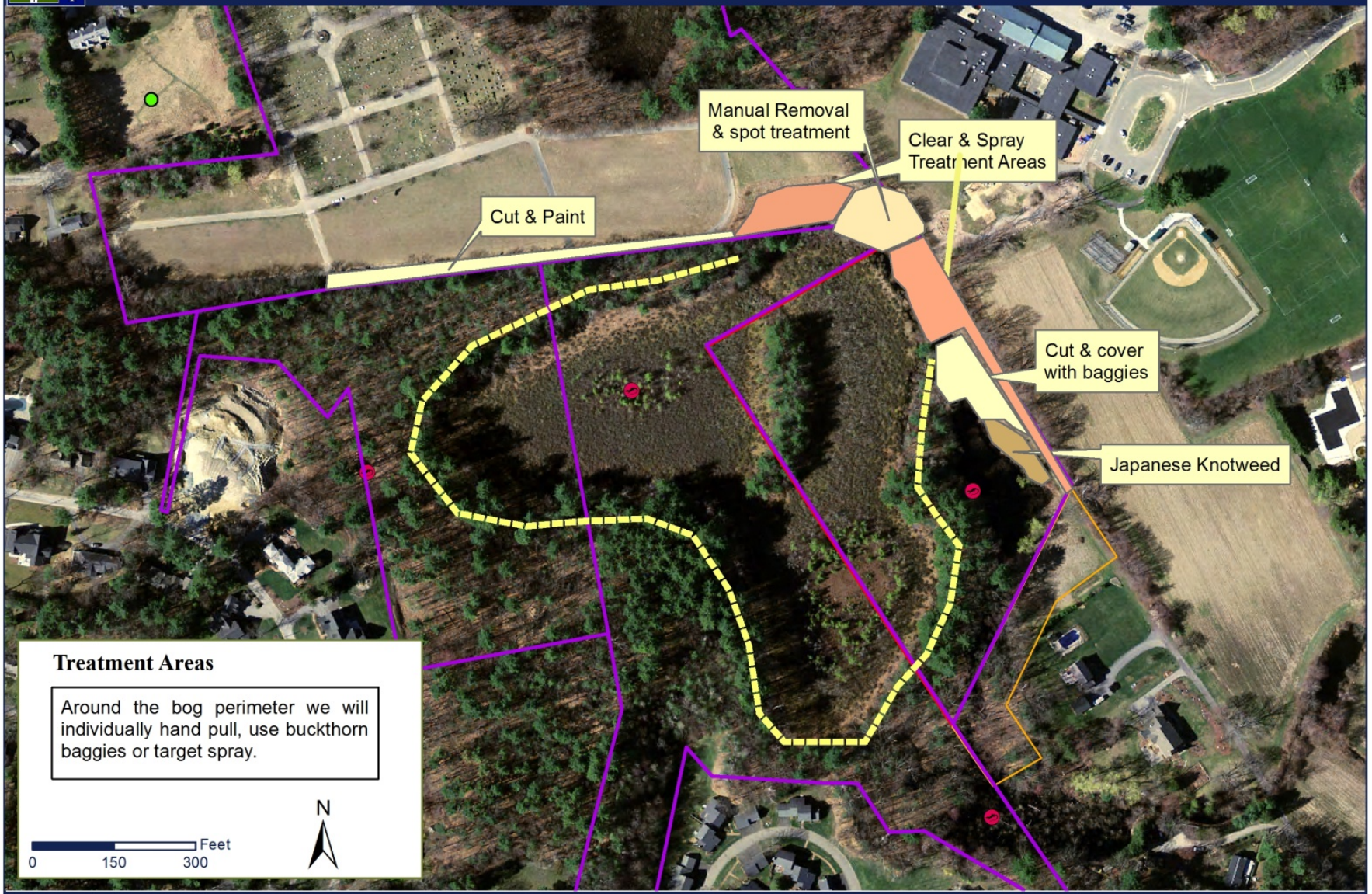
SVT supports conservation in 36 communities of the Sudbury, Assabet and Concord rivers watershed.

Picking Our Battles
Selection Criteria

- Regionally unique **bog ecosystem** with **historical** significance (Thoreau; Minute Man National Park)
- Abutting a high profile **community resource** (Ripley Nature Playscape)
- Invasives threatening bog and impacting scenic attributes

Gowing's Swamp Invasive Control Project

Concord, MA



Map produced by Sudbury Valley Trustees. Data provided by Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs. This map should be used for reference only. Boundary lines are approximate.

Sudbury Valley Trustees - 18 Wolbach Road - Sudbury, MA 01776 - 978-443-5588 - web@svtweb.org - www.svtweb.org

GOAL

- Reduce invasive cover in all areas around the bog to < 15 % cover.

Group Discussion: Prioritizing and Identifying Goals

- Why should your chosen property be prioritized over other projects? Locally? Regionally?

- Can this project have a regional impact? Could other organizations get involved?

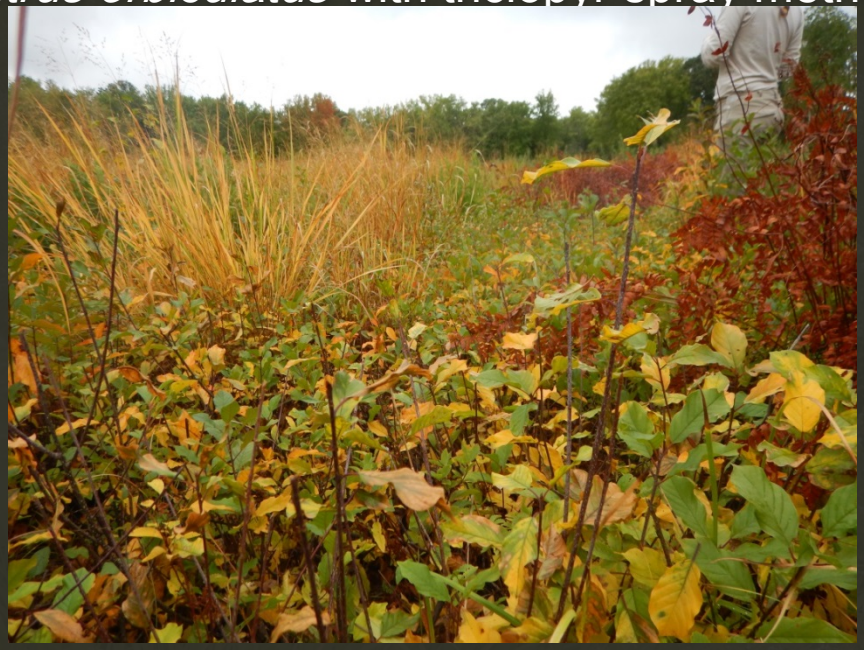
- How large is the project area? Is it reasonable for immediate and future action?

- Can the project outcome be sustained by your organization or others?

Site Preparation
Old Calf Pasture, Concord, MA

Invasives Control Methods
Old Calf Pasture

- Annual monitoring of *Viola brittoniana* in plots
- Invasive plant control of *Frangula alnus* and other invasive plants in wet meadow, and forested floodplain
- Treated with glyphosate by cut-paint and hand-swipe methods
- Treated *Celastrus orbiculatus* with triclopyr spray method



Umbrello Field – Lincoln, MA

- 32 acres of upland oak-pine forest, wetlands and open agriculture fields
- Fields are not currently in use
- Property, field and forest boundaries are choked by autumn olive, other woody invasives

Umbrello – Choosing Resources and Methods

Use the most efficient tools that fit the job!

Umbrello – Taking Action




From Japanese Knotweed to Black-eyed Susans Gowing's Swamp, Concord MA

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Mixed Invasives Scrub Overgrowth

- Partnership with Playscape and Concord Land Conservation Trust
- Heavy Clearing Work followed by herbicide applications

Buckthorn Baggies
~ 50% effective

BEFORE

Solid block of Japanese knotweed bordering vernal pool

Early September 2017, flowering knotweed was sprayed with an 8% solution of Rodeo with Thinvert . Followed by 100% Rodeo injection of large green knotweed stems at the end of the month.

April, 2018

SVT staff and volunteers cut and cleared all of the dead Japanese knot weed stems. The stems were cut raked, bagged and piled into a larger dumpster.

Hand spread native riparian seed mix. covered with weed free hay and watered.

Group Discussion: Choosing Methods and Taking Action

- Which invasives are being removed? What are the best management practices for the targeted species?
- Are there native species that you want to keep intact?
- Do you have the resources at this time to see the project through? Would funding help?

Viola brittoniana Species Profile

Habitat: ***found mostly between the upper part of the annually flooded zone and the 100-year flood line of freshwater rivers-in wet meadows, and can occur in drier mowed areas and along woodland trails***

Glossy Buckthorn Challenges
Viola brittoniana - Old Calf Pasture

- Control of glossy false buckthorn has proved to be challenging, since this species re-sprouts vigorously in response to herbicide and mowing.
- Re-sprouts of buckthorn have been visually observed after mowing and cut-painting individuals.
- Manual pulling is not feasible due to the proximity of violets next to buckthorn.
- Recruitment of source of buckthorn has not yet been eradicated—dispersal.

How to Best Control Buckthorn and Save *Viola brittoniana* at Old Calf Pasture?

- Set up plots to conduct experimental management - methods include cut-and-baggie and cut-paint in areas that have not been mowed for one year.
- Set up plots and conduct same management in areas that will not be mowed for two years.
- Compare unmowed vs. mowed areas for buckthorn growth and violet numbers.

Long-Term Prognosis & Management
Viola brittoniana - Old Calf Pasture

- Continue to work on source of buckthorn by cutting and painting larger buckthorn in surrounding areas.
- Monitor population of *V. brittoniana*, and determine next steps.

Umbrello Field – Lincoln, MA

- 32 acres of upland oak-pine forest, wetlands and open agriculture fields
- Fields are not currently in use
- Property, field and forest boundaries are choked by autumn olive, other woody invasives

The Future of Umbrello Field

- Burn leftover brush
- Till newly cleared areas and seed with conservation mix
- Work with new farmer to keep areas clear and native

From Japanese Knotweed to Black-eyed Susans Gowing's Swamp, Concord MA

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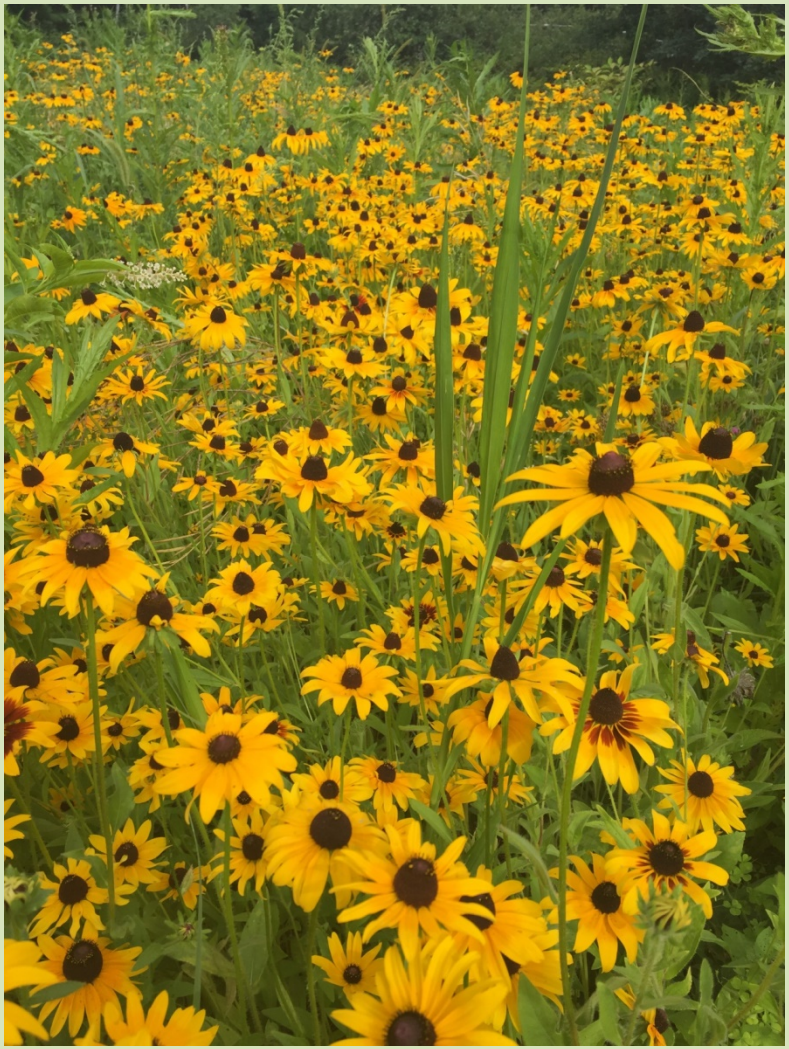
June
Six weeks after seeding

AFTER

Early August



EVALUATION

- Annual monitoring of percent cover.
- Will estimate percent cover of invasive plants in each of the targeted areas.
- Also have before and after photos

Project Budget

Contractor Costs	$ 20,000
Wetlands Permitting	$ 850
Supplies/Dumpster	$ 1,200
SVT Staff Time	$ 5,300
Volunteer Time	$ 2,000
TOTAL	**$ 29,350**

Project Funding

Concord CPA = $ 12,000

CLCT = $ 2,000 towards work on their property

CISMA Small Grants = 2017 - $2,225

2018 - $ 878

herbicide contractor, baggies, staff time

Member/Neighbor Donations = $2,000

Total Funding Income = 19,103

Shortfall = $12,000

Questions?

Bud Sechler, Ecological Programs Coordinator, New England Wildflower Society
Viola brittoniana Management at Calf Pasture

Stacy Carter, Land Manager, Town of Lincoln, MA
Umbrello Field Management by Mechanical Means

Laura Mattei, Director of Stewardship, Sudbury Valley Trustees
From Japanese Knotweed to Black-Eyed Susans

Potential Sources of Funding

- Your Community's CPA
- Local Community Foundation (Greater Lowell; Foundation for Metrowest)
- CISMA Small Grants
- RSC Community Grants
- DCR Forest Stewardship Plan
- MassWildlife Habitat Grant
- USDA NRCS EQIP

TIPS for Successful Proposals

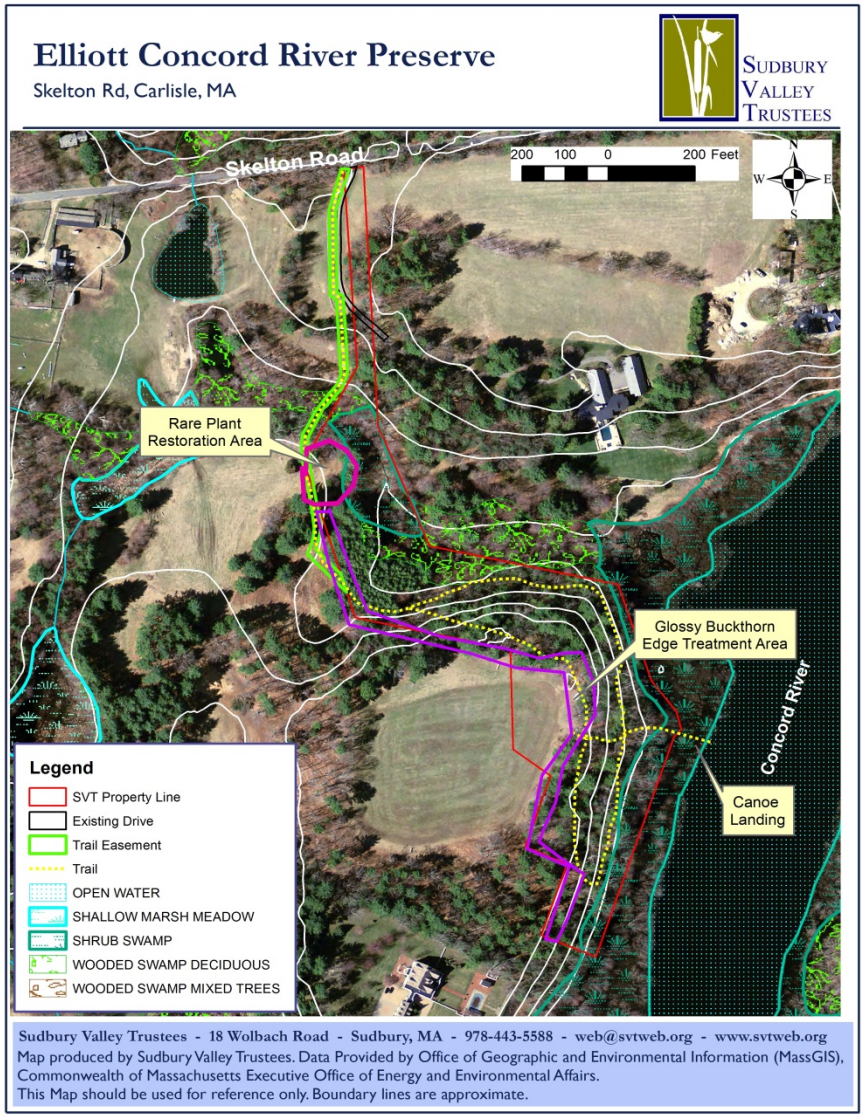
THEMES

- Mass State Wildlife Action Plan
- Early successional habitats and birds
- Pollinators
- Partnerships
- Reducing Invasive/Promoting Native

TIPS for Successful Proposals

- **Meet the Funders Specific Goals and Guidelines**
- Clear Goals (that relate to the **funder's interests**)
- Specific and feasible, state-of-the-art methods
- Evaluation and sustainability
- Concise and to-the-point; no rambling
- **Compelling!** Why are you excited about this project and why do you think it is so important.
- Budget – clear and detailed according to RFP

Viola brittoniana at Elliott Concord River Preserve



- **Documented in 2013 within the floodplain of the Concord River**
- **Protected by Sudbury Valley Trustees**
- **Found at the edge of a field and adjacent to a wooded wetland**
- **Approximately 262 individuals**
- ***Frangula alnus* is a threat**
- **Three plots randomly located within population**
- **Conduct herbicide treatment of glossy buckthorn**

Viola brittoniana management at Elliott Concord River Preserve

- CISMA small grant funding- $1,000 in 2014 and $3,230 in 2016
- CISMA grant did not cover full cost, but helped a great deal
- Management helped control spread of glossy buckthorn

Viola brittoniana at Elliott Concord River Preserve