

Batten Kill Watershed CISMA Invasive Species Management Plan

Introduction

The Batten Kill Watershed Comprehensive Invasive Species Management Association (BKW CISMA) is a group of public and private land owners and land managers committed to successfully addressing the threat posed by invasive terrestrial and riparian plant species in the Batten Kill watershed in Vermont. The Parties to the CISMA share knowledge, expertise, and resources to manage invasive terrestrial and riparian plant species.

For the purposes of this management plan, the term “invasive species” shall mean: (from the Federal Register, Vol. 64, No. 25, Monday, February 8, 1999, Executive Order 13112 of February 3, 1999) “Invasive species” means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. “Alien species” means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores or other biological material capable of propagating that species, that is not native to that ecosystem.

Invasive species threaten the ecological values of forest lands, riparian areas, waterbodies and watercourses. This plan lays out a framework by which the Parties to the CISMA can cooperate and coordinate activities and share resources so as to manage and control invasive species on public and private lands in the Batten Kill watershed in Vermont. This management plan has been modeled on those created by the Sudbury-Assabet-Concord Cooperative Invasive Species Management Area (SUASCO-CISMA) and the Adirondack Partnership for Regional Invasive Species Management Strategic Plan of the Adirondack Park Invasive Plant Program (APIPP).

Background

The Batten Kill watershed in Vermont covers an area of approximately 200 square miles and encompasses all or parts of the Towns of Arlington, Dorset, Glastenbury, Manchester, Peru, Rupert, Sandgate, Shaftsbury, Sunderland, the Village of Manchester, and Winhall.

The Vermont portion of the main stem Batten Kill is approximately 24 miles long. Many tributaries arise in the granitic Green Mountains on the east, including Mad Tom, Bromley, Bourn, Lye, and Mill Brooks and Roaring Branch. Tributaries arising in the limestone-based Taconics include Gilbert and Goodman Brooks, the West Branch of the Batten Kill, and the Green River. Mill Brook and White Creek, in the towns of Rupert and Sandgate, discharge via White Creek into Black Creek in Salem, NY, before discharging to the main stem Batten Kill in East Greenwich, NY. The Batten Kill empties into the Hudson River in Clarks Mills, NY.

A map of the Batten Kill Watershed can be found as Appendix A of this Management Plan.

Goals and Actions

COORDINATION

The BKW CISMA will strengthen existing partnerships, create new ones, and formalize those working relationships with a set of founding documents which will guide the organization’s activities for years to come.

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Doing so will enable effective program development and delivery across the Batten Kill watershed and streamlined communication among the partners and between the partners and the public, and will leverage additional resources leveraged in the region.

Goal 1: Implement the Memorandum of Understanding (MOU) signed by the founding members of the CISMA on XXX.

Suggested actions and target implementation dates

2015

- A. Establish the BKW CISMA as depicted in Appendix A of this Management Plan.
- B. Create a BKW CISMA steering committee to provide support for invasive species management among CISMA members.
- C. Designate a key contact or representative to attend CISMA meetings and events.
- D. From time to time employ full- or part-time staff. With the steering committee, that staff shall be responsible for implementing the actions and achieving the goals outlined in this management plan.
- E. Work through the Steering Committee to provide the information necessary to establish an invasive species management plan to guide activities over a period of five years

2016

- F. Work through the Steering Committee to provide the information necessary to create annual operating plans for the period through December 2018, including fundraising plans for the period January 2017-December 2018

Ongoing

- G. Identify new partners to participate in the CISMA.
- H. Periodically review and update the CISMA MOU.

CONTROL AND MANAGEMENT

High priority invaded areas will be managed for maximum benefit of native ecosystems, biodiversity and forested and riparian habitats.

Goal 1: Adopt a comprehensive list of invasive terrestrial and riparian plant species on which to focus efforts through the life of this management plan.

Suggested actions and target implementation dates

2015

- A. Adopt a list of target invasive species in Bennington County natural landscapes, representing the species the BKW CISMA will address, as opportunities arise and resources permit. The list is found in Appendix B of this Management Plan.

Ongoing

- B. Update the list as new information becomes available.

Goal 2: The BKW CISMA will address the introduction of new invasive terrestrial and riparian plant species within the watershed through an early detection/rapid response program utilizing professionals and volunteers.

Suggested actions and target implementation dates

2016

- A. Recruit and train a cadre of professional and volunteer naturalists to identify these and other potential new invaders.
- B. Provide information on these species to target audiences and the general public.
- C. Create a mechanism whereby early detectors can respond to identification requests from the public and land managers and direct them to information regarding control and management.
- D. Map and monitor new infestations of early detection/rapid response species.
- E. Establish relationships with and learn from other more experienced organizations skilled at early detection/rapid response.

Goal 3: Promote, facilitate and implement invasive species management through appropriate treatment methods chosen by land owners and land managers.

Suggested actions and target implementation dates

2015

- A. Target management activities to priority sites, defined as:
 - Manageable invasions.
 - Large forest or habitat blocks of high ecological value where invasives are in low numbers and widely scattered or in isolated established patches.
 - Sites that lend themselves to interpretation and/or demonstration.
 - Invasion fronts.
 - Sites with rare species or natural communities as defined by the Vermont Natural Heritage Program.
 - Headwaters riparian zones.
 - Sites that are ranked as of high value for providing flood resiliency.
- B. Choose up to six reaches totaling approximately 2 acres in size in which to treat Japanese knotweed. Those sites are listed in Appendix C of this Management Plan.
- C. Choose up to four forested parcels totaling approximately 24 acres in size in which to treat Japanese or common barberry. Those sites and others are listed in Appendix C of this Management Plan.
- D. Secure landowner permission to treat sites listed in “B” and “C” above.
- E. Amend the list of project sites when appropriate.

2016

- F. Seek proposals from contractors for a variety of treatment measures for sites listed in “B” and “C” above.
- G. Treat up to ten sites listed in “B” and “C” above, at the same time documenting the treatments with photographs and video.
- H. Hold at least two treatment workshops.
- I. Distribute fact sheets profiling the biology, management and control of high priority terrestrial and riparian species, and distribute Best Management Practices (BMPs) for managing and controlling invasive species and their spread across the landscape. (The USDA-USFS has promulgated such standards.)
- J. Monitor treated areas over time using standards to be developed by the BKW CISMA.
- K. Develop a landowner/consultant reporting document for tracking control and management efforts. At a minimum the completed report should contain the following information: a map of

the treatment site; its location by town, address, and tax parcel number; a description of native plant communities present by relative abundance; site soil type; site aspect; site elevation; species managed; percent cover of species managed; control methods used, including herbicide cocktail composition and/or mowing or cutting equipment; contractor name and address; dates of treatment, and costs.

- L. Build and maintain a list of certified pesticide applicators.

Ongoing

- M. Participate in USDA-NRCS Local Work Group meetings and advocate there for giving invasive plant control and management in the Batten Kill watershed a high priority
- N. Continually research and share information on new and novel treatment methods and products, including biological controls, use of fire, chemical control, and mechanical controls including cutting, grazing, mowing, pulling, and others.
- O. Collaborate with local governments to provide them with information and assist them in managing priority infestations that might serve as a source of future invasions.

EDUCATION AND OUTREACH

The BKW CISMA will implement a comprehensive and enduring education outreach program that targets multiple audiences, including landowners, students, families, municipalities, and land managers.

Doing so will yield greater public awareness of invasive species and their impacts, increased public involvement in stewardship activities, and increased collaboration and consistent messaging among partners within and near the watershed.

Goal: Develop an awareness and education program for residents of and visitors to the watershed.

Suggested actions and target implementation dates

2016 and ongoing

- A. Teach invasive plant species identification using methods appropriate to each target audience.
- B. Distribute publications such as fact sheets, maps, reports, and other resources.
- C. Host control and management activities on demonstration sites.
- D. Prepare a communications plan which makes use of language and references the layperson is comfortable with or finds emotionally compelling.
- E. Develop and maintain a searchable electronic database which conserves the data contained in the control and management reporting forms completed by landowners and their consultants.
- F. Act as a network for sharing information between land managers, ecologists, and other natural resource professionals.

ENSURE BKW CISMA LONGEVITY AND EFFECTIVENESS

The CISMA will become and remain a self-sustaining entity enjoying the support of its partners and those it serves.

Goal: Implement invasive plant control, management, monitoring, and education efforts over the long term.

Actions and target implementation dates

2016

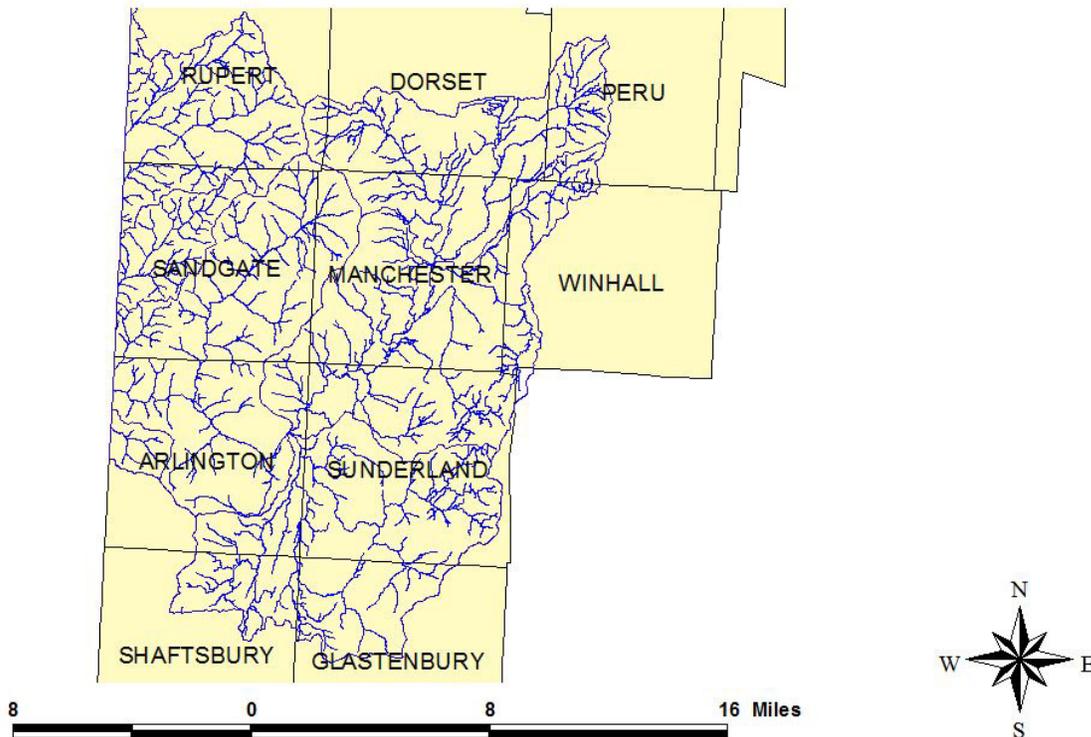
- A. Create and nurture a CISMA steering committee to guide the organization in its growth and development.
- B. Create and maintain CISMA steering committee to be responsible for control, management, monitoring, and outreach.
- C. Hire a coordinator.

2017 and ongoing

- D. Secure adequate funding for operations through the year 2018.

Appendix A: Map of the Batten Kill Watershed, Vermont

Batten Kill Watershed, Vermont



Appendix B: Target terrestrial and riparian invasive species

The following represents a modified list of terrestrial and riparian species listed as Noxious Weeds by the State of Vermont, as well as species prohibited or regulated in the states of Massachusetts and New York:

Acer ginnala (Amur maple)

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Acer platanoides (Norway maple)
Aegopodium podagraria (goutweed)
Ailanthus altissima (tree-of-heaven)
Alliaria petiolata (*A. officinalis*) (garlic mustard)
Berberis thunbergii (Japanese barberry)
Berberis vulgaris (common barberry)
Celastrus orbiculatus (Oriental bittersweet)
Euonymus alatus (burning bush)
Fallopia japonica (*Polygonum cuspidatum*) (Japanese knotweed)
Iris pseudoacorus (Yellow flag)
Lonicera x bella (Bell honeysuckle)
Lonicera japonica (Japanese honeysuckle)
Lonicera maackii (Amur honeysuckle)
Lonicera morrowii (Morrow honeysuckle)
Lonicera tatarica (Tartarian honeysuckle)
Lythrum salicaria (purple loosestrife)
Phragmites australis (common reed)
Rhamnus cathartica (common buckthorn)
Rhamnus frangula (glossy buckthorn)
Rosa multiflora (Multiflora rose)
Vincetoxicum hirundinaria (pale swallow-wort)

The following represents a modified list of terrestrial and riparian species prohibited or regulated in the states of Massachusetts and New York and considered “early detection/rapid response – already present” species in Bennington County natural landscapes.

Anthriscus sylvestris (wild chervil)
Cardamine impatiens (narrowleaf bittercress)
Cynanchum louiseae (black swallow-wort)
Elaeagnus umbellata (autumn olive)
Heracleum mantegazzianum (giant hogweed)
Ligustrum obtusifolium (border privet)
Rubus phoenicolasius (wineberry)

The following represents a modified list of terrestrial and riparian species prohibited or regulated in the states of Massachusetts and New York and considered “early detection/rapid response – not yet present” species in Bennington County natural landscapes.

Acer pseudoplatanus (sycamore maple)
Actinidia arguta (hardy kiwi)
Actinidia kolomitka (hardy kiwi)
Ampelopsis brevipedunculata (porcelain berry)
Cynanchum rossicum (pale swallow-wort)
Microstegia vimineum (Japanese stilt grass)
Miscanthus sinensis (Chinese silver grass)
Persicaria perfoliata (mile-a-minute vine)
Phellodendron amurense (Amur cork tree)

Pueraria montana (kudzu)
Reynoutria sachalinensis (giant knotweed)
Reynoutria x bohemica (Bohemian knotweed)

Appendix C. Potential project sites

Arlington

Arlington Recreation Park, Route 7A
Lundy property
Tibbetts property
Yellow Barn site, opposite Arlington Recreation Park, Route 313

Dorset

Black Rock Preserve
Dorset Town Forest

Manchester

Equinox Preservation Trust
Hildene
Lye Brook Falls trail head and trail
Manchester Recreation Park

Rupert

Merck Forest

Sandgate

Green River sites, Beartown

Sunderland

Hill Farm Inn property
Kelly Stand Road

Winhall

AT trailhead at Routes 30/11