

# **SUASCO CISMA**

## **Invasive Species Management Plan (ISMP)**

A Five-year Management Plan for the SUASCO  
Cooperative Invasive Species Management Area

### **Introduction**

The Sudbury, Assabet, and Concord Rivers (SuAsCo) watershed Cooperative Invasive Species Management Area (CISMA) is a group of federal, state, and local land owners and land managers committed to controlling invasive species within the watershed<sup>1</sup>. The structure of the CISMA is detailed in the SUASCO CISMA Memorandum of Understanding. The CISMA group engages participants in a collaborative effort to share knowledge, expertise, and resources as well as to coordinate invasive species management activities within the watershed.

Invasive species pose one of the greatest threats to the biodiversity, natural landscapes, agricultural interests, recreational activities, quality of life, and scenic beauty of the watershed. There are many ways to deal with this threat including initial prevention, early detection, and control through manual removal, mechanical treatment, pesticide application, biological control, grazing, and fire. Invasive species do not stop at ownership boundaries, and without a coordinated effort among a broad range of private and public land owners and land managers, these species will continue to invade our watershed, altering the habitat and reducing the recreational and aesthetic value of the watershed.

The intention of this plan is to guide management efforts within the watershed and determine priorities for management that will be detailed as Annual Priority Actions. The plan will be updated regularly to reflect new priorities within the watershed.

### **Background**

The SuAsCo watershed is made up of 36 towns in the metro-west area of Massachusetts<sup>2</sup>. The watershed covers approximately 377 square miles and includes a variety of upland and wetland habitats, historic sites, scenic sites, and recreational areas. A portion of the Sudbury, Assabet, and Concord Rivers has been designated as “Wild and Scenic” under the Wild and Scenic Rivers Act for its literary, recreational, scenic, historical, and ecological values. Approximately 60,000 acres or 23% of the land is considered to be permanently protected open space. Ownership of the open space within the watershed is broken down as follows: municipalities 39%, Commonwealth of Massachusetts 33%, Federal 10%, non-profit organizations 10%, and private land 7%.

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<sup>1</sup> See Appendix B – Sudbury Assabet and Concord Rivers (SuAsCo) Cooperative Invasive Species Management Area

<sup>2</sup> See Appendix B – Sudbury Assabet and Concord Rivers (SuAsCo) Cooperative Invasive Species Management Area

## **Purpose of the CISMA**

The purpose of the CISMA is to protect the biological, aesthetic, cultural, historical, and recreational values of natural areas, farmland, water resources, and scenic vistas by cooperating, coordinating activities, and sharing resources necessary for the prevention and control of invasive species on public and private lands across ownership boundaries within the CISMA.

## **Goals and Objectives**

### **Goal 1: Improve Communication and Knowledge Sharing Amongst CISMA Members**

The strength of the SuAsCo CISMA depends on having a knowledgeable membership that is able to effectively communicate their findings to land managers and private land owners within the watershed. To improve upon this strength, the SuAsCo CISMA should help facilitate the exchange of information by acting as a clearing house for this information and as a resource that members can reference and refer others to. It is the responsibility of the coordinator and interested CISMA members to facilitate and guide the collection and exchange of this information.

Objective 1: Maintain a functional website that helps facilitate the exchange of information between CISMA members and the public. Information such as, but not limited to best management practices, meetings, trainings, conferences, workshops, projects (past and current), grant opportunities, mapping initiatives, shared available resources, etc.

Objective 2: Provide more informal knowledge sharing opportunities such as roundtable discussions or digital forums for CISMA members and other interested parties to exchange information and identify new collaborations or opportunities within the watershed.

Objective 3: Actively provide an avenue of dissemination and communication through the use of newsletters and regular “check-ins” with CISMA members. A check-in would consist of a monthly communique (email, phone call, etc) between the coordinator and each of the CISMA members. This regular communication would help with the acquisition and exchange of information while nurturing collaborations.

Objective 4: As members are encouraged to participate in the sharing of information and new collaborations are identified, the coordinator and interested CISMA members will help actively apply knowledge and learning to new projects and initiatives. For example, new invasive mapping programs (such as EDDMaps) or developing an invasive species management plan for a new land acquisition.

## **Goal 2: Encourage a Culture of Volunteerism**

One of the most valuable resources to the members of the SuAsCo Cisma are knowledgeable, experienced, and engaged volunteers. The SuAsCo Cisma should strive to cultivate this population of volunteers by offering training, direction, and resources to volunteers and Cisma members.

Objective 1: To keep volunteers engaged, Cisma members should provide opportunities that allow volunteers to participate in as many aspects of invasive species management as possible. From planning to pulling, to restoration and monitoring, including volunteers in the full spectrum of management will also help maintain engagement.

Objective 2: Volunteers have varying levels of capabilities, so knowing how to leverage their abilities on a project is necessary. To help direct volunteers to opportunities best suited to their wants and abilities, the SuAsCo Cisma will provide a list of volunteer opportunities offered by Cisma members.

Objective 3: The SuAsCo Cisma website should help direct volunteers and Cisma members by providing links to resources such as Nature Groupie, which is a resource for volunteers and organizations.

Objective 4: Regular training opportunities should be offered to interested individuals or groups. During these training sessions, Cisma members should showcase upcoming projects in order to recruit volunteers as well as match potential volunteers to projects and gauge the skill level.

Objective 5: Document and show the successes of volunteers through photos, testimonials, and facts highlighting the positive impact of volunteers. Encourage Cisma members to contribute these materials to be posted on Cisma website and shared in the newsletter.

Objective 6: Provide a level of incentive that is both fun and rewarding. The possibility of Cisma volunteer nights that feature food and drink or one that showcases the edible or usefulness of invasive plant species.

## **Goal 3: Maintain a Functional and Flexible Organizational and Financial Structure to the SuAsCo Cisma**

The organizational core of the SuAsCo Cisma will continue to consist of a steering committee that will guide the operations of the Cisma and continue to seek opportunities that provide value and support the work of Cisma members. An administrative subcommittee and other working groups will help align the goals of the Cisma with those of its members. The SuAsCo Cisma will continue to pursue a long-term funding strategy to support a paid part-time coordinator, a functional website, and basic administrative needs.

Objective 1: Create working groups and subcommittees that reflect the needs of the CISMA membership.

Objective 2: Continue seeking and offering small grant opportunities that supports the work of the CISMA membership. Develop method of sharing grant opportunities to CISMA membership.

Objective 3: Develop metrics that measure the effectiveness of CISMA related projects and initiatives. Encourage CISMA members to collect evidence to support the metrics.

Objective 4: Explore alternative and long-term funding options for the coordinator and continue seeking member donations.

#### **Goal 4: Early Detection and Prioritization**

One of the most important strategies for invasive plant management is to prevent the spread of new invasive species in the watershed. Second to early detection is prioritization of control efforts. Given the pervasiveness of invasive plants in our watershed, it is imperative that CISMA members prioritize their efforts to focus on the most ecologically significant areas within the watershed and within each town.

Objective 1: Maintain CISMA Early Detection and Rapid Response Program. Communicate with NEWFS and MIPAG when needed to update the list of early detection species and distribute identification, habitat, and location information to CISMA members.

Objective 2: Work with CISMA members to establish ecological priority areas for management at the watershed and town level.

Objective 3: Provide planning, prioritizing, and management guidance. Create a SuAsCo CISMA Version of “Picking Our Battles” and post guidance on the CISMA website – provide portals for the public, homeowners, conservation landowners, etc that feature information most relevant to that audience.

Objective 4: Integrate restoration protocols for invasive species projects and communicate with the State to prioritize management at rare species locations.

Objective 5: CISMA should exemplify best practices in all aspects of invasive species management, especially in preventing the spread of invasives through management and recreational activities. Programs such as PlayCleanGo.org provide educational material for recreationalists and those who work outdoors on how to reduce the unintentional spread of invasive species.

Objective 6: Provide an annual report to towns within the watershed that highlights priority areas, potential areas of colonization, updated maps, and upcoming training opportunities.

## **Goal 5: Stay Current with the Science**

The SuAsCo CISMA will stay current on best management practices for invasive plants managed within the state of Massachusetts as well as how climate change will impact the current and future projects of the SuAsCo CISMA.

Objective 1: Attend conferences and meetings relevant to the goals and objectives of the SuAsCo CISMA and its members. At least one member of the SuAsCo CISMA should attend relevant conferences and report their findings to the rest of the SuAsCo CISMA membership.

- MIPAG: Massachusetts Invasive Plant Advisory Group
- MDAR: Massachusetts Department of Agricultural Resources
- Northeast Regional Invasive Species Climate Change Management Conference

Objective 2: The CISMA coordinator will regularly communicate with colleges, universities, state and federal agencies, regional organizations and other institutions to stay up to date on current research, tools, mapping, treatment methods, etc. Members of the SuAsCo CISMA will then be notified of any updates through member meetings and the newsletter.

## Appendix

### Appendix A – Signatories & Supporting Partners

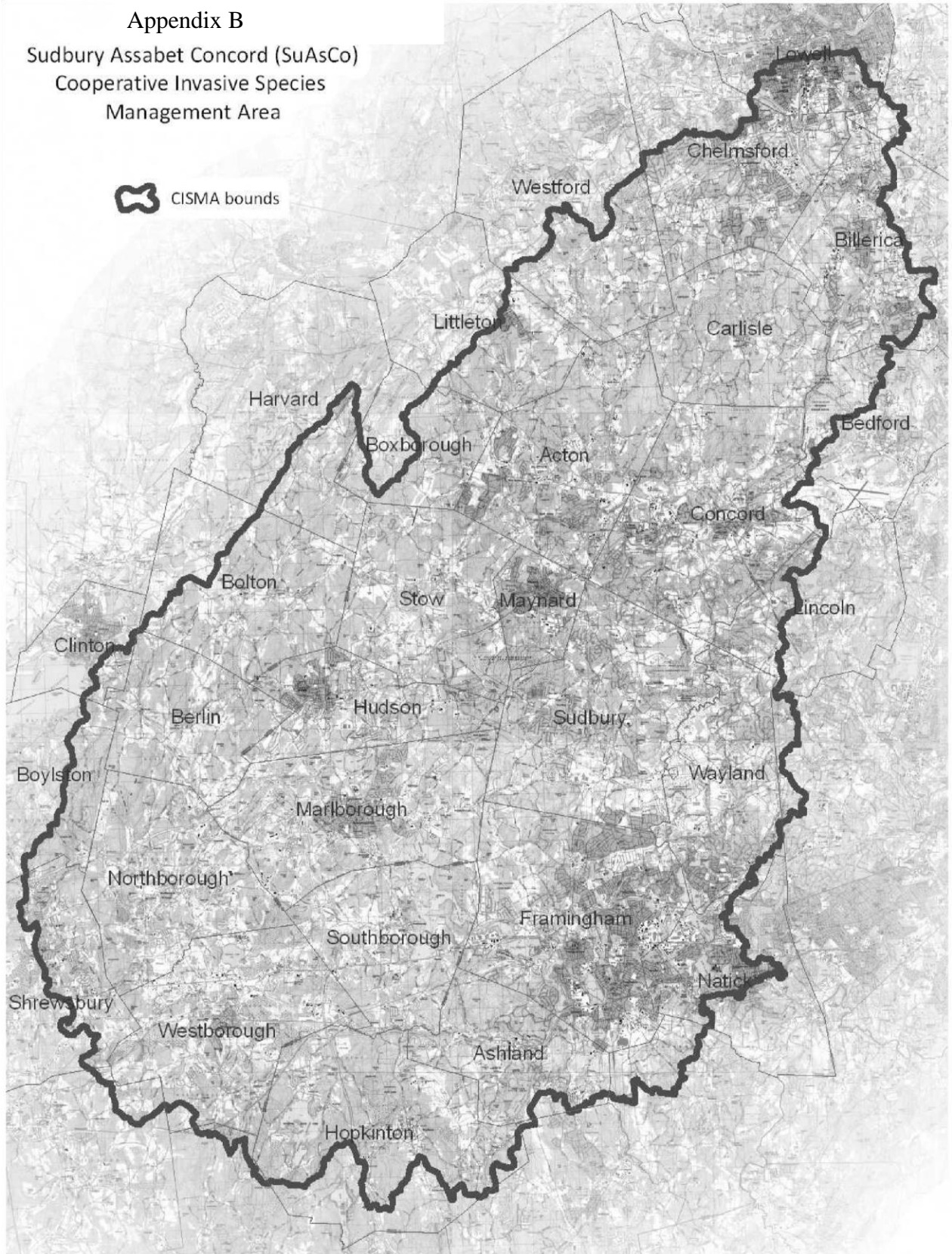
Principle Partners – The following organizations are signatories to the Memorandum of Understanding establishing the SUASCO CISMA.

Berlin Conservation Commission	New England Wild Flower Society
Carlisle Conservation Commission	OARS: Organization for the Assabet, Sudbury, and Concord Rivers
Carlisle Conservation Foundation	Southborough Open Land Foundation
Chelmsford Conservation Commission	Stow Conservation Commission
Concord Land Conservation Trust	Stow Conservation Trust
Concord Natural Resources Commission	SuAsCo Watershed Community Council
Framingham State University Biology Department	SuAsCo Wild & Scenic River Stewardship Council
Friends of the Assabet River NWR	Sudbury River Watershed Organization
Harvard Conservation Commission	Sudbury Valley Trustees
Hop Brook Protection Association	The Trustees of the Reservations
Lincoln Conservation Commission	U.S. Fish & Wildlife Service
Lincoln Land Conservation Trust	USDA- Natural Resources Conservation Service
Littleton Conservation Commission	The Walden Woods Project
Littleton Conservation Trust	Wayland Conservation Commission
Marlborough Conservation Commission	Wayland Surface Water Quality Committee
Mass Audubon	Westborough Conservation Commission
Maynard Conservation Commission	Westborough Community Land Trust
Middlesex Conservation District	Westford Conservation Trust
Natick Garden Club	
National Park Service	
New England Forestry Foundation	

Supporting Partners – The following organizations are not signatories to the MOU, but are supportive of and interested in participating in some capacity in the SUASCO CISMA.

Acton Conservation Commission  
Massachusetts Fish and Game – Division of Ecological Restoration  
Mass Natural Heritage and Endangered Species Program

Appendix B  
Sudbury Assabet Concord (SuAsCo)  
Cooperative Invasive Species  
Management Area



### Appendix C – Early Detection Species

The below list of potential invaders was devised by the Massachusetts Invasive Plant Advisory Group. These early detection species may already exist in the watershed but are not well established. These species are considered early detection when identified in a new location and have the potential to be eradicated. All species listed below are considered to be priority species for CISMA wide management efforts.

Amur Cork Tree - *Phellodendron amurense*  
Brazilian Waterweed – *Egeria densa*  
Callery Pear – *Pyrus calleryana*  
Creeping Buttercup – *Ranunculus repens*  
European Alder – *Alnus glutinosa*  
European Rusty and Gray Willow – *Salix cinerea* and *Salix atrocinerea*  
Fig Buttercup – *Ficaria verna*  
Giant Hogweed – *Heracleum mantegazzianum*  
Hydrilla – *Hydrilla verticillata*  
Japanese Stiltgrass – *Microstegium vimineum*  
Kudzu – *Pueraria montana*  
Mile-a-Minute Vine – *Persicaria perfoliata*  
Narrow-leaf Bittercress – *Cardamine impatiens*  
Broad-leaved Pepperweed – *Lepidium latifolium*  
Wall Lettuce – *Mycelis muralis*  
Wild Chervil – *Anthriscus sylvestris*  
Wineberry – *Rubus phoenicolasius*

### Appendix D – Priority Species

This list is intended to identify invasive species which are high priorities for concerted management effort due to their ability to spread rapidly, their pervasive impact on habitat, and/or the existence of efficacious control methods. As with the Priority Areas identified in Exhibit E, this list is intended to focus CISMA-coordinated efforts on the species agreed by consensus to be priorities for collaborative effort, and is not intended to preclude control efforts focused on other species. The designated priority species are subject to change overtime to reflect the current goals of the CISMA.

1.) All Early Detection species listed in Exhibit D are considered priority species.



2.) These four species are watershed-wide, multi-partner collaboration target species. These species have potential for several partners to be involved in management, they invade waterways which cross through several landowners, impact recreational and habitat values, and have potential for control efforts to be successful in management not eradication.

- Water chestnut (*Trapa natans*) – requires wide-area collaborative effort due to its aquatic dispersal; ongoing joint control efforts could be supported by CISMA
- Purple loosestrife (*Lythrum salicaria*) – requires wide-area collaborative effort; candidate for biocontrol
- Phragmites (*Phragmites australis*) – herbicide, mowing
- Eurasian milfoil (*Myriophyllum spicatum*) – potential for biocontrol, herbicide and mechanical treatment

3.) These six species are watershed-wide, highly noxious species. These species spread quickly, form monocultures, alter soil chemistry, and are usually not extensive so eradication is possible.

- Garlic mustard (*Alliaria petiolata*) – alters soil chemistry; good candidate for volunteer hand pulling
- Japanese knotweed (*Polygonum cispidatum*) – potentially fast-spreading, dense-growing, easily dispersed
- Spotted knapweed (*Centaurea biebersteinii*) – potential to severely impact grassland habitats; candidate for biocontrol
- Tree of heaven (*Ailanthus altissima*) – wind-dispersed, aggressive growth; best dealt with preventatively
- Black swallowwort/pale swallowwort (*Cynanchum louiseae/Cynanchum rossicum*) – aggressive, wind-dispersed species
- Japanese stiltgrass (*Microstegium vimineum*) – also listed as an ED/RR species

4.) These seven species are well established species with known effective treatment methods. While watershed wide eradication is not likely, these species will be targeted for eradication in priority areas and in areas of new infestation.

- Oriental bittersweet (*Celastrus orbiculatus*)
- Glossy buckthorn (*Frangula alnus*)
- Japanese barberry (*Berberis thunbergii*)
- Autumn olive (*Elaeagnus umbellata*)
- Bush honeysuckles (*Lonicera spp.*)
- Burning bush (*Euonymus alatus*)
- Multiflora rose (*Rosa multiflora*)

## Appendix E – Grant Opportunities

- Sudbury Foundation
  - o <http://www.sudburyfoundation.org/>
- Mass Wildlife Habitat Grants
  - o <https://www.mass.gov/service-details/masswildlife-habitat-management-grant-program>
- National Fish and Wildlife Foundation
  - o <http://www.nfwf.org/whatwedo/grants/Pages/home.aspx>
- River Stewardship Council Partnership Grant
  - o <http://www.sudbury-assabet-concord.org/the-organization/working-together>
- EQUIP WHIP, NRCS Grants
  - o <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/whip/>
- 3.19 DEP Grants, Healthy Watersheds
  - o <https://www.epa.gov/hwp/healthy-watersheds-consortium-grants-hwcg>
- Clean Water Action
  - o <https://www.cleanwateraction.org/>
- NPS
  - o <https://www.nps.gov/index.htm>
- USFWS
  - o <https://www.fws.gov/>

## Appendix F – Plan for Funding

The CISMA Coordinator is responsible for providing consistent guidance to CISMA members, monitoring, preparing, and advancing grant opportunities, maintaining the CISMA website, holding meeting, preparing the newsletter, and providing a critical link to ensure that the institutional knowledge of the SuAsCo CISMA is not lost. Since the inception of the SuAsCo CISMA in 2009, the Coordinator position has been funded through grants. Long-term viability of critical position requires that we seek more permanent sources of funding. Opportunities may include:

Grant Funding

Over the past 3 years, the CISMA has received an average of \_\_ in grant funding. For each future CISMA grant application, 20% will include coordinator funding.

#### Donations/ Dues From Members

Each CISMA member will be encouraged to provide a membership fee/ donation/invoice for services, which will go directly to fund the coordinator and other mutually valuable services, such website maintenance.