Invasive Plant Management Plan Template

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Use this template to develop a management plan for each desired site. Feel free to modify it to suit the scale and goals of each project. This plan becomes the reference point for making decisions on where to focus resources. It also serves as a communication tool to decision makers, such as town managers and select board members, potential contractors, and future funders.

A few notes before you begin:

- Determine who needs to be involved in writing and reviewing the plan. Be sure to involve the land owner, land manager, and other stakeholder groups.
- Enlist the help of knowledgeable ecologists or foresters.
- Determine if materials (maps, text, etc.) already exist regarding the site under consideration.
- Develop a timeline for writing the plan. This will keep things moving.
- Keep in mind resources that are currently available or may be available in the future.
- Remember to use an integrated management approach. In most cases, you will want to integrate many control options, including mechanical and chemical, and potentially other methods.
- Review the tips on developing a management plan, found in the Community Handbook for Outreach and Management.

Reminders:

- It will be helpful for someone in the community to become a certified herbicide applicator. This will allow the person to legally oversee volunteers. Call the Vermont Department of Agriculture for more information: 802-828-3482; or go to http://www.vermontagriculture.com/ARMES/am/pesticide.html. Check with your Town regarding liability for the certified herbicide applicator applying herbicides on town lands.
- For larger infestations, difficult to treat plants, and difficult to treat areas, consider hiring a certified applicator.
- If the management area is near water and you plan to use herbicides, you will need a permit from VT DEC. Call 802-241-3761 for more information.
- Learn more about each species found on the property: how it reproduces; what management options exist; and the effectiveness of control options for the species.
- For more information on invasives management go to www.vtinvasives.org

A few notes to help you navigate the template:

Text in black can be used as is, or could be rewritten in your own words.
Text in red includes instructional notes that indicate the types of information that would be useful to include in a particular section.

Sections of original tables from plan developed for a floodplain forest restoration project in Richmond, Vermont are included **with blue headings**. We present these in order to demonstrate a useful format for the included information. If you use a digital version of this template to create your own plan, be sure not to accidentally include any Richmond specific information in your plan!

Invasive Plant Management Plan

FOR

Name of site and location

20__ - 20__

We recommend developing a plan for a 5-year span. This is long enough to allow for the development of reasonable long-term goals, and short enough to be realistic, given the inevitable changes in local conditions and the science regarding invasive species management. Annual updates are still recommended.

PREPARED BY _____

Prepared _____, Updated _____

Update recommended annually

Project Partners

Organizations and agencies participating in the _____ Restoration Project include:

List here any governmental, non-profit, or other community groups who have given or are on tap to provide technical, administrative or practical support to your project. Be sure to remember community volunteer groups and individuals!

Table of Contents

I. INTRODUCTION

A. Site Description

This section includes:

- A description of the precise location of the site
- Summary of land cover, forest types and/or natural communities present on the site. Include any water features, agricultural fields, etc. that are in the project area.
- Enlist the help of knowledgeable ecologists, botanists, foresters, birders, and wildlife enthusiasts. Refer to "Wetland, Woodland, Wildland" by Elizabeth Thompson and Eric Sorenson for information on natural communities.
- Information regarding current ownership, use and management of the site, including relevant information regarding adjoining properties.
- Include reference to a map. This can be developed using GIS, USDA quad maps, etc.

B. Site Purpose

This section identifies:

- Who manages the site
- What types of people (school groups, bikers, hikers, birders, canoeists) use the site,
- Overview of land management goals related to conserving land, protecting wildlife species, timber harvesting, recreational use, etc.

C. Desired Condition: Reduced Populations of Invasive Species

This section will include a more descriptive statement of what a healthy ecosystem (forest, riparian buffer, etc.) at this site would look like, and how removing invasive terrestrial plants will help to ensure long-term management goals. If invasives are removed, which plant species would likely thrive? If it is a forest that is used for timber management, recreation or sugaring, how would removing invasives help the site to function properly for its intended purpose? If it is a wetland, how would removing invasives help contribute to wildlife habitat? In a recreational area, how will removing invasives enhance recreational opportunities? Included might be specific descriptions of ecological activity and interactions, such as how succession would be expected to proceed if invasives were removed.

D. Current Condition

- Prior to writing the plan, conduct an inventory using iMapinvasives. Indicate the timing, participants and methodology of the survey.
- Summarize the degree of infestation, noting in general terms portions of the site that might be more or less heavily infested.
- Make note of those areas that are invasive-free.
- List invasive plant species, location, and general abundance.
- Note obvious current ecological impacts, and potential future impacts if the invasives are not managed. What plant species are not present that should be (tree seedlings, spring wildflowers, etc.)?

- Consider using a table similar to the one below to summarize invasive species found on the site.

Vermont is now subscribing to iMapinvasives, a georeferenced database and invasives mapping tool which any Vermonter can use for free. Use this for your inventory and mapping needs By doing so you will also be contributing to statewide knowledge and research. Go to www.vtinvasives.org for more information.

EXAMPLE ONLY: **Table 1: Invasive Species Inventory (partial)**

Species	Location and Abundance
Japanese knotweed *Fallopia japonica*	Currently grows in both small and large patches in the project area, particularly where there are gaps in the overstory providing sunlight, such as along the forest edges, including the trail and river bank. An infestation where the Beeken Preserve meets the Town of Richmond property dominates the stream bank for hundreds of feet.
Garlic mustard *Alliaria petiolata*	Found in small patches on both sides of the river.
Goutweed *Aegopodium podagraria*	Carpets large patches of the understory in the project area. It occurs on all properties.
Common and Glossy Buckthorns *Rhamnus cathartica and Rhamnus frangula*	A few isolated infestations of these two species were identified, primarily on private property on the downstream end of the project area.
Common Reed *Phragmites australis*	A significant infestation of *Phragmites australis* exists at a wetland on the Richmond Town property. Small infestations were also identified on the south side of the river on the Richmond Town property and RLT Beeken Preserve

II. INVASIVE SPECIES MANAGEMENT PRIORITIZATION AND TIMELINE

The workplan described below will guide invasive species management efforts in the project area for the next (five?) years (20__-20__). At the end of this period, partners will assess progress made toward their goals. Due to the number of invasive species, and the density of several of these species, it will not be feasible to eliminate all occurrences of all invasive species from the project area. With steady work each year, however, many patches can be reduced or eliminated, further spread can be checked, new infestations can be prevented, and native species will be allowed to thrive.

The following section outlines the weed management plan. It includes a) an outline of *prioritization by species;* b) a *timeline of seasonal activities* that identifies when activities will take place, lists needed equipment, and staffing and/or volunteer needs; and, c) a *species-b- species summary of management options*. This information was developed using available research and _____.

This plan is currently designed to address the invasive plant control priorities of (state here the partner organizations involved in management of this parcel of land.) The plan was developed in consult with and/or reviewed by (ecologist? TNC? Other?) It was approved by_____ on such and such date.

Also indicate any potential limitations of the plan due, for example, to privately owned lands within or abutting the project area. State the ideal management goals related to lands not currently included in

the management plan, and any strategies for addressing these in the future. Also include intentions or recommendations to further hone or develop the plan, as applicable.

A. Identifying Invasive Plant Management Priorities

Unfortunately, when working in an area heavily infested with invasive plants, most of the time there is no one method that will completely eliminate each species. Management priorities are set with the goal of achieving greatest ecological benefit while minimizing the total, long-term workload and project costs. In order to determine which invasive species to work on, we must take into consideration several factors, including:

- ***Ecological priorities***: A brief statement of issues relevant to your site.
- ***Recreational land uses***: A brief statement of issues relevant to your site.
- ***Available resources***: Project leaders should assess available and potential resources including funding, volunteers, expertise, and equipment as well long-term goals.
- ***Invasive Management Techniques***: It can be easier, more cost-effective, and more ecologically beneficial to manage certain species than others. In addition, there are a number of techniques for controlling invasives species, some more effective than others. Therefore it is important to make management decisions based on the ability to control one or more species, the techniques available at a specific site, and concerns for impact to native species.

These factors have been considered in this management plan. Each year, as work progresses and resources change, the year's work plan may shift slightly. However, consistent management targeting priority species in priority areas will offer the best results. It is also critical to keep in that invasive species management needs to become an ongoing management task.

B. Recommended Invasive Species Control Priorities within the Project Area

Based on the identified ecological and land-use priorities within the project area and the realities of invasive plant control (available resources and known techniques for plant control) we recommend focusing control actions on the following:

Delineate which species to focus on by organizing them into categories.

- High priority
- Medium priority
- Low priority

Include a brief statement for each species or group of species citing the rationale for including it in its designated level of priority. How will you prioritize your efforts? Consider the following order: 1) Early detection of invasive species; 2) Control of small, isolated populations; 3) Protection of high-quality areas with few invasive species; 4) Management of high-use areas that may be a source of further infestations; 5) Ability to manage a particular species. For example, in Richmond's Floodplain Forest Restoration Project, it was determined to be impossible to manage goutweed without killing the Ostrich fern. Therefore, it was listed as 'low priority'.

C. Early Detection, Rapid Response

Invasive plants will likely continue to be introduced and/or persist in this natural community. In order to prevent the further spread of existing invasive plants into uninfested areas, and to manage the likely introduction of new species, it will be important to regularly monitor the site for new invasions. Specifically:

List here specific species and areas to watch out for, and the planned response new infestations or new species are detected.

D. Timeline of Seasonal Activities

Include here a summary paragraph of management activities, organized by season. A detailed description of each of the seasonal activities is described in Table 2.

EXAMPLE ONLY: Table 2: Summary of Annual Weed Management Activities (partial)

Season	*Activity*	*Equipment*	*Time*
Early Spring (March through May):	***Garlic mustard pulling:*** Garlic mustard rosettes are one of the first plants to turn green in the spring and are therefore easy to identify. Volunteers will hand-pull plants, bag them in industrial sized garbage bags and haul them off-site. Once they are fully decomposed, they will be thrown away. After each workday, boots should be brushed off to prevent the spread of seeds. If there were a safe place to compost the plants that someone could keep an eye on, it would eliminate the expense of disposal in a landfill. The first pass through should happen as early in the spring as possible after the floodwaters recede, while the ostrich ferns are still curled up as fiddleheads, for better visibility and to avoid trampling the ferns. ***Woody invasive pulling:*** This is a great time for experienced volunteers to pull up honeysuckle, barberry and buckthorn seedlings since they're easy to see before the ferns unfurl. Seedlings can be hung in a tree to dry (no off-site disposal is needed).	gloves, buckets, "contractor"-sized trash bags to collect and remove, "dandelion" diggers	At least four days of labor by 10 volunteers. 2 days for a first pass in March or April, 2 more days for a second pass in early May.
Monitoring	Annual walk along both sides of river by TNC and RLT staff & volunteers to map populations of invasive plants.	GPS, clipboards, maps.	1 day/year for 8 people,

III. PUBLIC OUTREACH AND EDUCATION

This section should include a description of the outreach and education needs related to the project, and a discussion of the volunteer recruitment strategy. Making public education and volunteer recruitment planning an integral part of the plan will both help you to develop realistic management goals, and ensure a greater chance of long-lasting success in meeting those goals.

EXAMPLE ONLY: Table 3: Proposed Public Education and Outreach Activities

Objective & Tasks	Completion date	Lead Partner
Outreach and volunteer recruitment, **training, support** for invasive plant control activities over the next five years, This includes an annual celebration for all volunteers, complete with food, slideshow, and door prizes.	ongoing	RLT & all partners
Media outreach including radio spots, local newspaper articles, etc.	ongoing	RLT & all partners
Four **public outreach workshops**, designed to support volunteer efforts and increase the project's ecological impact. A: Local natural history focusing on silver maple-ostrich fern floodplain forest ecology, & the threat posed by invasive species B: Hands-on invasive species identification and removal workshop, to kick-off the volunteer season; C: Hands-on workshop for VYCC crew leaders teaching invasive species identification and removal D Workshop about landscaping for wildlife enhancement—focus on removing and replacing invasive species	8/2010	RLT/TNC
Develop and present a **land manager's technical workshop** (For land managers throughout the Champlain Basin, to share technical skills in invasives control, and how to implement a community weed management plan).	9/2010	RLT, TNC
Develop and present workshop and resources for **Richmond road crews** so that they adopt wise road management practices that reduce the spread of invasive species.	6/2010	RLT, TNC
Develop a local display on native and invasive plants to educate the public about landscaping with non-invasive plants: To be housed in a visible location in town during the spring planting season, and serve to educate people about alternative non-invasive species useful in landscaping year-round.	6/2010	RLT, TNC *(Consider developing with local school groups Master Gardeners; UVM)*
If necessary, **develop re-vegetation plans and guidance materials**	ongoing	RLT and TNC
Inspire 10 households to **remove invasive species** from their landscaping (with a focus on landowners in close proximity to RLT and TNC land?!)	Summer 2011	RLT
Update the invasive plant management plan covering all participating properties within the project area for all major weeds	Winter 2011/2012	TNC, RLT & Cons Comm
Maintenance and updating of GIS and inventory maps	Annually	Cons Comm

Appendix A: EXAMPLE ONLY*: Detailed Description & Recommended Control of Invasive Species on Richmond Floodplain Forest (partial)*

Species & Priority Level	Description	Distribution & Threats	Mgmt Objectives	Management Options & Recommendation
Japanese Knotweed *Fallopia japonica or Polygonum cuspidatum* ***Priority level*** **HIGH**	Japanese knotweed is a fast-growing, herbaceous perennial that grows three to seven or eight feet high & forms large, dense patches. The dispersal and spread of Japanese knotweed occurs largely through the spread and growth of rhizomes (roots), which may reach up to 45-50 feet in length. Spread is particularly high along riverbanks, where soil is loose and periodic flooding moves plant material down stream.	***Distribution:*** Heavy, especially on TNC land. In certain areas the plants form a 10-75 foot buffer from the river inland. ***Threats:*** Knotweed spreads quickly through its rhizomes and without control will continue to invade all areas of the floodplain forest.	Control knotweed in the floodplain forest and prevent further spread. Allow no-net-increase in knotweed cover in the floodplain forest.	***Manual control:*** Each year, from June – September cut back knotweed. At first, this control can be done with loppers or garden shears. After several seasons, the plants will be less robust and the stalks are much thinner. When the plants are smaller, it is easier to cut them back with a scythe or grass whip. Take care and do not cut native plants that regenerate. This may require careful cutting with hand clippers around the native plants. ***Herbicide control:*** Small patches: apply herbicide to cut stem in August; return following year to check for surviving sprouts. Large patches: In August conduct a foliar spray of knotweed using a 2% glyphosate solution that is approved for use near water. (*Because the infestation is so heavy, a combination of mechanical and herbicide treatment will be necessary on both RLT, Richmond Town, and TNC natural areas. Eventually, working with private landowners will be essential to long-term success of the project.*