

Habitat Management Plan

Invasive Plant Management Project

Shriver Property
12 Boulder Glen Rd.
Hingham, MA 02043

September 24th, 2019
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prepared by

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Site Conditions

Non-native invasive plant management of common reed (*Phragmites australis*) is proposed on the property of Tracy Shriver in Hingham, MA. Jessica Applin of Land Stewardship, Inc. visited the property on September 17, 2019 to evaluate conditions at the site. The project area measures approximately 4,500 square feet. (with the addition of adjoining phragmites on abutting property, the total square feet is 9,824.) This patch of phragmites is a monoculture, with no natives growing within the area the phragmites occupies. The area directly to the east of the phragmites is populated with salt marsh grasses, which given the opportunity will re-establish once the phragmites is managed and controlled.

The entirety of the project area is classified as a salt marsh through the Department of Environmental Protection. Most of the project area aside from the southernmost section is also classified as Priority Habitat under the Natural Heritage Endangered Species Project (NHESP). Priority Habitat is defined as the known extent of habitat for all state listed rare species, both plants and animals, that are listed under the Massachusetts Endangered Species Act (MESA). A map of the project area including the resources described above may be found in Appendix A.

Permitting, NHESP and DMF Approval

This project falls under the jurisdiction of the Wetlands Protection Act (WPA). Therefore, a Notice of Intent (NOI) will be filed with the Hingham Conservation Commission and with the Massachusetts Department of Environmental Protection (DEP). We will produce a management plan, resource map and proposed methods of treatment as support documentation for the permitting process.

Since this project is also classified as Priority Habitat by the Natural Heritage Endangered Species Project (NHESP), their approval and input will also be necessary for the permitting process. We will provide the appropriate maps and proposed treatment methods for NHESP to review prior to permitting.

Depending on the rare species habitat that is represented on site, proposed treatment methods or timing of methods may need to be shifted, or the presence of a botanist or specialist may be required. If the Order of Conditions issued by the Conservation Commission includes any significant changes, treatment methods and sequence may also require a revision.

The project area is in an area mapped as habitat for shellfish. If the project involves any work on the tidal flats, Massachusetts Department of Marine Fisheries will need to review the Notice of Intent.

Restoration Planting

Passive regeneration of site-specific plant species in the intertidal zone will proceed once the overstory of phragmites is removed. However, at the upper extent of the project area site-appropriate woody vegetation will be planted after initial and one follow-up treatment has been completed. Subsequent follow-up work around these plantings will be restricted to manual techniques. A planting plan will be developed prior to this work for conservation commission approval and is included in this proposal. Once a plan has been approved, we will submit a separate cost estimate for work associated with this task.

Methods Summary

Mowing

Phragmites will be mowed using a walk-behind low-ground-pressure mower. Plant debris generated by mowing will be removed from the site (Figure 1). All equipment will be cleaned following any work at the site.



Figure 1. Low ground-pressure walk-behind mower

Brush-cutting

Brush cutters can be used to manually cut the phragmites. Plant debris will be removed for appropriate disposal.

Herbicide Selection

Only wetland-appropriate herbicides suitable for use in sensitive natural areas will be used in the lowest effective concentrations.

The herbicide Rodeo (EPA Reg. No. 62719-324) will be used for all herbicide applications. Rodeo is a wetland-approved glyphosate-based herbicide that is considered the standard for successful phragmites control and protection of wetland resource areas. In addition, a

wetland approved non-ionic surfactant will be mixed into the herbicide solution along with indicator dye.

Foliar spray application (backpack sprayers)

LSI crew will conduct a limited foliar spray herbicide application using hand-pumped backpack sprayers in areas where phragmites is the only plant growing and no native plants will be impacted. Foliar treatments are applied in a targeted manner by trained ecological restoration technicians during appropriate weather conditions (wind <5 mph and no rain forecast within 24 hours, in accordance with product labeling).

Targeted Herbicide Application Methods for Common Reed/Phragmites

We use targeted methods to ensure that herbicide is applied carefully only to phragmites. A brief description of each method may be found below. Treatment of phragmites will be conducted only at low tide.

Cut and drip method

Each stem is cut below a node on the stem. One drop of a solution of Rodeo herbicide with water and indicator dye is dripped into each stem. This technique is typically used within a three-foot perimeter where phragmites is growing directly adjacent to native species. A 50% Rodeo solution (v/v) will be used.

Glove technique (hand wiping)

To conduct the glove technique, an herbicide applicator wears a chemical resistant glove underneath an absorbent cotton glove. The applicator moistens the glove with herbicide from hand-pumped low-volume backpack sprayer equipped with specialized ultra-low-volume nozzles backpack sprayer into the glove, and then wipes the stem and leaves of the individual phragmites plants. A 5% Rodeo solution (v/v) will be used along with 0.5% wetland surfactant.

Treatment Schedule

2019/2020

- Permitting. We will provide a management plan with maps as a support document for the permitting process. We will not conduct a formal wetlands delineation of the area but will include the DEP wetlands overlay on GIS maps that will accompany the plan as well as the plan you have already supplied, with the expectation that this will be sufficient for the conservation commission. We will also request treatment permission on your behalf from The Natural Heritage and Endangered Species Program (NHESP) since part of your property is classified as Priority Habitat. The notice of intent process can be time consuming and requires presenting at a

conservation commission meeting and sending certified mailings to all the abutting properties.

- Planting Plan. We will develop a restoration planting plan based on site specifics as requested by the conservation commission. Once this plan has been approved by the commission, we will draft a cost estimate for implementing this task.

2020

- Task 1.

Option #1: Mowing. Spring. Mowing of all phragmites in the project area in preparation for foliar treatment in Spring 2020. Mowing will be done with a low-ground-pressure mower that will cut the phragmites low, mulching the stems.

Option #2: Cut and Removal. Spring. All phragmites will be cut using brush saws and manually removed and disposed of.

Option #3. LSI project management guides and oversees a local company to implement one of these tasks. We can also try and connect you with qualified local people we have worked with in the past. Hiring and renting local could save on some of the labor and travel costs associated with this task. Our oversight of this is necessary to ensure the phragmites cutting/clearing is done to a certain standard to ensure conditions allow for effective foliar treatments.

- Task 2. Initial foliar treatment. Late Spring/Early Summer 2020. Initial foliar treatment to all phragmites within the project area. Timing based on re-growth in order to ensure optimal height for treatment.
- Task 3. Follow up foliar treatment. Late Summer/Early Fall 2020. Follow-up foliar to any resurgent phragmites growth within the project area. Hand-wiping to isolated stems and those in proximity to limits of project area, and/or in proximity to desirable returning plant species.

- Task 4.

Option #1: Mowing. Late Fall/Dormant season. Cleanup of treated phragmites to allow native plants the opportunity and resources to re colonize the area. Mowing will be done with a low-ground-pressure mower that will cut the phragmites low, mulching the stems.

Option #2: Cut and Removal. Late Fall/Dormant season. All treated phragmites will be cut and manually removed and disposed of to allow native plants the opportunity and resources to re colonize the area.

Option #3. LSI oversight and guidance as needed. This may require a site visit prior to follow up work. We will need to ensure proper conditions before follow-up treatments can commence in 2021.

2021

- Task 5. Follow up foliar treatment. Late Summer 2021. Follow-up spot foliar treatment to any new phragmites growth within the project area. Hand-wiping to isolated stems and those in proximity to limits of project area, and/or in proximity to desirable returning plant species.
- Task 6. Restoration planting. A cost estimate for this task will be provided once the planting plan has been approved by the conservation commission.

2022

- Task 7. Follow up foliar treatment. Late Summer 2022. Follow up spot foliar to any new phragmites growth within the project area. Hand-wiping to isolated stems and those in proximity to limits of project area, and/or in proximity to desirable returning plant species.

Success Criteria

Objective: 80% (or better) phragmites control resulting from 2020 series of treatments; 90% resulting from 2021 follow-up methods; and 95% control from 2022 follow-up. We will monitor the results of treatments each year over the course of the project. Our work is guaranteed to meet the stated success criteria.

Quality Assurance and Reporting

Jessica Applin will serve as the project manager for the project, and will inspect all crew work firsthand to ensure that the treatment was well executed, thorough and effective. LSI will keep in close contact with the landowner regarding work schedule and progress. Crew leaders use smart phones to submit daily work logs with photos and GPS data to document areas completed. Upon completion of each task, a land management record will be prepared to summarize work completed each day (crew, weather, hours worked, herbicide used, herbicide amount and notes). A GIS aerial map will accompany the land management record to show areas worked for each task performed.

Stewardship & Maintenance

Phragmites management requires a serious commitment and will need to be ongoing in order to protect your investment in management. To keep the phragmites out of the area for the long term it will be necessary to watch the area closely by scouting for new patches and individual plants, even after the 3 years of treatment. Options for managing phragmites after the initial three years usually consist of hand pulling, spot herbicide spraying, and/or

cutting. LSI can either continue the maintenance work for a reasonable annual cost, or can provide training and guidance to the landowner to allow the process to be continued.

We will provide a certificate of insurance upon request.

The costs and terms represented in this proposal are valid for 30 days. After 30 days, LSI cannot guarantee that there will be space in our schedule, or that rates will not be subject to change.

LSI employs a crew of ecological restoration technicians who are thoroughly trained in invasive and native plant identification. Many crew members have, at a minimum, an undergraduate education in a natural resource field and/or significant experiential education in the field (horticulture, landscape management, arboriculture or agriculture). Crew members are all Massachusetts licensed pesticide applicators and have obtained or are working to obtain certificates in Invasive Plant Management through UMASS Extension.

Appendix A: Map displaying ap
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used for treatment,

