

NOTICE OF PUBLIC HEARING SUDBURY CONSERVATION COMMISSION

The Sudbury Conservation Commission will hold a public hearing to review the Notice of Intent filing to conduct invasive species management, within the 100-foot buffer zone, at 18 Wolbach Road, Sudbury MA, pursuant to the Wetlands Protection Act and the Sudbury Wetlands Administration Bylaw. Lisa Vernegaard for Sudbury Valley Trustees, applicant. The hearing will be held virtually on Mon., September 15, at 6:30 pm, via Zoom. Please see the Conservation Commission web page for further information. <https://sudbury.ma.us/conservationcommission/meeting/conservation-commission-meeting-tuesday-september-15-2020/> .

SUDBURY CONSERVATION COMMISSION
August 19, 2020



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

18 Wolbach Road

a. Street Address

Sudbury

b. City/Town

01776

c. Zip Code

Latitude and Longitude:

42.375827

d. Latitude

-71.39117

e. Longitude

H11

f. Assessors Map/Plat Number

0102

g. Parcel /Lot Number

2. Applicant:

Lisa

a. First Name

Vernegaard

b. Last Name

Sudbury Valley Trustees

c. Organization

18 Wolbach Road

d. Street Address

Sudbury

e. City/Town

MA

f. State

01776

g. Zip Code

978-443-5588

h. Phone Number

i. Fax Number

lvernegaard@svtweb.org

j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

Same

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Laura

a. First Name

Mattei

b. Last Name

Sudbury Valley Trustees

c. Company

18 Wolbach Road

d. Street Address

Sudbury

e. City/Town

MA

f. State

01776

g. Zip Code

978-443-5588

h. Phone Number

i. Fax Number

lmattei@svtweb.org

j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

a. Total Fee Paid

b. State Fee Paid

c. City/Town Fee Paid



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A. General Information (continued)

6. General Project Description:

Use a combination of mechanical and herbicide methods to control and reduce abundance of invasive plant species in a wet meadow to restore native vegetation.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- | | |
|---|---|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input checked="" type="checkbox"/> Other | |

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☐ Yes ☒ No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex South

a. County

782

c. Book

130544

b. Certificate # (if registered land)

194

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- ☐ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	33,500 1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

- ☐ 25 ft. - Designated Densely Developed Areas only
- ☐ 100 ft. - New agricultural projects only
- ☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☒ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet _____ 2. cubic yards dredged _____	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. <input type="checkbox"/> Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet _____	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet _____	
h. <input type="checkbox"/> Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet _____	
	2. cubic yards dredged _____	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet _____	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged _____	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet _____	
4. <input checked="" type="checkbox"/> Restoration/Enhancement		
If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.		
a. square feet of BVW _____	b. square feet of Salt Marsh _____	
5. <input type="checkbox"/> Project Involves Stream Crossings		
a. number of new stream crossings _____	b. number of replacement stream crossings _____	



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C. Other Applicable Standards and Requirements

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

- a. ☐ Yes ☒ No **If yes, include proof of mailing or hand delivery of NOI to:**

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
1 Rabbit Hill Road
Westborough, MA 01581

b. Date of map _____

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*

1. ☐ Percentage/acreage of property to be altered:

(a) within wetland Resource Area

percentage/acreage _____

(b) outside Resource Area

percentage/acreage _____

2. ☐ Assessor's Map or right-of-way plan of site

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

(a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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C. Other Applicable Standards and Requirements (cont'd)

- (c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm).
Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

- (d) ☐ Vegetation cover type map of site
- (e) ☐ Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following
1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)
 2. ☐ Separate MESA review ongoing. a. NHESP Tracking # _____ b. Date submitted to NHESP _____
 3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a. ☐ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.



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C. Other Applicable Standards and Requirements (cont'd)

Online Users:

Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
 - a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
 - b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
 - a. ☐ Yes ☒ No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
 - a. ☐ Yes ☒ No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
 - a. ☐ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
 1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. ☐ A portion of the site constitutes redevelopment
 3. ☐ Proprietary BMPs are included in the Stormwater Management System.
 - b. ☒ No. Check why the project is exempt:
 1. ☒ Single-family house
 2. ☐ Emergency road repair
 3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

- ☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

Wolbach Farm Meadow Wetlands

a. Plan Title

Laura Mattei

b. Prepared By

8/7/2020

d. Final Revision Date

c. Signed and Stamped by

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☒ Attach NOI Wetland Fee Transmittal Form
9. ☐ Attach Stormwater Report, if needed.

E. Fees

1. ☐ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name



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F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



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Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

18 Wolbach Road

a. Street Address

Sudbury

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Laura

a. First Name

Mattei

b. Last Name

Sudbury Valley Trustees

c. Organization

18 Wolbach Road

d. Mailing Address

Sudbury

e. City/Town

MA

f. State

01776

g. Zip Code

978-443-5588

h. Phone Number

i. Fax Number

lmattei@svtweb.org

j. Email Address

3. Property Owner (if different):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).



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NOI Wetland Fee Transmittal Form
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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Control Vegetation/Resource Improvement	1	110	110
Step 5/Total Project Fee:			110

Step 6/Fee Payments:

Total Project Fee:	110
	a. Total Fee from Step 5
State share of filing Fee:	42.50
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	67.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Project Narrative

Sudbury Valley Trustees Invasive Plant Control at Wolbach Farm's Meadow

August 7, 2020

History and Background

Sudbury Valley Trustees' Wolbach Farm is part of Sudbury's Historic District and is a prominent scenic view as one drives towards Sudbury center. The key to this pastoral view is our open wet meadow and barn perched up above; however invasive plants have been able to get a foot hold in this area and mechanical control efforts have not been enough. The area we are focusing on is primarily in and around the wet meadow which is a rare habitat in Massachusetts; according to MassWildlife's State Action Plan, 68 state-listed Species of Greatest Conservation Need depend on wet meadows and marshes, 46 of those are plants. It is ecologically important that we maintain this as high quality habitat. In 2003, Francis Clark surveyed our wet meadow and found a rich diversity of meadow plant species; however, diversity has declined in the meadow and will continue to do so if the invasive plants are left unchecked.

Historically, this field was grazed by the cattle or horses raised on the property. After moving the SVT office to Wolbach Farm in 2003, the field was mowed once every other year. In the last several years, we have been mowing the eastern edge of the field multiple times per year in an effort to control the buckthorn; the remainder of the field has been mowed once every couple of years. The east edge of the field has a dense thicket of glossy buckthorn, which is so overgrown that there is nothing growing in the understory and only a few clusters of mature alders and silky dogwoods surviving the invasion. In the last several years, Oriental Bittersweet (*Celastrus orbiculata*) has expanded dramatically into the field edges and up trees, particularly those along Old Sudbury Road where mowing is infeasible and bittersweet's ability to germinate in shade has taken advantage. Our mowing efforts are not regaining or preventing further loss of meadow habitat and its diversity.

SVT's goal is to maintain high quality meadow habitat for plants, pollinators, birds, and other wildlife. If the invasive species continue to expand as they have we will continue to lose countless herbaceous meadow species, the remaining live trees along Old Sudbury Road, and quality habitat for wildlife. Non-chemical approaches have not succeeded here and after extensive research we propose the following treatment plan to control and significantly reduce the abundance of glossy buckthorn and bittersweet at the Wolbach Farm meadow. This plan will take several years to complete with a highly selective but intensive treatment in the first year followed by significantly lower levels of chemical treat the two subsequent years.

Notes on wetlands delineation:

1. The wetland boundary in the northwest corner of the project area was delineated by staff from Epsilon Associates; this was initially conducted to estimate the distance of the junction of Wolbach Road improvement project from the wetland boundary.
2. The entire buckthorn treatment area (approximately 24,000 sq.ft.) is assumed to be entirely in a BVW based on observations of flooding and wet conditions since 2003.
3. The wetland area around the intermittent stream was estimated by vegetation only (no soils analysis) by SVT staff.

Proposed Treatments at Wolbach Farm

We propose a combination of treatments that aim to have a high rate of control after the first year and are based on the density and current growth habit (e.g. climbing a tree, rambling on the ground, multi-stem, single stem) of buckthorn and bittersweet and proximity of desirable species.

The herbicide should be Triclopyr based because it is effective against broad-leaved plants, such as bittersweet and buckthorn, will not harm grasses, and some Triclopyr based herbicides have been approved for use in and near wetlands¹. Much of the meadow's more important flora is concentrated in or near the wetlands, and away from the proposed treatment areas.

Buckthorn Treatment

SVT recommends buckthorn be cut with a rotary mower mounted on a tracked machine in (e.g. a Davco or Fecon type mower) either dry or frozen conditions taking care to avoid silky dogwood and alders. The cut buckthorn will be allowed to resprout from the cut stumps through to July, then the low, compact new growth will be selectively sprayed by backpack sprayer. We are anticipating the open canopy will result in extensive resprouting and possibly seedling emergence as the seed bank is exposed. The herbicide will be Triclopyr or glyphosate-based² and wetland use approved; most likely Garlon 3A or Vastlan which are permissible to use in seasonally "dry" wetlands. Enough will be sprayed so the leaves are wet but not dripping. The following year there should be minimal resprouting and we will selectively spot spray the buckthorn that does resprout. Depending on the viability of the seed bank during the second growing season seedlings will be spot sprayed or hand pulled, with the help of volunteers. We will plan to do a third year of follow up resprout spraying but there should be very few to no stumps resprouting. The long term maintenance of seedlings will rely on annual pulling by summer staff and volunteers.

¹ SVT will be consulting with invasive control professionals about the best herbicide mix based on the most current application science.

² Final herbicide mix will be determined by the invasive plant control professional in consultation with SVT and the commission.

Bittersweet Treatment

Zone 1 (High) has bittersweet growing up trees with dense coverage near the base to where there are no desirable species underneath the foliage, though a few multiflora rose shrubs are trying to hold on. In this zone treatment will be implemented in November after the leaves have fallen. The vines growing up the trees will be cut and the herbicide will be immediately “painted” directly to the stump. The top of the vines will be left in the trees to desiccate. For the ground spreading vines a selective foliar spray will be applied in June after they were mowed in May. Treatments will continue for two more years following the initial treatment and will be dependent on the return rate of bittersweet. Ideally, by the second year there will be no bittersweet climbing the trees and ground cover will be reduced by 80%. The second year will require selective spot foliar spraying targeting the vines that survived the first year’s treatment along with new seedlings that germinated. By the third year there should be minimal spot spraying required to eradicate the remaining bittersweet.

The density of bittersweet in Zone 1 is far too abundant and established for hand pulling. Digging or mechanical removal techniques would be highly destructive, potentially cause more harm to the nearby trees, and could open the soil for further invasion. Due to the proximity of trees, mowing would not be an option. If Zone 1 is left untreated the trees that are not already dead will be completely encased by the vines and will eventually die. The low growing bittersweet will continue to invade the field, increasing density in the field.

Zone 2 (Medium) has moderate bittersweet coverage that is growing low along the ground or mounding on itself. Most of the other vegetation in this area is grasses, swamp dewberry, Virginia creeper, and poison ivy. For this zone the more effective treatment would be mowing in May to promote resprouting, then spot treatment with a foliar spray in June, following the same three year schedule and goals as Zone 1.

This area has periodically been mowed with a DR mower; however, mowing or hand pulling only exacerbates the problem because it stimulates bittersweet root growth.

Zone 3 (Low) is under the pines that line Wolbach Road. The bittersweet is just starting to take a hold and is small enough for a combination of spot foliar spraying for those with roots too difficult to pull and hand pulling seedlings if possible. An additional focus for this location is to prevent any vines from attaching to the adjacent trees.

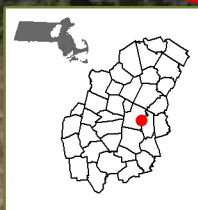
Long term maintenance will include annual or biennial mowing of the entire field in fall or spring to prevent woody growth and pulling or cutting bittersweet found in the tree line.

Additional Treatment Option

This option would be to replicate the work completed at a field owned by the USFWS Great Meadows National Wildlife Refuge on Water Row. At that site, 2 years of targeted herbicide treatment of glossy buckthorn was followed by root and plant removal, plowing and then seeding with a native meadow seed mix. The field demonstrated excellent results in native forb diversity.



Wolbach Farm Buckthorn and Bittersweet Density Sudbury, 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