ECR
Environmental Consulting & Restoration, LLC

REVISED RESTORATION PROPOSAL

TO: Hingham Conservation Commission

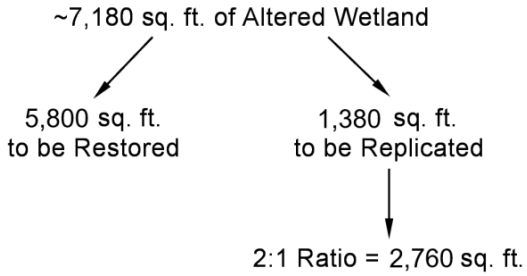
FROM: Brad Holmes

DATE: April 30, 2026

RE: 10 Village Lane, Hingham

As a follow up to our April 9th site review with the Commission, please include the revised restoration plan set with the Commission ongoing review of restoration activities at 10 Village Lane in Hingham (the Site). The restoration proposal results in a better ecological restoration than what previously existed at the site. Meaning, there will be more wetland resource area on site than what previously existed. There will also be improved buffer zone conditions with more native vegetation and the removal of a historic composting area, which existed prior to the applicant. Additionally, the wetland restoration area includes a wetland meadow habitat to improve biodiversity and create additional wildlife habitat value. Wetland meadows are in significant decline in the southeast region due to the loss of farming and loss of native grasslands. Of interest is an article from MACC regarding the importance of wetland meadow habitats (see attached). A wetland meadow habitat at this site will be a significant improvement for avian species that use the Weir River Riverfront Area.

This revised plan set includes the additional cross section detail of the proposed wetland replication area (see sheets 2 and 3) and also includes additional proposed buffer zone restoration planting associated with the wetland replication area. The remaining portions of the project remain as proposed. More specifically, approximately 7180 square feet of Bordering Vegetated Wetland was altered as part of the yard improvement project at the site. The current plans include 5,800 square feet of wetland restoration and the remaining portion (1380 sq. ft.) replicated in the southern portion of the site at a 2 to 1 ratio. See flow chart below:



In addition the wetland restoration and replication described above, approximately 4,190 square feet of buffer zone restoration with native plantings is proposed immediately landward of the wetland restoration and replication areas.

The methodology for wetland restoration and replication remains as proposed in the past submittal and is updated in the following sections:

ECR proposes the following restoration tasks:

1.) Prior to the start of restoration activities, an erosion control line (mulch sock or strawwattle) will be installed along the limit of the restoration area and the adjacent undisturbed vegetated wetland.

2.) Remove the existing lawn within the proposed planting area. The intent of removing the lawn is to expose the native topsoil. It does not appear that any fill was placed within the altered BVW as saturated soil conditions and organic topsoil was observed during ECR's field work. If necessary, a light layer of clean loam/compost mix (topdressing) should be spread over the restoration area by hand to supplement the existing soil.

3.) Once the restoration area has been prepared, the area will be hand planted with a mix of native shrubs and saplings. The restoration plan has been designed to provide a diverse wetland habitat by utilizing clusters of shrubs with interplanted saplings to create pockets of wet meadow habitat within the restoration area. The wet meadow pockets will be maintained by an annual mowing event (using a handheld string trimmer) at the end of each growing season to maintain the meadow habitat, which is an important diverse habitat for a variety of wildlife species. The design has also considered the mature Weeping Willows that remain within the area.

The entire wetland restoration area (highlighted by green on the Conservation Plan) will be hand planted with native shrubs. Following DEP guidance for shrub and sapling spacing a total of 67 shrubs and 16 saplings would typically be proposed to revegetate the area. To incorporate pockets of wet meadow, the area will be planted using 50% of the typical quantity – 33 shrubs and 8 saplings are proposed throughout the restoration area. An overviewing wetland scientist will place the plantings prior to installation. The shrubs will be clustered into groups of three to leave small open areas to establish as wet meadow habitat. The saplings will be spaced randomly throughout the restoration area. See the table below for more information.

Table 1 – Proposed Wetland Restoration Plant Palette

Species	**SIZE (height)**	**NUMBER**
Red Maple (*Acer rubrum*)	5-6 ft.	4
Swamp Tupelo (*Nyssa sylvatica*)	5-6 ft.	4
Inkberry (*Ilex glabra*)	1.5-2 ft.	7
Northern Arrowwood (*Viburnum recognitum*)	1.5-2 ft.	7
Sweet Pepperbush (*Clethra alnifolia*)	1.5-2 ft.	7
Highbush Blueberry (*Vaccinium corymbosum)*	1.5-2 ft.	6
Red Chokeberry (*Aronia arbutifolia*)	1.5-2 ft.	6
	Total	8 saplings 33 shrubs

All plantings to be spaced at the direction of an overviewing botanist/wetland scientist. Upon completion of planting, only the root zones of the plants will be mulched with a 1 to 2-inch-thick layer of leaf litter or other natural organic mulch. The intent is to only mulch the root zones of the plants, not the entire restoration area.

4.) Following the installation of all the proposed plantings, the exposed soils will be stabilized with a native seed mix to establish an herbaceous layer and the wet meadow habitat. The seed mix has been specified on the attached Restoration Plan.

ECR proposes the following replication tasks:

1) A survey crew will stake out the limits of the proposed 2,760 square foot wetland replication area (highlighted by red on the Conservation Plan).

2) The supervising wetland scientist will flag any existing healthy trees to be saved within the wetland replication area. Only native wetland indicator trees such as Red Maples, Tupelos, etc. shall be flagged for saving

3) Prior to all earthwork activities, erosion control barriers will be installed along the downgradient edge of the wetland replication area.

4) Currently, most of the replication area is occupied by a compost pile and yard waste. All this material will be removed from the site prior to implementation of the replication work. Some vegetation will be required to be removed within the replication area. Care will be taken to avoid excavation over the root zone of the trees flagged to be saved.

5) Following the removal of material and existing vegetation, the area will be excavated. The area will be excavated to a depth of approximately 6 to 8 inches below the designed level of the wetland replication area. Several test pits within the excavation area will be performed and overseen by the supervising wetland scientist to determine the elevation of existing subsurface hydric soils so that the appropriate construction elevation can be coordinated with the excavator operator. The excavated sediment will be removed from the site. The supervising wetland scientist will inspect the sub-grade of the replication area to ensure that the proper hydrology has been established.

6) The replication area will then be backfilled with 6 to 8 inches of wetland soils appropriate for the site. A high organic soil will be spread over the entire wetland replication area. Clean leaf or commercially available compost may amend the soils to achieve a high organic content. These soils will then be graded to achieve a slight hummock and hollow micro-topography, similar to that of a natural wetland substrate. Please note that the supervising wetland scientist shall evaluate these soils prior to placement.

7) Fallen logs, branches, and other natural debris existing with the upland areas will be relocated to the replication area to provide beneficial habitat features for wildlife. Where possible, fallen logs should be of varying sizes and in varying degrees of decomposition.

8) An erosion control barrier will be placed along the upgradient edge of the wetland replication area.

9) Replication area plantings will take place once the above listed tasks have been completed. The species, size, and quantity of the plantings will follow the Replication Planting Palette found in Table 2 below. The spacing of trees and shrubs are in accordance with the guidelines established in DEP's Massachusetts Inland Wetland Replication Guidelines, which are 15 feet apart for trees and 10 feet apart for shrubs. Using trees spaced 15 feet on center and shrubs spaced 10 feet on center requires 14 trees and 32 shrubs to vegetate the 2,760 square foot replication area. Prior to delivery to the site, the supervising wetland scientist will visit the nursery providing the planting stock to ensure that the specimens are healthy, free from pests, and suitable for use with the replication area. Any planting substitutions must be approved by the wetland scientist. Planting within the wetland replication area will conform to the plans or will be completed in accordance with directions provided in the field. Only plant materials native and indigenous to the region shall

be used. Species not specified in the replication plan shall not be used without written approval from the permitting agency.

Table 2 – Proposed Wetland Replication Plant Palette

Species	SIZE (height)	NUMBER
Red Maple (*Acer rubrum*)	5-6 ft.	6
Swamp Tupelo (*Nyssa sylvatica*)	5-6 ft.	5
American Elm (*Ulmus americana*)	5-6 ft.	5
Inkberry (*Ilex glabra*)	1.5-2 ft.	7
Northern Arrowwood (*Viburnum recognitum*)	1.5-2 ft.	6
Sweet Pepperbush (*Clethra alnifolia*)	1.5-2 ft.	6
Highbush Blueberry (*Vaccinium corymbosum)*	1.5-2 ft.	6
Red Chokeberry (*Aronia arbutifolia*)	1.5-2 ft.	7
Total		14 saplings 32 shrubs

10) The remaining wetland replication area to be scratched and seeded with the FACW Wet Meadow Mix provided by Ernst Seeds at the rates specified by the supplier. The side slope from the wetland replication area to the buffer zone (buffer zone area) to be scratched and seeded with the Native Upland Wildlife Forage Mix provided by Ernst Seed at the rate specified by the supplier. Please refer to the attached seed mix profiles for more information.

11) All plantings to be spaced randomly at the direction of the wetland scientist to simulate natural growth patterns.

12) Upon completion of planting, the root zones of the plants will be mulched with a 1 to 2 inch thick layer of leaf litter or other natural organic mulch.

13) The erosion control barriers will be disassembled and properly disposed of after the three fill growing season after the planting of the wetland replication areas. Sediment collected by these devices will be removed and disposed of in a manner that prevents erosion and transport to a waterway of wetland.

In addition to the wetland replication and restoration work detailed above, the buffer strip is proposed to be restored along the landward limit of the wetland restoration and replication areas (highlighted by orange on the Conservation Plan). In order to restore the buffer, the existing lawn will be removed to expose the native topsoil. The area will then be hand planted with a mix of native shrubs – in total, 48 shrubs will be planted 10 feet on center to vegetate the 4,190 square foot buffer restoration area. Once installed, the area will be stabilized with native buffer seed mix (Native Upland Wildlife Forage & Cover Meadow Mix). The area will remain as a natural buffer to the wetlands in perpetuity. Table 3 below includes the proposed species for the wetland buffer restoration area.

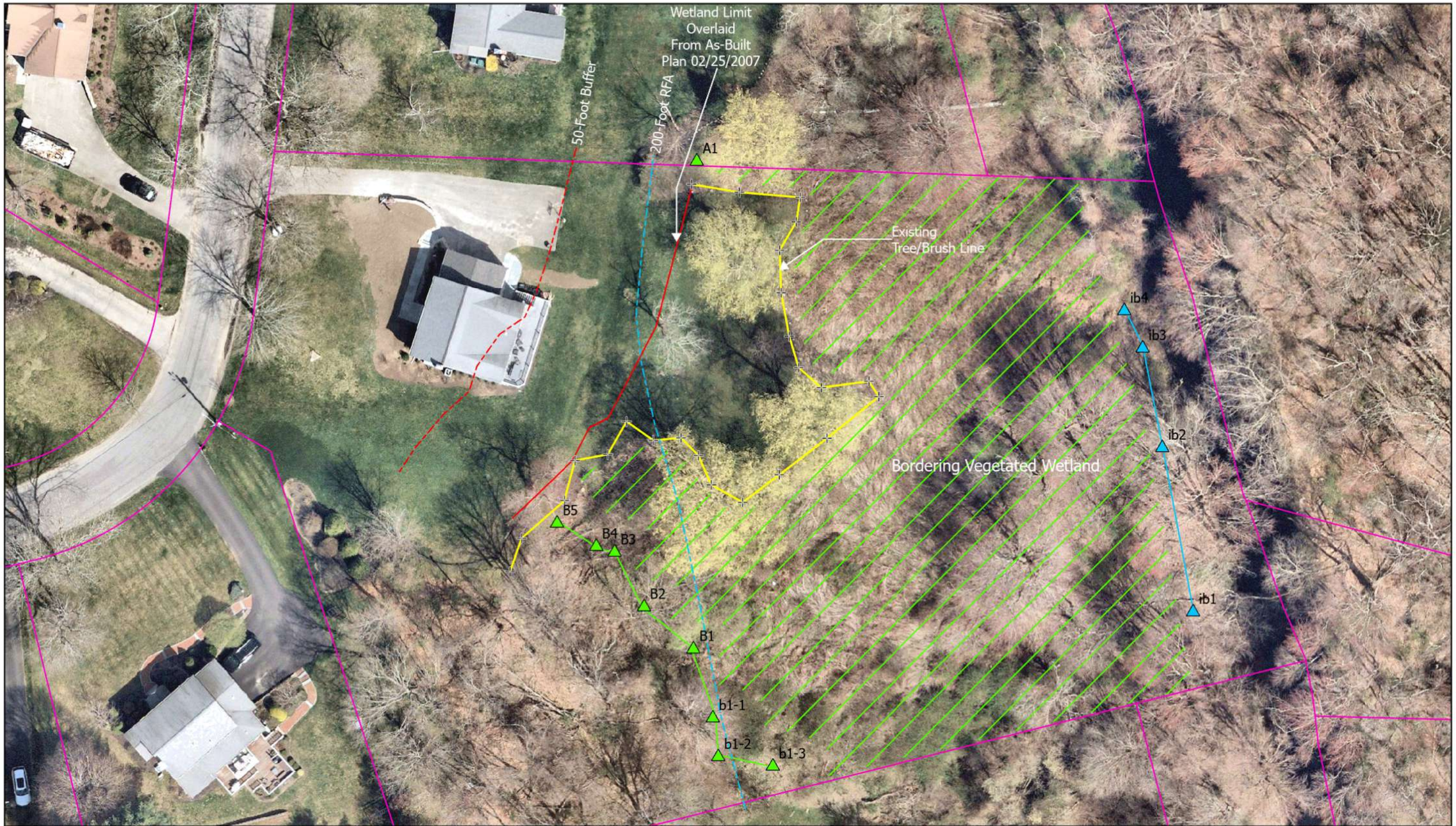
Table 3 – Proposed Buffer Restoration Plant Palette

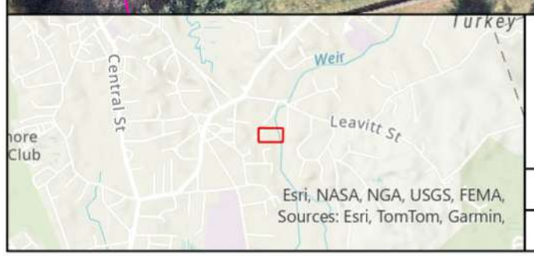
Species	SIZE (height)	NUMBER
Witch Hazel (*Hamamelis virginiana*)	1.5-2 ft.	12
Black Chokeberry (*Aronia melanocarpa*)	1.5-2 ft.	12
Sweet Pepperbush (*Clethra alnifolia*)	1.5-2 ft.	12
Highbush Blueberry (*Vaccinium corymbosum)*	1.5-2 ft.	12
	Total	48 shrubs

At the completion of the restoration & replication work, a report with photographs will be prepared by the overviewing specialist and submitted to the Conservation Commission documenting the compliance with the approved restoration plan.

The restoration & replication areas will be monitored for two full growing seasons following the completion of work. Monitoring should include two site inspections each year, the first should be early in the growing season (mid April) in order to determine if any plantings need to be replaced, determine if overseeding is required, and to inspect/remove any new growth of non-native invasives. The second inspection should be completed near the end of the growing season (October) to document the success of the restoration & replication efforts. During the inspections, the botanist should hand pull and place into trash bags for disposal any non-native invasive plant growth found in the restoration area, if any. A report will be prepared and submitted to the Conservation Commission following the inspection at the end of the

We look forward to presenting this proposal to the Commission. If there are questions or requests for additional information, please contact us at (617) 529 – 3792 or brad@ecrwetlands.com.





Conservation Plan

10 Village Lane, Hingham, MA

Sheet 1 of 3: Existing Conditions

0 20 40 80 Feet

1 inch = 40 feet

N

Prepared By: C. Larson

Date: 4/27/2026

Environmental Consulting & Restoration, LLC

Notes:
1.) Wetland delineation and GPS survey completed by ECR, LLC on 6/12/25 and 8/26/25.
2.) Aerial Image Source: NearMap - April 10, 2025
3.) Parcel Boundary Source: MassGIS Data

Seed Mix for Wetland Restoration & Replication:

FACW Meadow Mix

Mix Composition

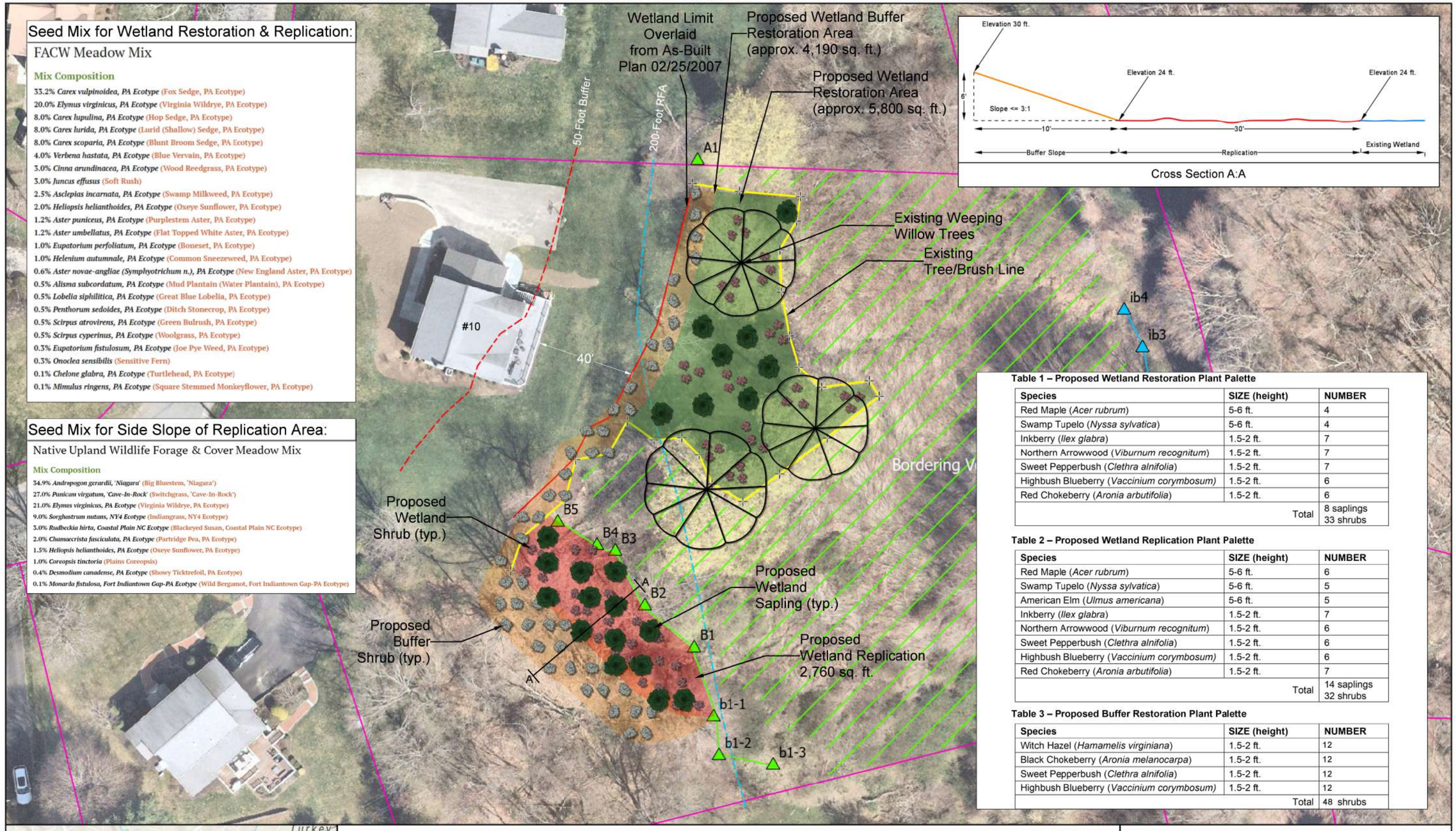
33.2% *Carex vulpinoidea, PA Ecotype* (Fox Sedge, PA Ecotype)
20.0% *Elymus virginicus, PA Ecotype* (Virginia Wildrye, PA Ecotype)
8.0% *Carex lupulina, PA Ecotype* (Hop Sedge, PA Ecotype)
8.0% *Carex lurida, PA Ecotype* (Lurid (Shallow) Sedge, PA Ecotype)
8.0% *Carex scoparia, PA Ecotype* (Blunt Broom Sedge, PA Ecotype)
4.0% *Verbena hastata, PA Ecotype* (Blue Vervain, PA Ecotype)
3.0% *Cinna arundinacea, PA Ecotype* (Wood Reedgrass, PA Ecotype)
3.0% *Juncus effusus* (Soft Rush)
2.5% *Asclepias incarnata, PA Ecotype* (Swamp Milkweed, PA Ecotype)
2.0% *Heliopsis helianthoides, PA Ecotype* (Oxeye Sunflower, PA Ecotype)
1.2% *Aster puniceus, PA Ecotype* (Purplestem Aster, PA Ecotype)
1.2% *Aster umbellatus, PA Ecotype* (Flat Topped White Aster, PA Ecotype)
1.0% *Eupatorium perfoliatum, PA Ecotype* (Boneset, PA Ecotype)
1.0% *Helenium autumnale, PA Ecotype* (Common Sneezeweed, PA Ecotype)
0.6% *Aster novae-angliae (Symphyotrichum n.), PA Ecotype* (New England Aster, PA Ecotype)
0.5% *Alisma subcordatum, PA Ecotype* (Mud Plantain (Water Plantain), PA Ecotype)
0.5% *Lobelia siphilitica, PA Ecotype* (Great Blue Lobelia, PA Ecotype)
0.5% *Penthorum sedoides, PA Ecotype* (Ditch Stonecrop, PA Ecotype)
0.5% *Scirpus atrovirens, PA Ecotype* (Green Bulrush, PA Ecotype)
0.5% *Scirpus cyperinus, PA Ecotype* (Woolgrass, PA Ecotype)
0.3% *Eupatorium fistulosum, PA Ecotype* (Joe Pye Weed, PA Ecotype)
0.3% *Onoclea sensibilis* (Sensitive Fern)
0.1% *Chelone glabra, PA Ecotype* (Turtlehead, PA Ecotype)
0.1% *Mimulus ringens, PA Ecotype* (Square Stemmed Monkeyflower, PA Ecotype)

Seed Mix for Side Slope of Replication Area:

Native Upland Wildlife Forage & Cover Meadow Mix

Mix Composition

34.9% *Andropogon gerardii, 'Niagara'* (Big Bluestem, 'Niagara')
27.0% *Panicum virgatum, 'Cave-In-Rock'* (Switchgrass, 'Cave-In-Rock')
21.0% *Elymus virginicus, PA Ecotype* (Virginia Wildrye, PA Ecotype)
9.0% *Sorghastrum nutans, NY4 Ecotype* (Indiangrass, NY4 Ecotype)
3.0% *Rudbeckia hirta, Coastal Plain NC Ecotype* (Blackeyed Susan, Coastal Plain NC Ecotype)
2.0% *Chamaecrista fasciculata, PA Ecotype* (Partridge Pea, PA Ecotype)
1.5% *Heliopsis helianthoides, PA Ecotype* (Oxeye Sunflower, PA Ecotype)
1.0% *Coreopsis tinctoria* (Plains Coreopsis)
0.4% *Desmodium canadense, PA Ecotype* (Showy Ticktrefoil, PA Ecotype)
0.1% *Monarda fistulosa, Fort Indiantown Gap-PA Ecotype* (Wild Bergamot, Fort Indiantown Gap-PA Ecotype)



Cross Section A:A

Table 1 – Proposed Wetland Restoration Plant Palette

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Northern Arrowwood (*Viburnum recognitum*)	1.5-2 ft.	7
Sweet Pepperbush (*Clethra alnifolia*)	1.5-2 ft.	7
Highbush Blueberry (*Vaccinium corymbosum*)	1.5-2 ft.	6
Red Chokeberry (*Aronia arbutifolia*)	1.5-2 ft.	6
	Total	8 saplings 33 shrubs

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Table 3 – Proposed Buffer Restoration Plant Palette

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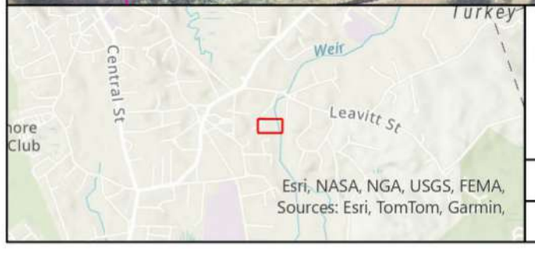
Highbush Blueberry (*Vaccinium corymbosum*)	1.5-2 ft.	12
	Total	48 shrubs



Conservation Plan

10 Village Lane, Hingham, MA

Sheet 2 of 3: Proposed Restoration & Replication

0 20 40 80 Feet

1 inch = 40 feet

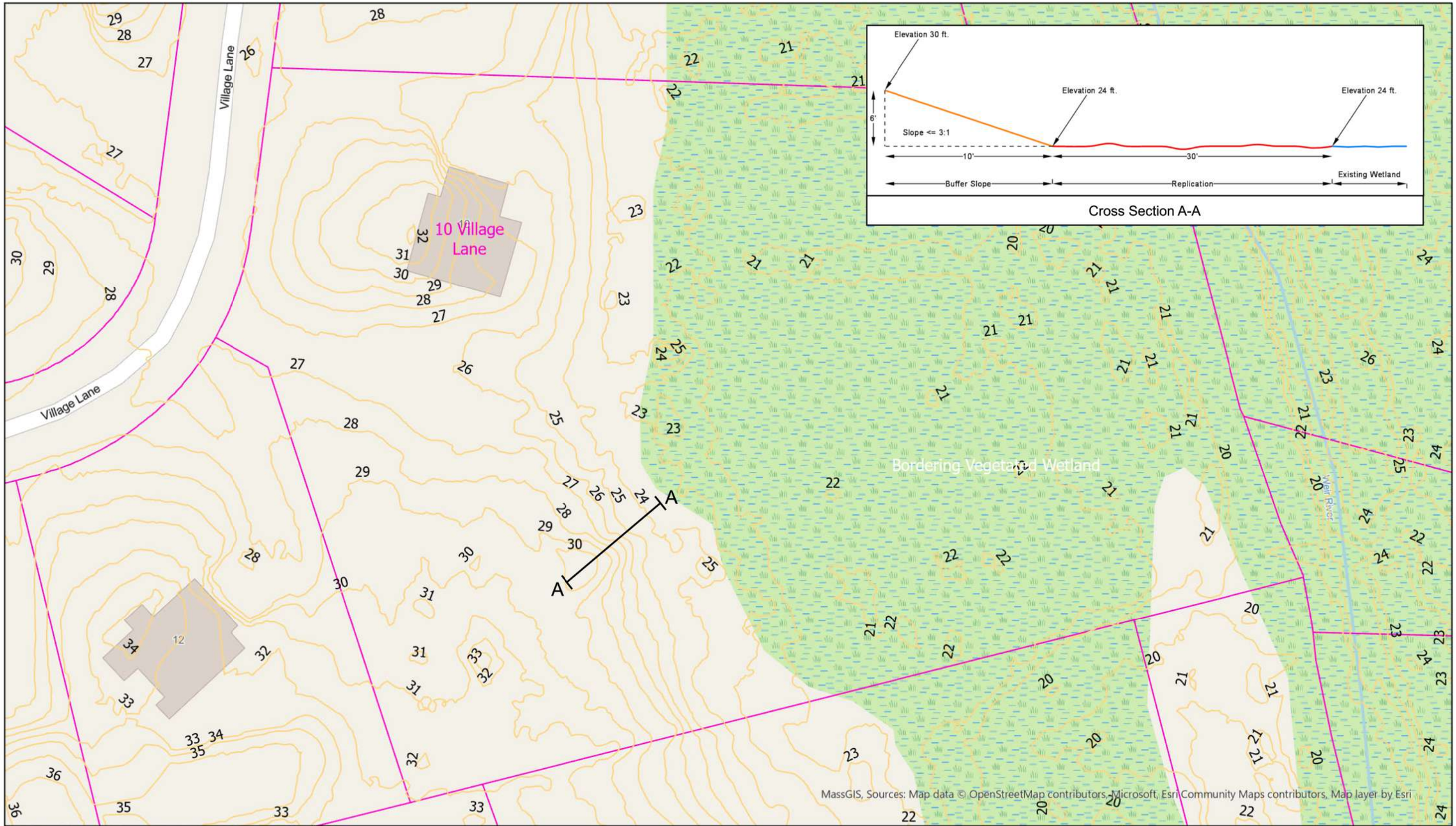
N

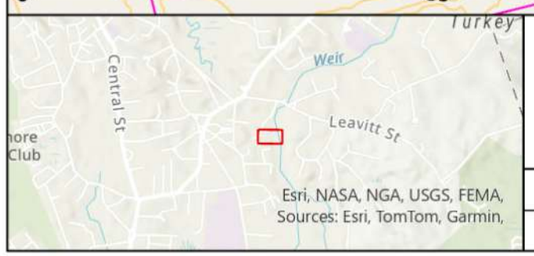
Prepared By: C. Larson

Date: 4/27/2026

Environmental Consulting & Restoration, LLC

Notes:
1.) Wetland delineation and GPS survey completed by ECR, LLC on 6/12/25 and 8/26/25.
2.) Aerial Image Source: NearMap - April 10, 2025
3.) Parcel Boundary Source: MassGIS Data





Conservation Plan

10 Village Lane, Hingham, MA

Sheet 3 of 3: Cross Section Location

0 20 40 80 Feet

1 inch = 40 feet

N

Prepared By: C. Larson

Date: 4/27/26

Environmental Consulting & Restoration, LLC

Notes:
1.) Base Map Source: MassGIS Base Map (Open Street)
2.) Parcel Boundary Source: MassGIS Data
3.) One-Foot Contour Source: MassGIS Data

MACC

March/April 2008 The Newsletter of the Massachusetts Association of Conservation Commissions Volume XXXVIII Number 2

Conservation Conundrum: Grassland Habitat Management in Wetlands

By Laura Mattei

In 2005, the EOEA put forth a Comprehensive Wildlife Conservation Strategy that identifies grasslands as one of the habitats in greatest need of conservation in the Commonwealth. Over the last 100 years, we have seen a decline in early successional habitats – grasslands, shrublands and young forests – as our land use has shifted from agrarian to commercial, industrial and residential. Lands that remain undeveloped have succeeded or are succeeding to forests. This means that we are losing grassland habitat and the biodiversity that goes along with it.

The term "grasslands" is used as an umbrella term to refer to a variety of grass-dominated communities that are predominantly the products of human activities. "Grasslands" includes active pastures, hay fields, abandoned fields, native upland grasslands (dominated by little bluestem), savannahs and wet meadows.

MassWildlife and the Natural Heritage & Endangered Species Program encourage landowners to protect, restore and maintain grassland habitat. MassWildlife's Landowner Incentives Program (LIP), with funds from the federal government, is providing financial support to private landowners to establish and maintain early successional habitats. Due to federal constraints on this funding, it is not available to municipalities.

The surge in activity to create and maintain grasslands has created controversy in the conservation community. Some Conservation Commissions do not understand the value of grasslands or do not understand how to permit them within the requirements of the Act. In several cases, Conservation Commissions have reluctantly agreed to allow clearing of invasive shrubs to improve or expand grasslands, but have not allowed the clearing of areas dominated by native wetland shrubs. In one situation, the Conservation Commission was supporting grassland

*(**Conservation Conundrum**, continued on page 6)*

*(Continued from page 3, **Conservation Conundrum**)*

habitat maintenance (through mowing), but then the DEP over-ruled the commission after a neighbor appealed the project.

At a landscape scale, grasslands provide an important element of habitat diversity. Seven species of state-listed birds are highly dependent on grasslands of one type or another for nesting, migrations, or wintering habitat (mostly along the coast or on larger islands). Additionally, ecologists have documented the decline of several grassland-nesting bird species, including American bobolink, Eastern meadowlark and Savannah sparrow. In order to mitigate these population declines, we need to increase the amount of available nesting habitat. These habitats are also critical to a diversity of insects and plants.

Grassland habitat restoration typically involves clearing shrubs, and sometimes trees, around field edges or removing hedgerows that bifurcate fields. Edge habitats are known to support our more common wildlife species and have been shown to increase predation on nesting birds. Grassland birds seek out large fields for nesting (10+ acres for some species and much larger for others). Therefore, the quality of grassland habitat is greatly improved by the removal of hedgerows and shrub growth around field edges because it both increases the size of the habitat and removes sources of predation. Many native pollinators and state listed plants require smaller, open wetlands that depend on periodic disturbances.

Research across the state shows that historical and pre-settlement land use practices, including fire, grazing and mowing, were the agents that kept many wet, grass dominated systems open. Many species dependent on these habitats are extremely rare or have been extirpated from the Massachusetts landscape. These species include species of turtles, butterflies and plants.

The crux of the argument rests on whether or not the proposed alteration is enhancing wildlife habitat values of the wetland. While clearing shrubs and trees represents a dramatic alteration of the wetlands, all interests of the Act are preserved and the wildlife value usually remains the same or increases due to the relative scarcity of grassland habitat. This issue involves some eco-philosophical questions that engender strong differences of opinion.

One focal point of the debate is how to define and measure restoration and enhancement, and to determine what state of habitat succession is desirable and in what balance across the landscape (which also brings into question the root resource management goals which are very much in transition now due to massive new influences related to climate change). There are several viewpoints on this. For example, under what circumstances should people today be managing wetlands in a way that artificially suspends natural habitat succession and requires intensive and perpetual human maintenance versus allowing wetland habitats to naturally evolve in structure and function? There are obvious present-day rare species and diversity issues to consider here, but a historical perspective also begs questions about what target species composition and habitat mix we should be managing for.

In evaluating the language of the Act, Section 10.53 (4) of the Wetlands Protection Act (part of limited projects) provides for projects that "will improve the natural capacity of a resource area(s) to protect the interests" of the Act and

such projects may include "thinning or planting of vegetation to improve habitat value." This language provides for the opportunity to manage wetlands for habitat value, but does little to provide criteria for such judgments.

To make headway, a new way of perceiving wetland resource regulation and management is needed that moves beyond the traditional framework of laws and implementation meant only to protect and mitigate against resource degradation and loss -- to an approach designed to allow and encourage resource restoration and enhancement. Conservation projects necessitate a different set of review criteria than development projects, but all review criteria must continue to protect the eight interests of the Act.

This article initiates a conversation that we hope will culminate in policy guidelines from DEP that assist Conservation Commissions with reviewing and permitting habitat management projects essential to the conservation of the State's biodiversity.

Laura Mattei is Director of Stewardship at the Sudbury Valley Trustees.