

Bridge Island Meadows/ Medfield Meadow Lots Management Plan

2009



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Bridge Island Meadows and Medfield Meadow Lots: Basic Management Plan

Location: Bridge Island Meadows, Millis, MA
Medfield Meadow Lots, Medfield, MA

Acreage: 80 acres Bridge Island Meadows; 16 acres Medfield Meadow Lots (property guide)

Completed by: Adam Kurowski, assisted by Mike Francis, Brian DeGasperis, and Lisa Vernegaard

Date: FOC approved, May 18, 2009

Supporting Reports and Materials: Property Guide; Trustees' website; NHESP Priority Habitats of Rare Species GIS data;

I. Introduction

- a. Bridge Island Meadows (BIM) is an island of upland forest (dry, rich acidic oak forest) surrounded by wooded deciduous swamp, shrub swamp, and marshes along the floodplain of the Charles River and South End Pond. Accessing the property is difficult but best accomplished by kayak or canoe using the surrounding waterways. Visitors can then bushwhack their way to a 130-foot knoll rises up at the south end of the reservation. Medfield Meadow Lots (MML) consists of 3 parcels: Pratt Meadow, Perry Meadow, and Hinsdale Meadow; located to the west of the Charles River in the floodplain. The land is a mix of marsh, shrub swamp, and wooded deciduous swamp. Access here is also difficult and only possible by river. The protection of these properties was part of a public/private cooperative effort to protect the natural beauty and ecological value of the upper Charles River Valley. Several organizations, including The Army Corps of Engineers, Mass. DCR, and Mass. Fisheries & Wildlife, have protected land along this portion of the Charles River, which add to the significance of Bridge Island Meadows and Medfield Meadow Lots, see Open Space Context map.

Bridge Island Meadows and Medfield Meadow Lots are C-type management properties and are a low priority in the Charles River Valley Management Unit. Additional funding and staff time is needed in order to improve the management of these reservations. These resources needed to implement many of the recommendations in this plan are not currently available in the management unit.

- b. Acquisition history: BIM was a gift of Dr. and Mrs. John D. Constable in 1974. MML was a gift of Henry L. Shattuck in 1968.
- c. Donor's wishes or other clear guiding principles: These properties were protected primarily for flood protection and water quality protection.

II. Summary of Preliminary Management Goals

- a. Because of the inaccessibility, The Trustees will provide minimal stewardship and will monitor the properties for disturbances. The primary goal for management at these properties is watershed protection and wild land protection.

III. Legal and Management Considerations

- a. Difficulty gaining access to the properties impedes overall management.
- b. Wetland Protection Act limits management activities.

IV. Property Description:

A. Historic and Cultural Resources

Significant Historic Features: Additional research is needed to identify features.

Threats to Historic Features: None known

B. Natural Resources

Significant Natural Features:

- Protected Network of Open Space – Bridge Island Meadows and Medfield Meadow Lots are part of an extensive network of protected land along the Charles River, the majority of which is owned by the Army Corps of Engineers. These lands help protect the ecological integrity of the Charles River Valley and provide flood protection for surrounding communities.
- Priority Rare Species Habitat – Medfield Meadow Lots and portions of Bridge Island Meadows are designated as Priority Rare Species Habitat for Long’s Bulrush (Threatened) and River Bulrush (Special Concern) by the Massachusetts Natural Heritage and Endangered Species Program. A small section of Bridge Island Meadows has also been identified as habitat for Britton’s Violet (Threatened). These three species are typically associated with open habitats within the floodplain of freshwater rivers.
- Priority Natural Communities – Alluvial Red Maple Swamp occurs within some portions of the Charles River floodplain at Bridge Island Meadows. Alluvial Red Maple Swamps are a richer variant of Red Maple Swamps that occur in low areas along rivers and streams that experience overbank flooding. Bridge Island Meadows also supports at least one functioning vernal pool which provides habitat for dependent wildlife including wood frogs and possibly spotted salamanders. The pool and surrounding complex of wetlands also provide habitat for facultative species such as green frog, spring peepers, and American toads.

Threats to Natural Features:

- Exotic Invasive Species – Non-native invasive plant species, including purple loosestrife, reed-canary grass, glossy buckthorn, and yellow iris, are prevalent at both properties. These species are currently the dominant vegetation in some floodplain areas along the Charles River.
- Off-Road Vehicle Activity – Bridge Island Meadows has several trails and cart paths, at least some of which have been created or maintained by off-road vehicles. Motorized vehicle activity may cause erosion of soils and provide avenues for incursion by nearby exotic invasive species.

- Climate Change – Climate change poses a new type and scale of threat to our natural areas. Research on how we can best adapt to the changes and mitigate the impacts of climate changes is underway. The impacts of global climate change will be felt throughout all of The Trustees’ properties, but at varying degrees. Global warming has the potential to significantly alter the ecosystems and natural resources of Massachusetts in future decades through accelerating rates of sea level rise, increases in storm frequency and intensity and changing floras and faunas due to milder climate. While solutions to these problems typically lay beyond the scope of our management, including potential impacts in planning may help avoid problems in the future. For example, implementing a program of early detection and rapid response to new exotic invasive species will reduce the potential of these species becoming established.
- Land Fill – A land fill adjacent to Bridge Island Meadows was capped in the recent past. Leachate and runoff threaten water quality in wetlands and waterways.

Opportunities:

- Work with adjacent private, municipal, state, and federal landowners to control invasive species (particularly purple loosestrife) along the Charles River corridor.
- Investigate the history of the Dry, Rich Acidic Oak Forest. Large diameter trees in conjunction with pit and mound topography suggest that this isolated upland area could be primary forest (i.e., periodically logged but never cleared for agriculture).
- Work with the Army Corps of Engineers to prevent off-road vehicles from accessing Bridge Island Meadows.

C. Scenic Resources

Significant Scenic Features: None exists at present time.

D. Structural Resources

Structure	Size	Current Use	Current Condition
Dam – Bogastow Brook			It is not clear if the dam is on Trustees’ property. It appears to be in good condition and does not appear to have any hazard potential; further research on ownership is needed.

E. Opportunity for Engagement and Visitor Services

Current Volunteer Engagement: The Management Unit holds monthly trail projects at rotating properties with a growing list of individual volunteers and community groups. Three to six volunteers serve as trail stewards in the management unit. No volunteer engagement currently occurs on behalf of Bridge Island Meadows and Medfield Meadow Lots.

Opportunities: Volunteers could be used to assist with the tasks found in the Recommended One-time Actions and Routine Management Program.

Visitor Engagement: Management Unit holds Hike of the Month Club that meets at various properties.

Opportunities: Hike of the Month Club could include paddling to Bridge Island Meadows and exploring it by foot upon arrival. This paddling route would take people past Medfield Meadow Lots.

Visitor Service:	Does it Exist?	Specific Description: age, condition, actively updated?
1. Approach signs that lead visitors to the property	N	None are needed given that lack of overland access
2. Entrance and trailhead signs.	N	Recommend that we install an entrance sign at the wetland boundary along Bogastow Brook/canoe landing at BIM
3. Kiosk or Bulletin Board meets standards.	N	Not needed
4. Up-to-date Map on bulletin board and website.	N	Web site does provide adventurous visitors with location, directions, and other guidance. Locus map could be added to website.
5. Trails are clearly marked	N	Not needed
6. Adequate parking area.	N	Not needed

V. Current Resources Available for Management

a. Staff and Volunteers –

- i. The Trustees of Reservations presently divides its statewide property management activities into six regions. Bridge Island Meadows and Medfield Meadow Lots are part of the Charles River Valley Management Unit (CRVMU), one of five management units in the Greater Boston Region. The unit staff is comprised of three full-time, year-round employees: a Superintendent, Assistant Superintendent, and a Maintenance Technician.

Each are involved in the maintenance and management of Bridge Island Meadows and Medfield Meadow Lots, in addition to 13 other properties within the management unit totaling more than 2,500 acres. Several seasonal maintenance assistants supplement the daily maintenance tasks performed unit-wide in the spring, summer and fall. Additional staff positions exist in the management unit (e.g., Rangers, Farm Manager, and Administrative Assistant) but these individuals do not participate in the stewardship of Bridge Island Meadows and Medfield Meadow Lots. A Regional Director, based in Sharon, oversees Field Operations in the management unit. Additional support is also provided by the Greater Boston Regional Ecologist and by the administrative support staff at Moose Hill Farm in Sharon.

At this time, due to limited staffing resources and more pressing needs at other CRVMU properties, much of the baseline management needs are not being adequately fulfilled. Because of the properties' inaccessibility, less than 1% of the unit's time is spent on management of BIM and MML. Also, the available staffing resources within the CRVMU are not adequate to fully implement the one-time and routine management needs of Bridge Island Meadows and Medfield Meadow Lots.

- b. Equipment
 - i. Canoes available for programs
 - ii. The following equipment is shared by other properties in the management unit: chainsaws, post-hole auger, weed wrenches, herbicide hand pump applicator
- c. Operating budget
 - i. No operating budget or endowment exist, funds needed are taken from management unit budget.
- d. Other (partners, etc.)
 - i. One maintenance staff has applicators license for herbicide/pesticide.

VI. Recommended One-time Actions

Rec#	Type	Resource Protection Action	Description/Rationale	Phase	Rank	1° staff	2° staff	Phase 1 Staff Hours	Phase 2 Staff Hours	Phase 3 Staff Hours	Total Plan Staff Needs	Vol. Op?	Total Phase 1 Cost	Total Phase 2 Cost	Total Phase 3 Cost	Total Plan Costs all Phases	Budget Source	Operating	Supplemental	Capital	Targetted Funding Source	Notes	Status
1	VM	Install property signage for Bridge Island Meadows.	No signage exists to identify property ownership and Trustees presence in community.	1	D	S		16			16	yes	\$20	\$0	\$0	\$20	O	\$20				Sign is already at CRV Management Unit.	NS
2	VM	Install boundary signage for Bridge Island Meadows.	No boundary signage exists.	2	D	S	GIS		40		40	yes	\$0	\$200	\$0	\$200	O	\$200				May need to coordinate with abutters, ACOE	NS
3	GM	Research the existance of informal access agreement to properties.	Provide easier access to properties over land.	3	N	S	LC			16	16	no	\$0	\$0	\$0	\$0	N						NS
4	GM	Obtain informal access agreement to properties.	Provide easier access to properties over land.	3	N	S	LC			80	80	no	\$0	\$0	\$0	\$0	N						NS
5	NR	Survey wetland habitats for state-listed, rare plant species.	Portions of the properties have been designated as Priority Habitat for Long's Bulrush, River Bulrush, and Britton's Violet.	3	D	EC				16	16	yes	\$0	\$0	\$0	\$0	O						NS

Key:

Type: GM – General Management, NR – Natural Resource Management, VM - Visitor Management

Phase: 1 – 2009 through 2011, 2 – 2012 through 2014, 3 – 2015 through 2017

Rank: N – Needed, D - Desired

Staff: DSR – Director of Structural Resources, EC – Ecologist, LC – Land Conservation, GIS – Geographic Information Systems, S – Superintendent

Budget Source: N – Not Applicable, O – Operating

Status: IP – In Progress, NS – Not Started

VI. Recommended One-time Actions (continued)

Rec#	Type	Resource Protection Action	Description/Rationale	Phase	Rank	1° staff	2° staff	Phase 1 Staff Hours	Phase 2 Staff Hours	Phase 3 Staff Hours	Total Plan Staff Needs	Vol. Op?	Total Phase 1 Cost	Total Phase 2 Cost	Total Phase 3 Cost	Total Plan Costs all Phases	Budget Source	Operating	Supplemental	Capital	Targetted Funding Source	Notes	Status	
6	NR	Investigate the history of the Dry, Rich Acidic Oak Forest.	Large diameter trees and pit and mound topography suggest isolated upland area could be primary forest.	3	D	EC				16	16	yes	\$0	\$0	\$0	\$0	O							NS
7	SR	Research location, ownership, and potential hazards of Bogastow Brook Dam.	Little is known about dam that is in vicinity of Bridge Island Meadows.	1	D	DSR	S	8			8	yes	\$0	\$0	\$0	\$0	O							NS
8	VM	Work with the Army Corps of Engineers to prevent off-road vehicles from accessing Bridge Island Meadows.		2	D	S			16		16	no	\$0	\$0	\$0	\$0	O							NS
9	VM	Assess feasibility of unified trail network with ACOE.		3	D	S			80		80	no	\$0	\$0	\$0	\$0	O							NS
10	VM	Create river access map for BIM & MML and area properties.	Will help visitors locate properties.	1	N	E&O		2			2	no	\$0	\$0	\$0	\$0	N							NS
TOTAL								24	136	128	288		\$20	\$200	\$0	\$220		\$220	\$0	\$0				

Key:
 Type: NR – Natural Resource Management;
 Phase: 1 – 2009 through 2011, 2 – 2012 through 2014, 3 – 2015 through 2017
 Rank: N – Needed, D - Desired
 Staff: DSR – Director of Structural Resources, EC – Ecologist, LC – Land Conservation, GIS – Geographic Information Systems, S – Superintendent
 Budget Source: N – Not Applicable, O – Operating
 Status: IP – In Progress, NS – Not Started

VII. Routine Management Program

Line #	Task	Action Type	Acceptable Performance Level (APL)	Acceptable Frequency	Less Than Annual	Season	Who?	Volunteer Op?	Total Hours Needed to Reach APL	Add'l Funds Needed to Reach APL	Notes
Bridge Island Meadows											
1	Monitor property and boundaries.	GM	Adequate	Annually	no	F, W	S	yes	20	\$0	
2	Work with the Army Corps of Engineers to monitor off-road vehicles from accessing Bridge Island Meadows.	VM	Adequate	On-going	no	Year-round	S	no	16	\$0	All abutting land is owned by ACOE
TOTAL									36	\$0	
Medfield Meadow Lots											
1	Monitor property and boundaries.	GM	Adequate	Annually	no	F, W	S	yes	20	\$0	Monitoring could be conducted by Ecologist.
2	Work with private, municipal, state, and federal partners to assess and control invasive species on Trustees' properties along the Charles River corridor.	NR	Adequate	Annually	no	Sp,S,F	EC	yes	1	\$0	Staff time for coordination with other properties and partners in CRV; includes BIM & MML
TOTAL									21	\$0	

Key:
 Action Type:
 GM – General Property Management
 NR – Natural Resources Management
 VM – Visitor Management
 Who?:
 EC – Ecologist
 S - Superintendent
 Performance Level:
 Adequate - The task is currently completed at a level that does not hinder resource protection or the visitor experience.
 Strong - The task is completed in a manner/at a frequency that represents the ideal.

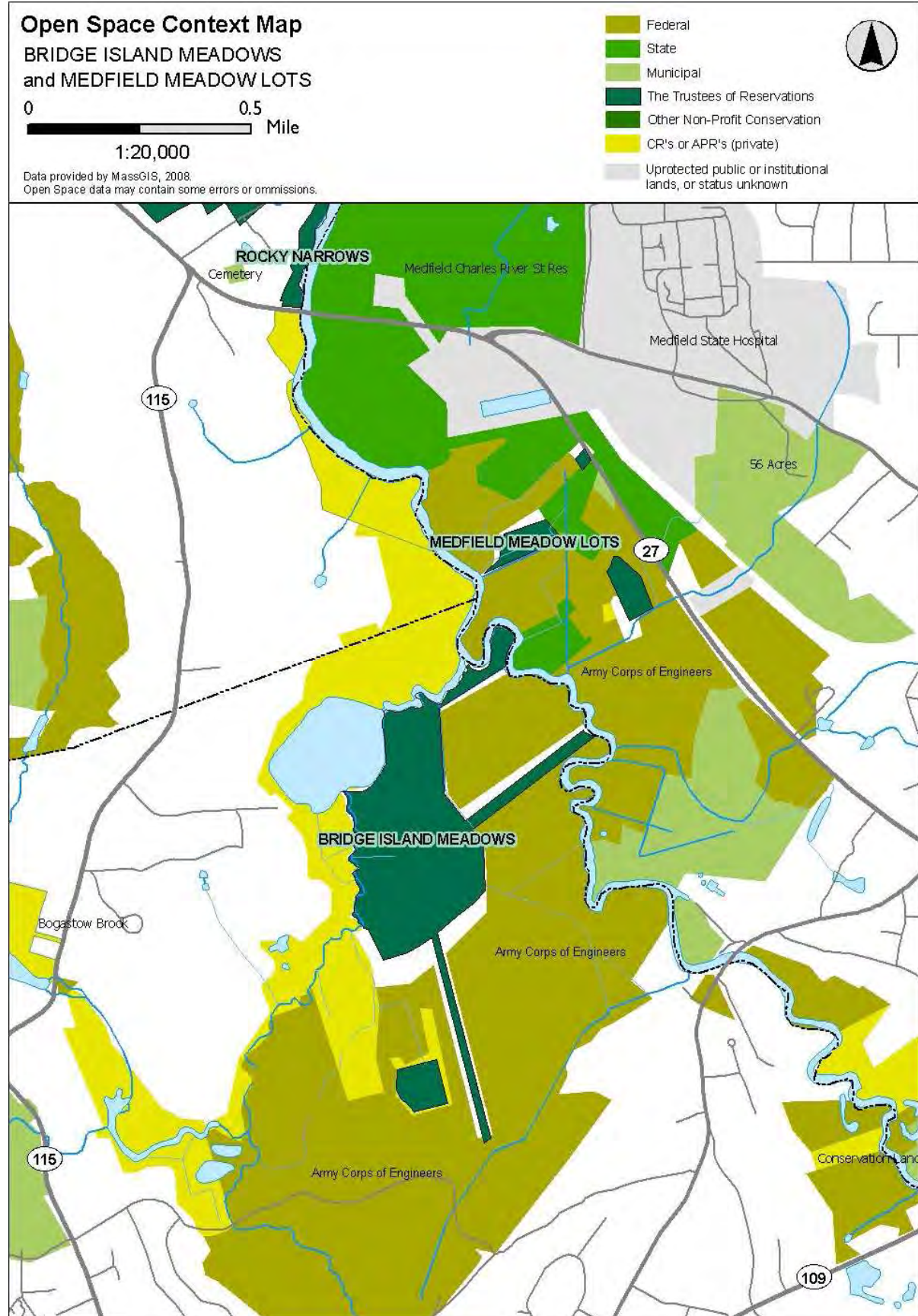
VIII. Conclusions

- a. Both properties are very difficult to access and visitation is low; in turn staff hours spent maintaining the properties are minimal. However, many Recommended One-Time Actions were developed for this plan. It may be prudent to complete the One-Time actions then resume managing the properties as wild lands with little to no interference, since their main purpose is flood and water quality protection.

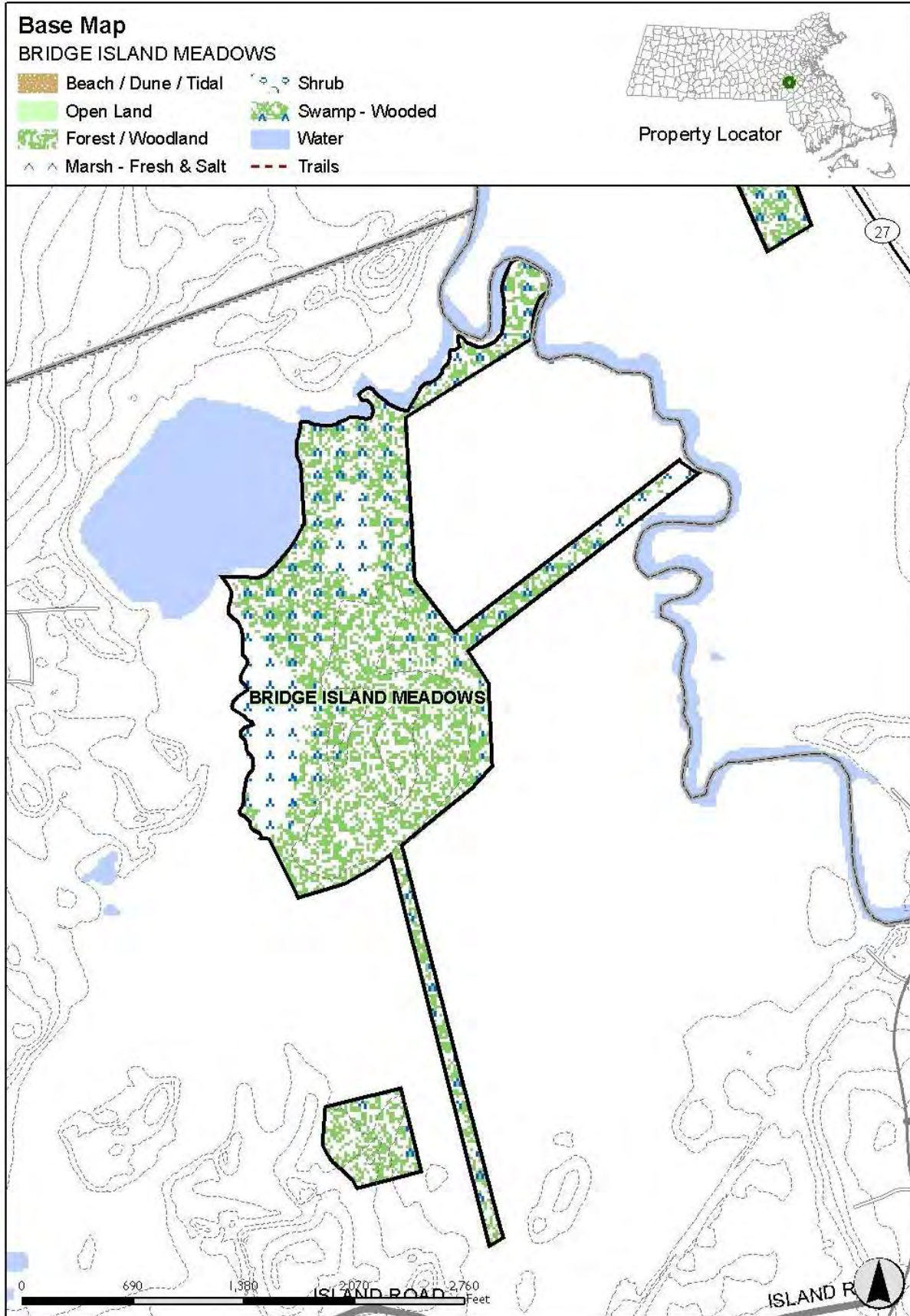
IX. Monitoring and Review

- a. Property plan should be reviewed annually by staff to ensure progress is being made to complete the recommendations. Future plan revisions may require additional research and field work.

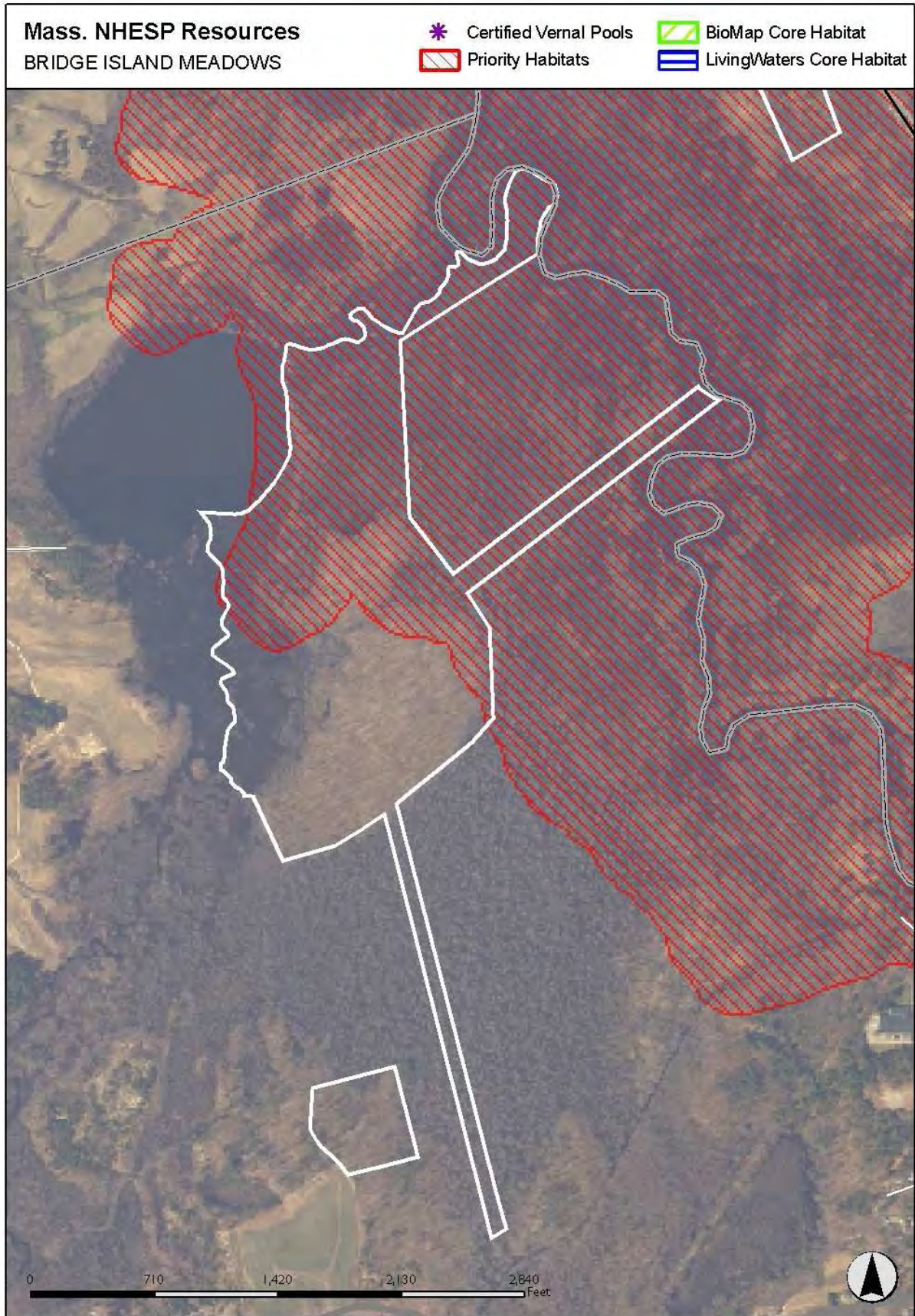
APPENDIX A: Bridge Island Meadows and Medfield Meadow Lots Open Space Context Map



APPENDIX B: Bridge Island Meadows Base Map



APPENDIX C: Bridge Island Meadows Natural Heritage & Endangered Species Program Map



APPENDIX D: Medfield Meadow Lots Base Map



APPENDIX E: Medfield Meadow Lots Natural Heritage & Endangered Species Program Map

