

Charles River Peninsula Management Plan 2010



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Charles River Peninsula: Basic Management Plan

Location: Charles River Peninsula, Needham, MA

Acreage: 30 acres (property guide)

Completed by: Brian DeGasperis, assisted by Mike Francis, Mark Wilson, Russ Hopping, Jim Younger, Lisa Vernegaard, and Adam Kurowski

Date: Approved by the FOC on September 22, 2010

Supporting Reports and Materials: Property Guide; Trustees website

I. Introduction

Where the Charles River makes a nearly 180-degree twist in the valley, a wooded shoreline of red maple, hickory, oak, and white pine conceals an upland peninsula that rises gently to a large open field, which has been farmed for more than a century.

An easy loop trail traces the field edge and the Reservation's shoreline. Less than a mile long, the path opens at several overlooks, revealing enchanting views of the river. An old wooden railroad trestle is visible at the western end of the Reservation.

Charles River Peninsula plays an important role in protecting the beauty and environmental value of the upper Charles River corridor. For paddlers, the approach along this quiet stretch of river provides a lovely outing, with access courtesy of the adjacent state boat ramp.

Charles River Peninsula is a C-type management property. C-type management properties are characterized by low visitation, modest resource significance and management complexity. Typically, these properties are an important local resource, but will not likely engage a broad range of visitors and volunteers. Additional resources, including funding, staff and volunteer time, may be necessary to implement some of the recommendations in this plan.

Acquisition history: Original acreage a gift of William M. Austin, Henry R. Guild, Dr. James F. Powers, William B. Rogers, Jr., and George S. Weld in 1960. Additional land donated by Elaine Lindy in 1994.

Donor's wishes or other clear guiding principles: There are no specific wishes or guiding principles.

II. Summary of Preliminary Management Goals

- a. Improve visitor experience by providing an interpretive panel on grassland restoration and management.
- b. Learn more about the property's historic and cultural resources.
- c. Maintain and enhance grassland habitat for wildlife.

III. Legal and Management Considerations

- a. Any work within 200 feet of the riverfront is subject to the Wetlands Protection Act.
- b. The Commonwealth of Massachusetts holds a sewer easement at the northern end of the property.
- c. There is a power line right-of-way in the northern section of the property.
- d. An abandoned railroad line forms the northern boundary of the property.
- e. There is a right-of-way extending to Fisher Street through property owned by the Walker School.
- f. The parking lot located off of Fisher Street is owned by the Massachusetts Department of Conservation and Recreation (DCR); The Trustees manage this lot in partnership with DCR.

IV. Property Description:

A. Historic and Cultural Resources

Little is currently known about the historic and cultural resources at the property. While no professional archaeological investigation has been conducted, The Massachusetts Historical Commission has identified the property as an archaeologically sensitive area due to its landscape setting. The Reservation's level, well-drained soils adjacent to the wetlands and water resources of the Charles River are favorable for ancient Native American and historic period land use and occupation. Records indicate that Charles River Peninsula has an extensive agricultural history, and was actively farmed for over a century. Since the acquisition of the property in 1960, The Trustees have maintained the pastoral environment. Until the mid-1990s, the field was leased to local farmers for hay production. The field is now mowed once annually by Trustees staff.

Significant Historic Features:

- An old stone foundation and chimney are located along the river on the eastern side of the property. The origin and history of this structure is unknown at this time.

Threats to Historic Features: No threats are known at this time.

Opportunities:

- Conduct a historic and cultural resources survey. This should include a ground-level archaeological survey and archival research.

B. Natural Resources

Charles River Peninsula lies within the Southern New England Coastal Plains and Hills Ecoregion. This 30-acre reservation is situated within a pronounced meander of the Charles River and supports several natural communities including: red maple swamp, oak-hickory forest, shallow emergent marsh, wet meadow, and one of the largest fields in the area (over 20 acres) that is managed as habitat for grassland wildlife, especially birds.

Grassland-dependent birds are declining throughout their range as fields revert to forest or are developed. Increasingly, grassland wildlife is dependent on smaller and fragmented habitat that requires management and often restoration. In 2008, The Trustees removed a hedgerow, encroaching perimeter vegetation, and a small tree island to significantly improve the area of available nesting habitat for grassland bird species such as bobolink, Savannah sparrows, and Eastern meadowlarks. The grassland is dominated by cool-season grasses and forbs including goldenrods, common milkweed, wild madder, tower mustard, and hairy vetch. Invasive, non-native plants are abundant in and around the field.

The diversity of upland, wetland, and riverine communities on the property provides habitat for many species including white-tailed deer, coyote, meadow vole, woodchuck, gray squirrel, bullfrog, spring peepers, gray tree frog, Northern water snake, ringneck snake, Eastern ribbon snake, and black racer. Painted and snapping turtles are common within the slow-moving sections of the Charles River and have been observed nesting in the field at the Reservation. Northern river otter, a good indicator of healthy riverine and riparian habitat, has recently been observed in the waters surrounding the Reservation. Informal observations suggest that butterfly diversity is high and that it benefits from grassland restoration and management.

Significant Natural Features:

- Charles River Peninsula is part of an extensive network of open space which helps protect the ecological integrity of the Charles River Corridor. There are 21 properties owned by The Trustees within 10 miles of the Reservation.
- Charles River Peninsula supports one of the largest grasslands in the area that is managed as nesting habitat for grassland-dependent birds. Grasslands have declined regionally due to forest regeneration, suppression of fire, and development. Species associated with these habitats, such as bobolink, Savannah sparrow, Eastern meadowlark, and various invertebrate species have experienced corresponding declines in numbers with the loss of this community type.

- The property includes approximately 4,500 feet of wooded frontage along the Charles River, providing a valuable forest buffer that maintains water quality and habitat.
- The Massachusetts Natural Heritage and Endangered Species Program has identified a small section of the Charles River near the parking area and canoe launch as Living Waters Core Habitat for creeper mussel (Special Concern). The entire Reservation is considered Living Waters Critical Supporting Watershed.

Threats to Natural Features:

- Non-native invasive plants are adversely impacting some native community types at Charles River Peninsula by reducing plant species diversity and recruitment and altering grassland structure. Eleven invasive, exotic plant species have been identified on the property. Common and glossy buckthorn and Asiatic bittersweet are the most prevalent invasive species, especially within recently restored grassland habitat and along forest edges. Other species include cypress spurge, purple loosestrife, reed canary grass, winged euonymus, Japanese barberry, black swallowwort, Morrow's honeysuckle, and garlic mustard.
- Visitors and unleashed dogs walking through the field can disturb wildlife, particularly grassland birds.
- Climate change poses a new type and scale of threat to our natural areas. The Trustees can strengthen a natural landscape's resilience to climate-related changes by reducing existing environmental stressors. Specific management techniques to achieve this include invasive species control, reducing negative recreational impacts, or deer population control to prevent over-browsing.

Opportunities:

- Remove rocks, slash, and stumps from recently cleared field edges and hedgerows to facilitate grassland management and improve habitat value. Disturbed areas should be planted with native grasses and forbs.
- Conduct annual grassland bird and butterfly surveys to determine efficacy of grassland restoration and management efforts (e.g., invasive plant control).
- Monitor and maintain nest boxes to ensure that non-native birds do not nest on the property.
- Conduct a Lepidoptera survey. No invertebrate surveys are known to have occurred at the Reservation, but the habitat appears ideal and may prove significant, especially for butterflies.

C. Scenic Resources

Significant Scenic Features:

- Several vista points afford views of the Charles River.

- An old wooden railroad trestle spans the Charles River on the western side of the property.
- The large, expansive field dotted with stately hickories and oaks not only echoes the agricultural past of the property, but also provides visitors with a pastoral experience that is increasingly threatened in this part of the Commonwealth.

Threats to Scenic Features:

- Succession of vegetation, especially of fields and field edges, threatens to reduce the landscape diversity. If left unchecked, succession will result in the vistas and scenic elements described above to become obscured or eliminated.
- New development beyond the property boundaries has impacted existing vistas along the river.
- Odors occasionally emanating from the sewer easement can detract from the visitor experience.

Opportunities:

- Ongoing management practices can demonstrate to visitors the challenges of and solutions to managing conservation land for its scenic values in conjunction with other resource values (e.g., ecological and recreational).

D. Structural Resources

- There is a stone foundation and chimney in the eastern portion of the property. This structure is not currently a safety hazard.
- A wooden bridge, approximately 10 feet wide by 20 feet long, provides pedestrian and vehicular (staff) access over the wetland on the north side of the property. The bridge was repaired in 2007 and is in good condition.
- The circular parking lot is located off of Fisher Street and is managed in partnership with DCR. The parking area, which affords easy access to the canoe launch, is stable and provides adequate space for visitors.

Threats to Structural Resources: There are no current threats.

Opportunities:

- Investigate history and stability of foundation as part of archeological ground level survey.

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. There are also three to six volunteers who serve as trail stewards in the management unit. Trail stewards monitor and report trail conditions throughout the management unit. A volunteer nest box monitoring program has been developed at Charles River Peninsula and other properties within the Charles River Valley Management Unit (CRVMU). Volunteers also sporadically assist with invasive plant removal.

Opportunities:

- Explore volunteer and educational opportunities with community groups and local schools, particularly the adjacent Walker School.

Visitor Engagement:

- Management Unit holds Hike of the Month Club that meets at various properties.
- Create and post an updated trail map and poster on the bulletin board.

Opportunities:

- Develop and post a property poster which includes an updated trail map and highlights the network of protected land along the Charles River Corridor and our partnership with DCR.
- Install an interpretative panel about grassland restoration and management. The reservation's grassland is among the largest of any Trustees property in the CRVMU and, therefore, offers an excellent opportunity to interpret grassland wildlife and management. Success in managing the reservation's grassland for wildlife may encourage other landowners in the area with grasslands to manage their properties to benefit wildlife.
- Lead occasional canoe tours from Charles River Peninsula as part of the CRVMU guided canoe tour program.
- Explore opportunities with the Bay Colony Rail Trail project.

| Visitor Service: | Does it Exist? | Specific Description: age, condition, actively updated? |
|--|----------------|---|
| 1. Approach signs that lead visitors to the property | N | |
| 2. Entrance and trailhead signs. | Y | Sign on Fisher Street is shared with DCR. Hanging sign at field edge. Both installed in 2008. |
| 3. Kiosk or Bulletin Board meets standards. | Y | Built in 2008. |
| 4. Up-to-date Map on bulletin board and website. | N | Property poster and trail map needed. To be placed in winter 2009. |
| 5. Trails are clearly marked | Y | |
| 6. Adequate parking area. | Y | The current parking area is managed in partnership with DCR. |

V. Current Resources Available for Management

- a. Staff and Volunteers: Charles River Peninsula is 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, an Assistant Superintendent, and a Maintenance Technician. Each are involved in the maintenance and management of Charles River Peninsula, in addition to 15 other properties within the management unit totaling more than 2,800 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 Charles River Peninsula. An Operations Manager, based in Ipswich, oversees Field Operations across all management units in the region. 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, the available staffing and volunteer resources within the CRVMU are adequate to fully meet the routine C-type property baseline management needs of Charles River Peninsula. Recommendations in this plan need to be prioritized and scheduled appropriately in order to implement using the management unit's current resources.

- b. Equipment: The management unit has several major pieces of equipment which may be used in the stewardship of Charles River Peninsula: a Ford F-250 pick-up truck to transport staff, haul equipment or trailer small equipment; a Ford F-350 dump truck to haul and empty large loads and tow the regional chipper; and a Kubota

M6800 with a front-end bucket used for moving and loading materials. The following implements are also available: disc mower for cutting brush fields; brush mower for mowing trails/carriage paths; post hole auger; York rake for grading dirt roads and parking lots; and an excavator.

Operating budget: No operating budget exists at this time. However, an endowment exists, interest from which is used to support general management at Charles River Peninsula and across the management unit.

- c. Other (partners, etc.): The property entrance, parking area, and boat ramp are shared with the Massachusetts Department of Conservation and Recreation's Red Wing Bay. In 2007, The Trustees received an endowment to partner with DCR in managing the Charles River Greenway in Watertown, Newton, Weston, and Waltham. This partnership extends to Charles River Peninsula and has enabled The Trustees to augment property stewardship by installing new signage, and repairing and maintaining the trail system.

Trustees involvement with the Needham Trails Committee has resulted in the development of a master plan and maps for all trails in town and increased local awareness of Charles River Peninsula.

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 Costs | Total Phase 2 Costs | Total Phase 3 Costs | Total Plan Costs all Phases | Budget Source | Operating | Supplemental | Capital | Targeted Funding Source | Notes | Status | |
|------|------|---|--|-------|------|----------|----------|---------------------|---------------------|---------------------|------------------------|----------|---------------------|---------------------|---------------------|-----------------------------|---------------|-----------|--------------|---------|-------------------------|---|---|----|
| 1 | E/I | Create and install an interpretative panel on grassland restoration and management. | The Reservation's grassland is among the largest of any Trustees property in the Charles River Valley Management Unit and , therefore, offers an excellent opportunity to interpret grassland wildlife and management. | 2 | N | EC | S | | 20 | | 20 | | \$0 | \$300 | \$0 | \$300 | O | \$300 | | | | | Education and Outreach will be needed to help with design. Cost for bulletin board materials and sign printing. | NS |
| 2 | E/I | Explore volunteer and educational opportunities with community groups and local schools, particularly the adjacent Walker School. | The Reservation is well-poised to serve as a natural classroom for grassland ecology. | 3 | D | S | | | | 8 | 8 | | \$0 | \$0 | \$0 | \$0 | O | | | | | | | NS |
| 3 | HR | Conduct a historic and cultural resources survey | Little is currently known about the history of this property. An old foundation and chimney along the river warrant further investigation. | 3 | D | HR | S | | | 24 | 24 | yes | \$0 | \$0 | \$0 | \$0 | O | | | | | | | NS |
| 4 | NR | Remove rock, slash, and stumps from recently cleared field edges and hedgerows | Removal of debris will facilitate grassland management and improve habitat value. | 2 | D | S | EC | | 80 | | 80 | yes | \$0 | \$2,000 | \$0 | \$2,000 | S | | \$2,000 | | LIP/WHIP | Cost for seed, and excavator and stump grinder rental. Disturbed areas should be planted with native grasses and forbs. | IP | |
| 5 | NR | Conduct a Lepidopteron survey. | No invertebrate surveys are known to have occurred at the reservation, but the habitat appears ideal, especially for butterflies, and could prove significant. | 2 | D | EC | | 4 | | | 4 | yes | \$0 | \$0 | \$0 | \$0 | O | | | | | Assumes staff time for volunteer coordination. | NS | |
| 6 | SC | Investigate feasibility of planting trees to screen new homes. | New construction currently impacts key vistas. | 3 | N | S | | | | 6 | 6 | yes | \$0 | \$0 | \$200 | \$200 | O | \$200 | | | | | Will require approval from the Conservation Commission | NS |
| 7 | VM | Create and post an updated trail map and poster on the bulletin board. | No map is currently posted. Needed to meet baseline standards. | 2 | N | S | | 6 | | | 6 | | \$0 | \$200 | \$0 | \$200 | O | \$200 | | | | | Cost for printing property poster. | NS |
| 8 | VM | Explore opportunities with the Bay Colony Rail Trail project. | Working with partners to create a rail trail along the northern boundary of the Reservation may increase visitation and exposure to the property. | 3 | D | S | EC | | | 8 | 8 | | \$0 | \$0 | \$0 | \$0 | O | | | | | Discussions to gauge community and landowner support have been initiated by Bay Colony Rail Trail organization. | IP | |
| 9 | VM | Install approach sign(s). | Needed to meet baseline standards | 3 | D | S | | | | 8 | 8 | | \$0 | \$0 | \$150 | \$150 | O | \$150 | | | | | | NS |
| 10 | VM | Explore opportunities to minimize odors emanating from sewer easement. | Odors can detract from visitor experience. | 2 | D | S | | 4 | | | 4 | | \$0 | \$0 | \$0 | \$0 | O | | | | | Open dialog with Needham DPW and MWRA. | NS | |
| 11 | GM | Conduct a survey/title search on the Fisher Street fee access parcels. | This is a follow-up to Tom Foster's research and is to ensure we have legal access rights from Fisher Street. | 2 | N | S | | 4 | | | 4 | | \$0 | \$0 | \$0 | \$0 | O | | | | | May require a legal representative for assistance. | NS | |
| 12 | GM | Confirm that a Right-of-Way exists between Fisher Street through | Notifying the school of findings will ensure unencumbered access. | 3 | N | S | | | | 4 | 4 | | \$0 | \$0 | \$0 | \$0 | O | | | | | May require a legal representative for assistance. | NS | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|----|----|--|---|---|---|---|--|--|--|-----|----|-----|-----|-----|---------|-------|---------|--|-------|---------|----|--|----|
| | | the Walker School and CRP. Notify school of findings. | | | | | | | | | | | | | | | | | | | | | |
| 13 | GM | Create an MOA and task list with DCR related to the maintenance of the joint parking area. | The Trustees manage an endowment for a formal partnership with DCR along the Upper Charles River Greenway. We have begun to jointly manage the parking lot at Red Wing Bay (portion of Village Falls Park) e.g. brush clearing, signage, and litter cleanup. A simple but formal agreement could help clarify roles and use agreements for parking. | 3 | N | S | | | | 6 | 6 | | \$0 | \$0 | \$0 | \$0 | O | | | | | | NS |
| | | TOTAL | | | | | | | | 118 | 64 | 182 | | \$ | \$2,500 | \$350 | \$2,850 | | \$850 | \$2,000 | \$ | | |

Key:

Type: E/I – Education and Interpretation, HR - Historical and Cultural Resource Management, NR – Natural Resource Management, SC – Scenic Resource Management, VM - Visitor Management
Phase: 1 – 2009 through 2011, 2 – 2012 through 2014, 3 – 2015 through 2017
Rank: C - Critical, N – Needed, D - Desired
Staff: DSR – Director of Structural Resources, E & O - Education & Outreach, EC – Ecologist, HR - Historic Resource Staff, RD – Regional Director, S – Superintendent
Budget Source: C – Capital, N – Not Applicable, O – Operating, S - Supplemental
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? | Vol Opp? | Total hours needed to reach APL | Add'l funds needed to reach APL | Notes |
|--------------|--|-------------|-----------------------------------|----------------------|------------------|------------|------|----------|---------------------------------|---------------------------------|---|
| 1 | Monitor and maintain nest boxes. | NR | Adequate | Weekly | no | S, Su | S | yes | 8 | \$20 | Monitoring is essential to ensure that non-native birds do not nest on the property. Staff time for volunteer coordination. |
| 2 | Monitor and control invasive plant species. | NR | Adequate | Annual | no | S, Su, F | EC | yes | 4 | \$0 | Focus on early detection and rapid response. |
| 3 | Conduct annual grassland bird and butterfly surveys. | NR | Adequate | Annual | no | S, Su | EC | yes | 8 | \$0 | |
| 4 | Maintain existing vista points along river. | SC | Adequate | Annual | no | S, Su, F | S | yes | 4 | \$0 | Prune regrowth. |
| 5 | Restock brochures, update notices on bulletin boards, and monitor for trash in parking area. | VM | Strong | Every 2 weeks | no | Year-round | S | yes | 4 | \$0 | Parking lot maintained in partnership with DCR. |
| 6 | Plow parking lot | VM | Adequate | As needed | no | W | S | no | 8 | \$0 | Parking lot maintained in partnership with DCR. |
| 7 | Lead occasional canoe trips out of CRP as part of CRVMU guided canoe tour program. | E/I | Adequate | 2-3 times per year | no | S, Su | S | yes | 12 | \$0 | |
| 8 | Mow field after Oct. 1 | GM | Adequate | Annual | no | F | S | no | 16 | \$0 | |
| 9 | Trim vegetation around rocks and ledge within the field where tractor cannot mow. | GM | Adequate | Annual | no | F | S | yes | 8 | \$0 | Performed in conjunction with field mowing. |
| 10 | Mow trail around perimeter of field. | GM | Strong | Every 4-6 weeks | no | S, Su, F | S | no | 20 | \$0 | |
| 11 | Maintain and paint sign posts and kiosk. | GM | Adequate | Every 5-7 years | yes | S, Su, F | S | yes | 2 | \$40 | Should include signs at both canoe landings. |
| 12 | Monitor property boundary and post signs as needed. | GM | Adequate | Every 5 years | yes | Year-round | S | yes | 4 | \$0 | |
| 13 | Monitor and maintain sections of wooded trails and main access into CRP. | GM | Adequate | Annual | no | S, Su, F | S | yes | 4 | \$0 | |
| 14 | Maintain simple wooden bridge for visitors and maintenance vehicles. | GM | Adequate | Every 5-7 years | yes | Su, F | S | no | 2 | \$80 | |
| 15 | Trim low hanging branches along field edges to allow for overhead tractor clearance. | GM | Adequate | Every 5-7 years | yes | F, W | S | no | 8 | \$0 | This prevents encroaching growth along field edge. |
| TOTAL | | | | | | | | | 112 | \$140 | |

Key:

Action Type:

- E/I – Education and Interpretation
- GM – General Property Management
- NR – Natural Resources

Performance Level:

Adequate - The task is currently completed at a level that does not hinder resource protection or the visitor

Who?:

- EC – Ecologist
- PM – Property Manager
- S - Superintendent

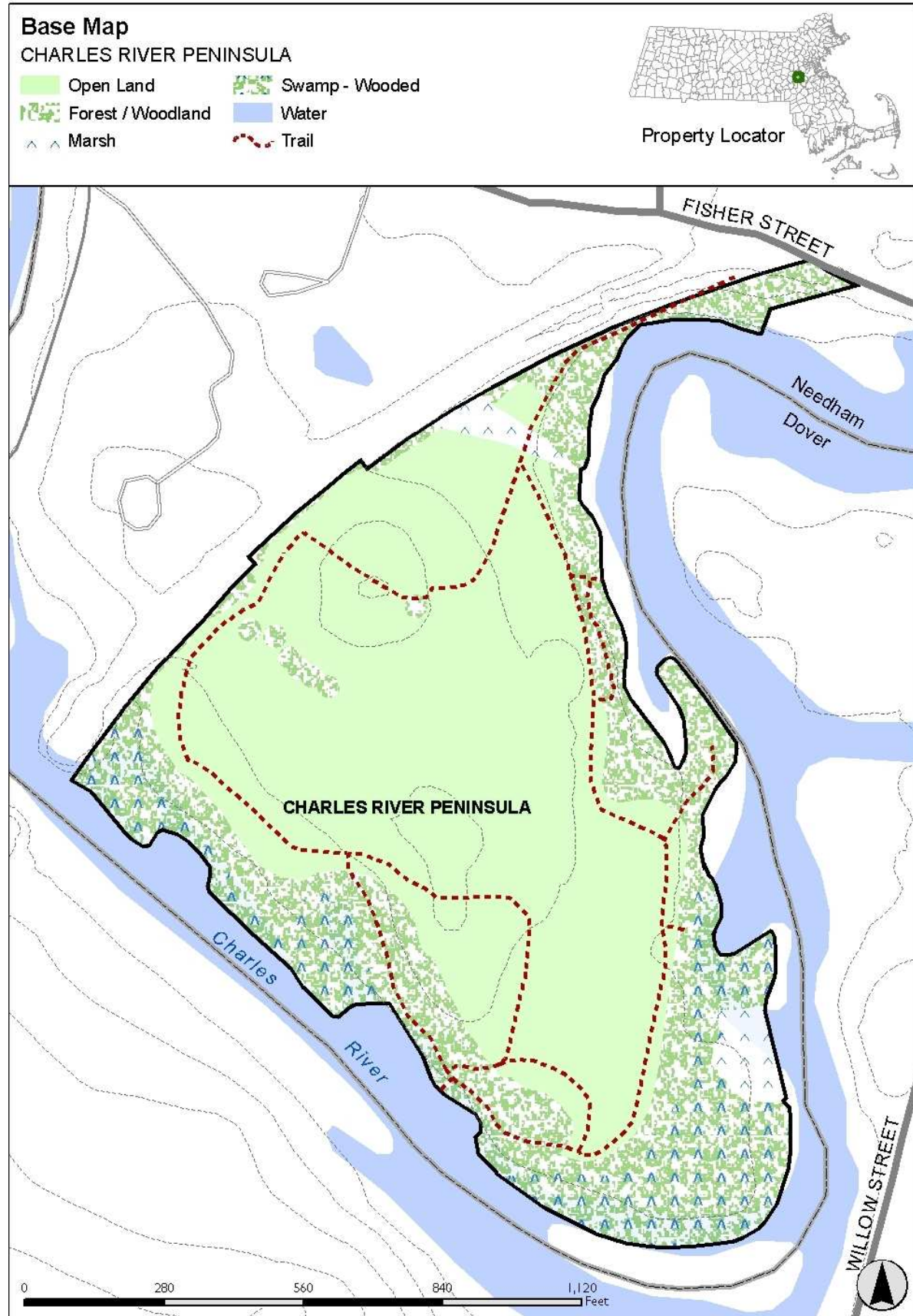
VIII. Conclusions

- a. Although Charles River Peninsula is a small property with limited visitation and engagement opportunities, it represents an important piece of The Trustees' conservation efforts in the Charles River Valley. Together with protected federal, state, municipal, and private lands, the reservation forms an extensive network of protected open space which helps preserve the ecological integrity of the Charles River Corridor. In addition to providing a valuable forest buffer which protects water quality, Charles River Peninsula offers visitors a unique pastoral experience while providing significant habitat for grassland wildlife.

IX. Monitoring and Review

- b. 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: Charles River Peninsula Base Map



APPENDIX B: Charles River Peninsula Trail Map



CHARLES RIVER PENINSULA (30 ACRES)

Fisher Street ☒ Needham, Massachusetts

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A PROPERTY OF THE TRUSTEES OF RESERVATIONS



This map is a product of the Geographic Information System of The Trustees of Reservations. Source data obtained from 1:25,000 scale USGS topographic maps, field surveys, Global Positioning System (GPS), and the Massachusetts Executive Office of Environmental Affairs, MassGIS. Boundary lines and trail locations are approximate. November 2008.
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BIRD WATCHING



DOG WALKING PERMITTED



CANOEING / KATAKING



CROSS-COUNTRY SKIING / SNOWSHOEING



MOUNTAIN BIKING



WALKING / HIKING EASY

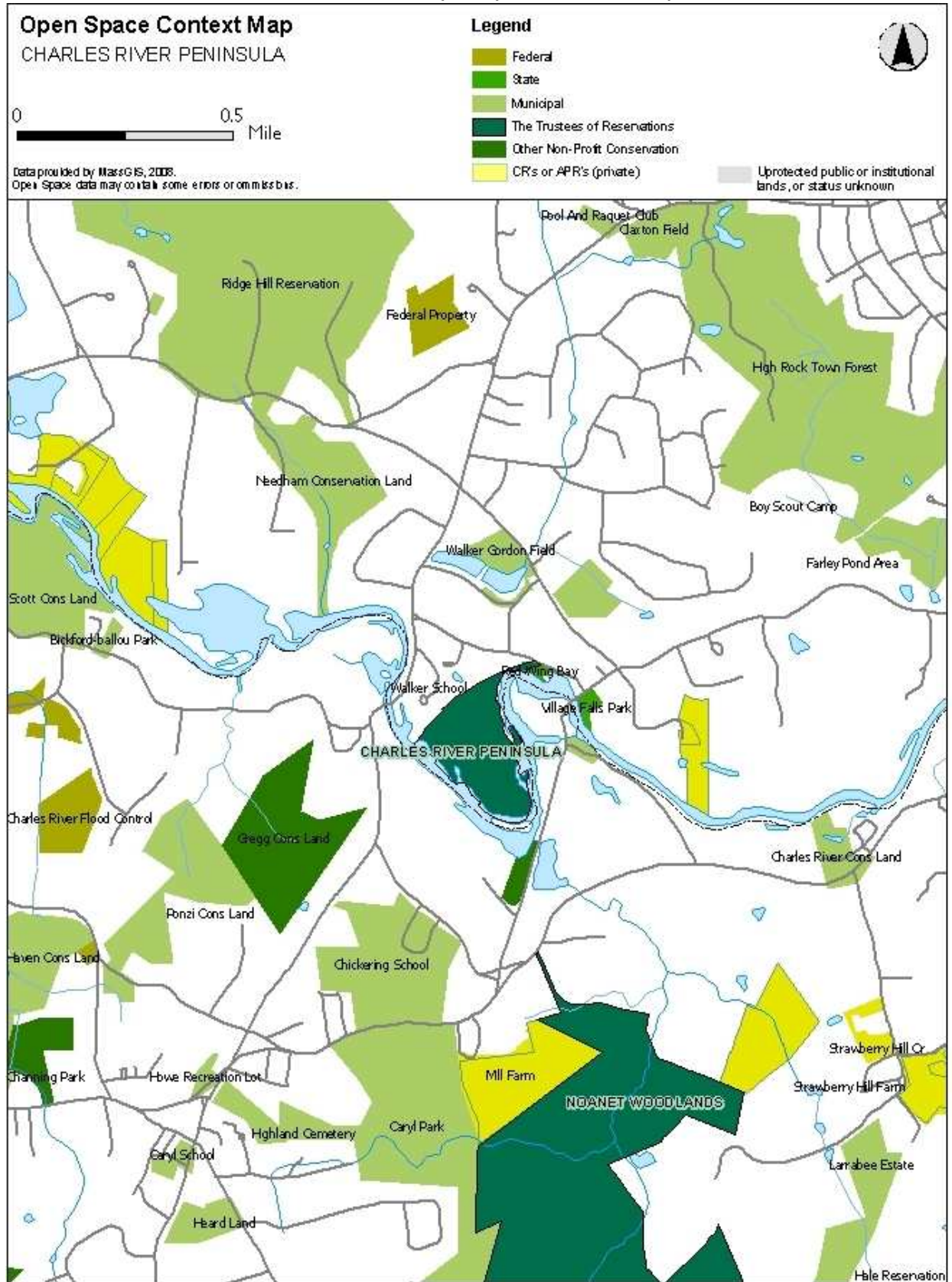


PICNICKING



FISHING

APPENDIX C: Charles River Peninsula Open Space Context Map



APPENDIX D: Charles River Peninsula Natural Heritage & Endangered Species Program Map

