dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Charles River Basin
Riverbank Vegetation Management Plan



Stakeholder Meeting

December 16, 2020

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Meeting Logistics

Questions will be welcomed at the conclusion of the presentation

- Raise your hand
- Submit via Q&A option
- The moderator will introduce you and unmute you when it's your turn to speak

You will have the opportunity to submit comments over the course of the next four weeks until Wednesday, January 13,2021 at:

- DCR Public Comments https://www.mass.gov/forms/dcr-public-comments
- Via email – jennifer.norwood@mass.gov

Please note that this meeting will be recorded; the recording will be a public record

Commonwealth of Massachusetts

Governor

Charles D. Baker

Lieutenant Governor

Karyn E. Polito

Energy and Environmental Affairs Secretary

Kathleen A. Theoharides

Department of Conservation and Recreation Commissioner

Jim Montgomery

DCR Mission Statement

To protect, promote and enhance our common wealth of natural, cultural and recreational resources for the well-being of all.

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Purpose of the Meeting

To present an overview of the Charles River Basin Riverbank Vegetation Management Plan (RVMP) and an update on implementation.

To present an overview of aquatic vegetation management on the Mystic River.

To discuss aquatic vegetation management on the Charles River Basin.

To gain input from stakeholders on implementation of invasive species control and partnerships opportunities.

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Agenda

Introductions

Overview of the Charles River Basin Riverbank Vegetation Management Plan (RVMP) and an update on implementation of test plots

- Ginna Johnson, DCR

Overview of aquatic vegetation management on the Mystic River

- Patrick Herron, MyRWA

Discussion of aquatic vegetation management on the Charles River Basin

- Anne Carroll, DCR

Implementation of invasive species control and partnerships opportunities

- Discussion

Schedule and Next Steps

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Introductions: The RVMP Project Team

DCR:

- Danielle Mellett, DCR Project Manager, danielle.mellett@mass.gov
- Jenny Norwood, Director External Affairs, jennifer.norwood@mass.gov
- Ginna Johnson, Deputy Chief, D&PM, ginna.johnson@mass.gov
- Ruth Helfeld, Director of Landscape Architecture, ruth.helfeld@mass.gov
- Eric Seaborn, Director of Natural Resources, eric.seaborn@mass.gov
- Ale Echandi, Inland Ecologist, ale.echandi@mass.gov
- Anne Carroll, Director of Water Resources, anne.carroll@mass.gov
- Vanessa Curran, Water Resources Scientist, vanessa.curran@mass.gov

Weston & Sampson:

- Jim Riordan, Weston & Sampson Project Manager, riordanj@wseinc.com

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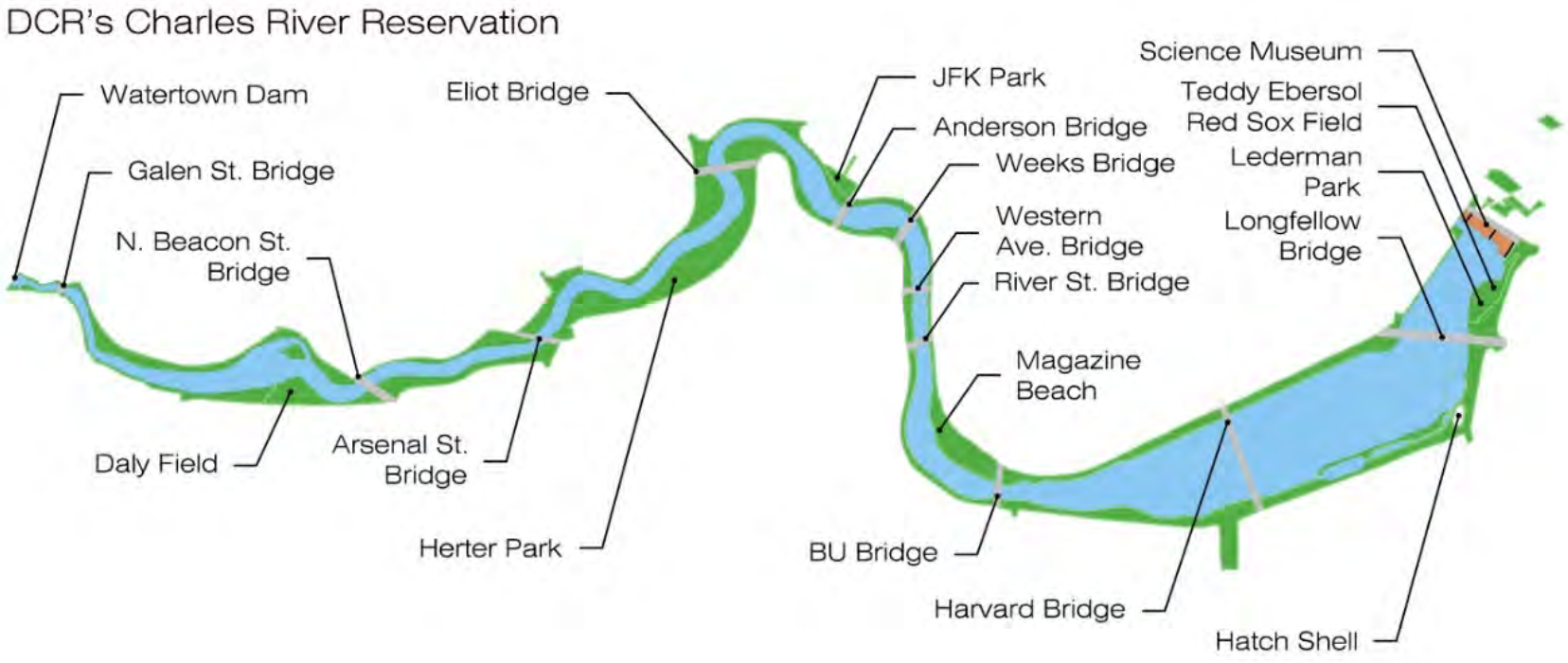
RVMP Project Study Area



RVMP Goals

1. Restore a ***healthy riverbank ecology*** that provides for stable shorelines, beautiful vistas, climate resiliency, and a safe, stable tree canopy.
2. Provide ***public access*** to outstanding opportunities for passive and active recreation along and adjacent to the riverbank.
3. Steward parklands that reflect the ***cultural value and 100-year history*** of the Charles River Reservation.
4. Engage a ***cooperative network of parkland stakeholders*** who both enjoy the many recreational opportunities and provide volunteer assistance in managing the RVMP area.
5. Provide a framework to guide ***future capital restoration projects***.

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RVMP Report

1. Overview of Project Approach
2. Existing Conditions
3. Vegetation Management Strategy
4. Management Areas and Approaches
5. Management Logistics
6. References

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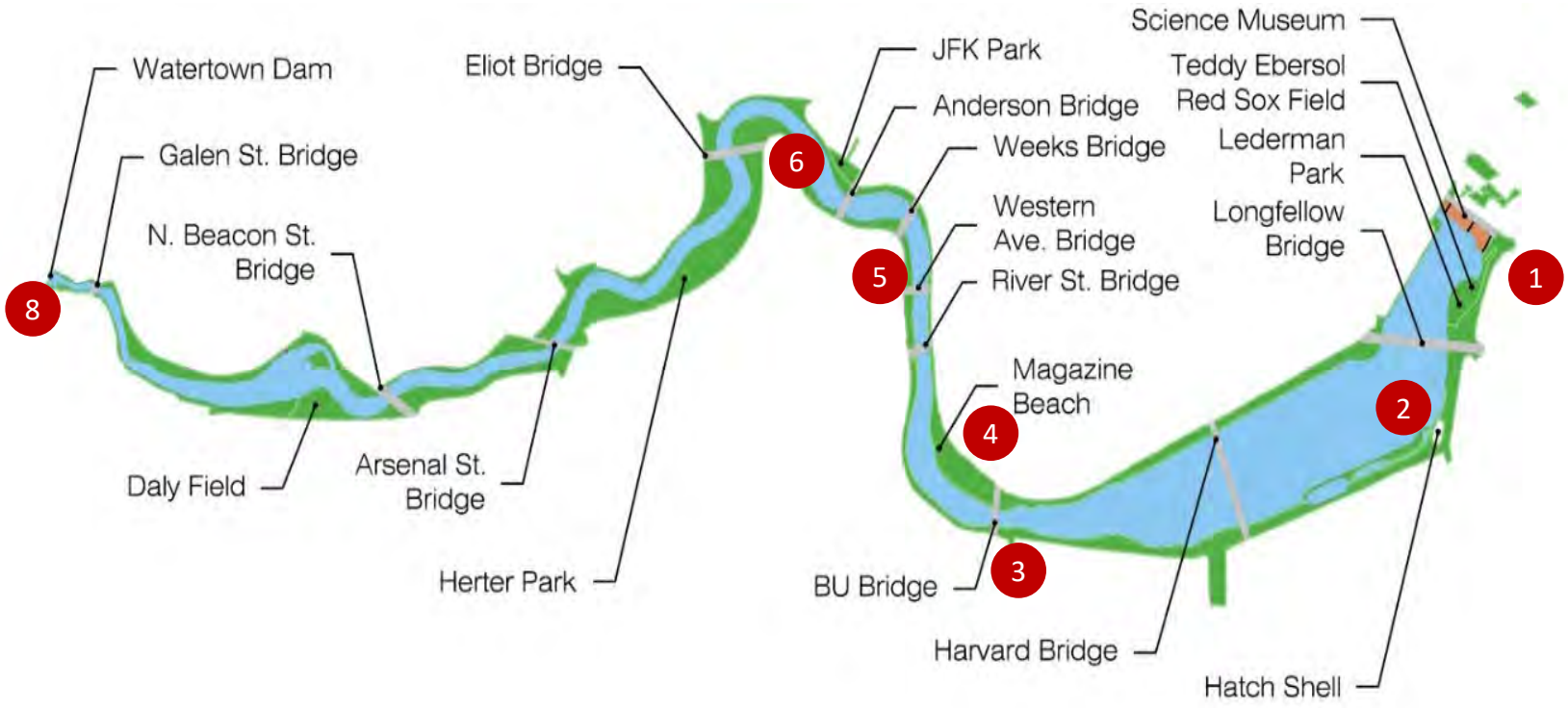
RVMP Test Plots



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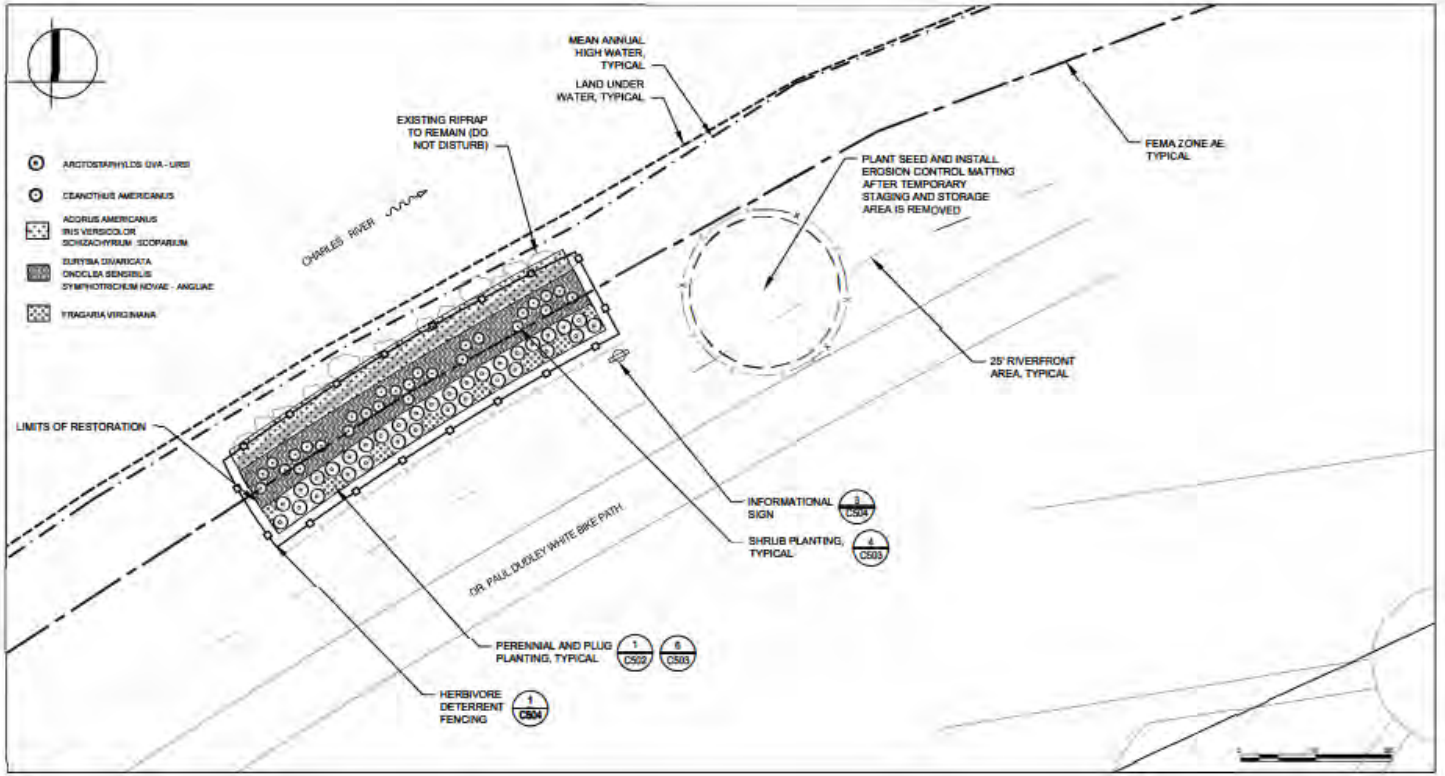
Test Plot 1



2 TEST PLOT 1 - PLANTING PLAN
SCALE: 1" = 10'

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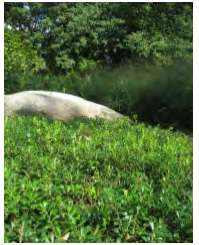
Plant Palettes

Test Plot 1

Acorus americanus
American sweetflag

Iris versicolor
blueflag

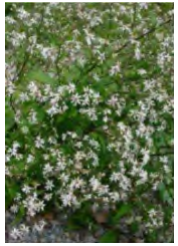
Ceanothus americanus
New Jersey tea



Arctostaphylos uva-ursi
bearberry

Schizachyrium scoparium
little bluestem

Onoclea sensibilis
sensitive fern



Eurybia divaricata
white wood aster

Symphyotrichum novae-angliae
New England aster

Fragaria virginiana
strawberry

Test Plot 2

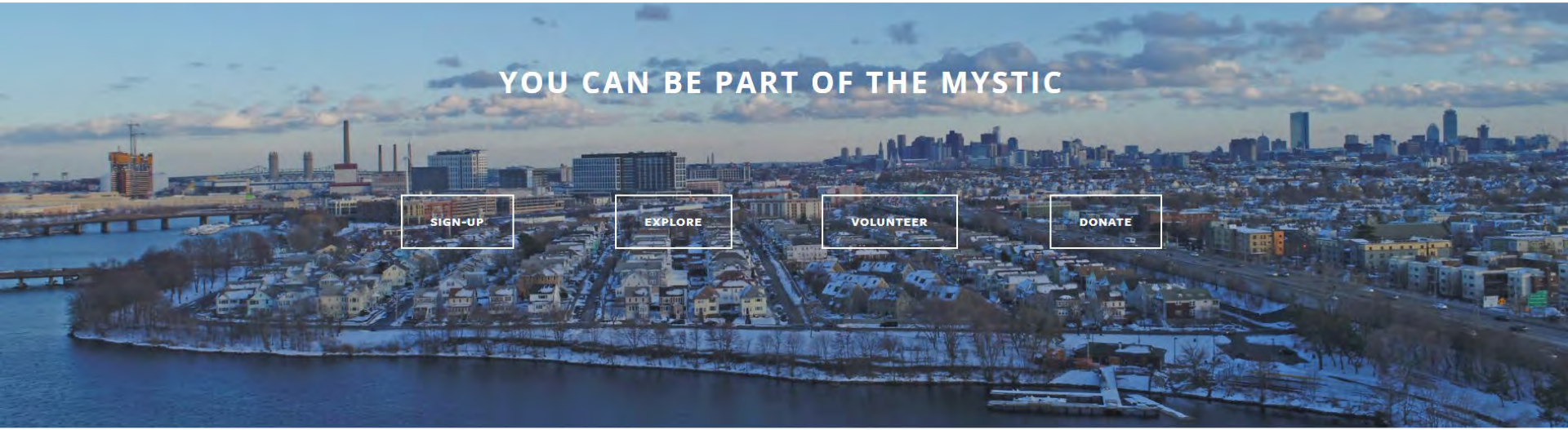
Comptonia peregrina
sweetfern

Asclepias tuberosa
butterflyweed

Carex amphibola
creek sedge

Deschampsia flexuosa
wavy hairgrass

Juncus tenuis
path rush



Aquatic Invasive Species (AIS) Management on the Mystic

Patrick Herron

Executive Director

Mystic River Watershed Association

Summary of AIS Management on Mystic

Species	Year Management Started	Techniques Used	Acres Managed	Average Annual Budget
Phragmites	2014	Herbicide and cutting	50-60	Less than $10K
Water Chestnut	2008	Mechanical harvesting, volunteer hand-pulling	65+ original, 20 current	Initially $75-100K
Eurasian Milfoil	2016	Sonar, Diquat	20	Initially $70K

Summary of AIS Management/Planning on Charles

Successful Water Chestnut Programs in Lakes District for many years

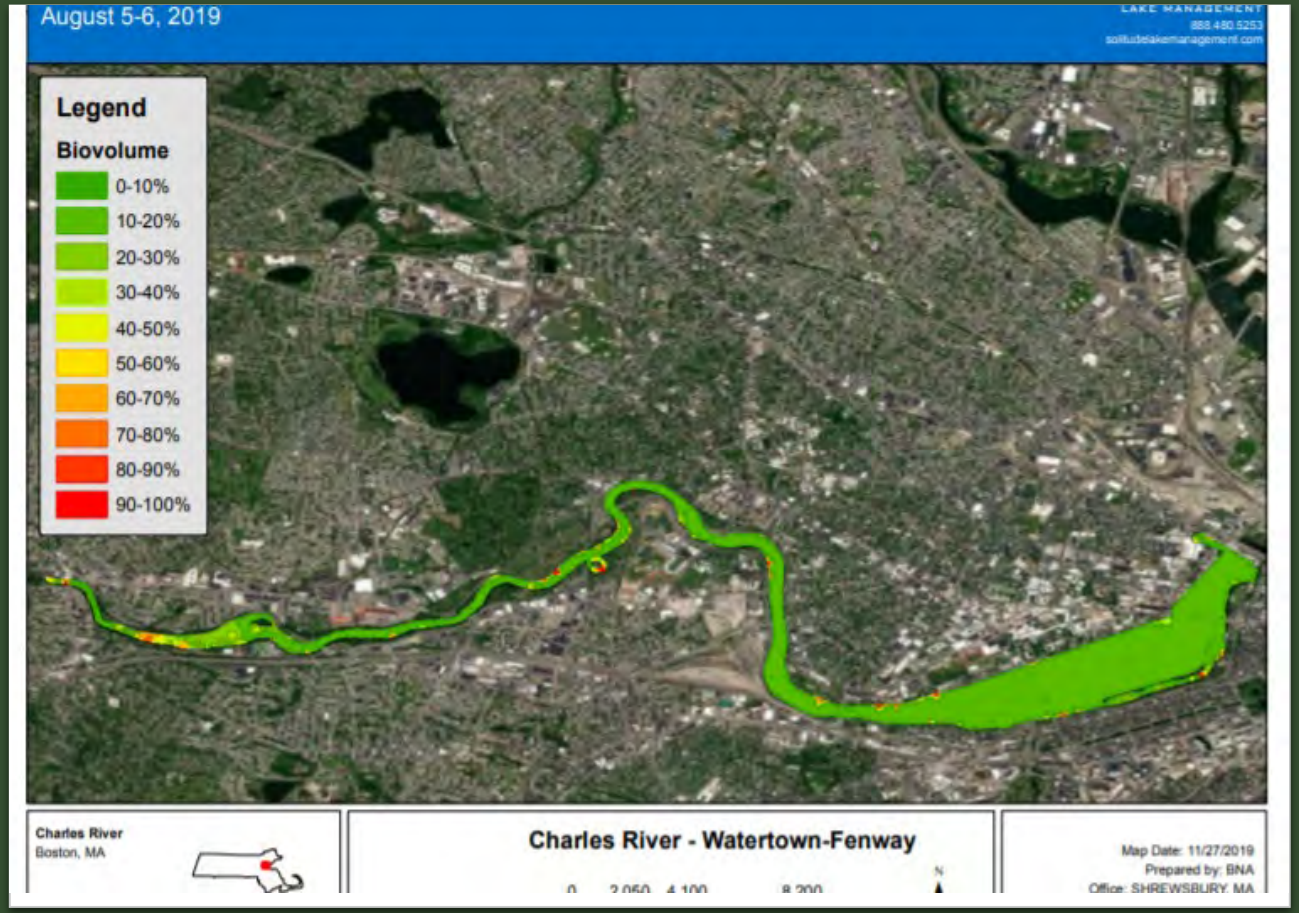
Ware's Cove and Purgatory Cove herbicide treatments

RVMP Survey of lower basin AIS (September 2019)

- 18 species mapped, 6 AIS

RVMP recommended management options for lower basin AIS (Draft Report, Dec 2020)

- Survey Lakes district and include in management (prevent re-infestation)
- Annual early and late season surveys to inform management
- Integrated management approach



RVMP AIS Survey Results- Biovolume

RVMP Survey Results- Plant List

Table 2. Macrophyte Inventory for Charles River – September 9-12, 2019	
Common Name	**Scientific Name**
Fanwort[a]	*Cabomba caroliniana*
Water Starwort	*Callitriche sp.*
Coontail	*Ceratophyllum demersum*
Macroalgae	*Chara/Nitella sp.*
Common Waterweed	*Elodea canadensis*
Aquatic Moss	*Fontinalis sp.*
Small Duckweed	*Lemna minor*
Variable Watermilfoil	*Myriophyllum heterophyllum*
Eurasian Watermilfoil	*Myriophyllum spicatum*
Southern Naiad	*Najas guadalupensis*
Brittle Naiad	*Najas minor*
White Waterlily	*Nymphaea odorata*
Curly-leaf Pondweed	*Potamogeton crispus*
Ribbon-leaf Pondweed	*Potamogeton epihydrus*
Clasping-leaf Pondweed	*Potamogeton perfoliatus*
Small Pondweed	*Potamogeton pusillus*
Tapegrass	*Vallisneria sp.*
Benthic Filamentous Algae	*Various*

Notes:
a. Red indicates invasive status

Summary of RVMP AIS Management Options for Charles

Table 5. Integrated Management Approaches with Schedule and Recommended Budget

Species to be Managed	Strategy	Scheduling	Recommended Budget
Curlyleaf pondweed	Sonar herbicide treatment	May/June	Sonar - $3,000 base cost per application + $175 per acre
	Diquat herbicide treatment	May/June	Diquat - $3,000 base cost per application + $100 per acre
	Mechanical harvesting	May/June	Harvesting - $3,000 mobilization + $1,875 per day
Eurasian watermilfoil	ProcellaCOR herbicide treatment	June	ProcellaCOR - $3,000 base cost + $800 per acre
	Sonar herbicide treatment	May	Sonar - $3,000 base cost per application + $250 per acre
	Diquat herbicide treatment	June	Diquat - $3,000 base cost per application + $150 per acre
Variable watermilfoil	ProcellaCOR herbicide treatment	June	ProcellaCOR - $3,000 base cost + $900 per acre
	Sonar herbicide treatment	May	Sonar - $3,000 base cost per application + $350 per acre
	Diquat herbicide treatment	June	Diquat - $3,000 base cost per application + $200 per acre
Fanwort	Sonar herbicide treatment	June	Sonar - $3,000 base cost per application + $500 per acre1
	Diquat herbicide treatment	June	Diquat - $3,000 base cost + $300 per acre

Summary of RVMP AIS Management Options for Charles, continued

Curlyleaf pondweed	Hand Pulling	May	$1,700 per day
Eurasian watermilfoil		June	
Variable watermilfoil		June	
Fanwort		July	
Brittle naiad	Sonar herbicide treatment	July	Sonar - $3,000 base cost per application + $300 per acre
	Diquat herbicide treatment	July	Diquat - $3,000 base cost per application + $200 per acre
Southern naiad	Sonar herbicide treatment	July	Sonar - $3,000 base cost per application + $300 per acre
	Diquat herbicide treatment	July	Diquat - $3,000 base cost per application + $200 per acre

Notes:

a. Costs may need to be adjusted for size of area and depth of water. Some treatment timings may be combined with costs adjusted accordingly.

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Discussion

To discuss aquatic vegetation management on the Charles River Basin.

To gain input from stakeholders on implementation of invasive species control and partnerships opportunities.

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Next Steps

- Gain consensus on implementation strategies and priorities
- Conservation Commission hearings
- Update RVMP, as needed
- Quarterly meetings
- Implement and monitor

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Additional Information

For more information:

www.mass.gov/dcr/past-public-meetings

If you have comments or suggestions on this project:

Submit online: www.mass.gov/dcr/public-comment

Email: jennifer.norwood@mass.gov

Deadline: Wednesday, January 13, 2021

Please note: the contents of comments submitted to DCR, including your name, town and zipcode, will be posted on DCR's website. Additional contact information provided, notably email address, will only be used for outreach on future updates to the subject project or property.

If you wish to subscribe to a DCR general information or project-related listserv: contact DCR's Office of Community Relations at 617-626-4973 or Mass.Parks@mass.gov.

Appendix

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Management Area Types

Management areas grouped based on similar ecological conditions and management needs

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Existing Conditions

Hazardous Trees

Invasive Plants

Riverbank Erosion

Vista Obstruction

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Management Strategy

Remove Invasive Plants

Restore Native Species

Stabilize Shorelines

Create Vistas

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Management Area Approach

Document existing conditions

Proposed management objectives

Proposed routine and period maintenance activities

Proposed test pilot

Recommended capital improvement projects

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Management Types - Example

TYPE C: MEADOW RESTORATION

EXISTING

PROPOSED

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Management Logistics - Implementation and Monitoring

A management framework involving DCR staff, contractors, and nongovernmental stakeholders in achieving vegetation management goals.

Weston & Sampson

5 Centennial Drive, Peabody, MA 01960 (HQ)
Tel: 978.532.1900

Field Data Sheet

MassDCR Charles River Vegetative Management Plan

GENERAL INFORMATION		
Plot #: P1 Test Plot	Photo Number(s): 1301, 1302, 1305, 1309, 1312, 1315	
Inspectors Name: Rachelle McKnight		Date: 10/08/2008
GPS Location: See Proposed Projects Mapping	Side of River: ☐ North	☐ South

Invasive/Nuisance Plants Present (Species, Density, Height): False Indigo (35%), Bindweed (<5%), Asiatic Bittersweet (<5%), | Indigo at 3.5' ht., Ash at 6' ht.

Erosion Control Issues: Scouring behind riprap. Slope is 4% on ground. Shore slope ranges from 15% to 80%.

Trees (Species, Comments): 2 mature London Plane Trees in good condition – 2 ash grown into bank in water (leave in place).

Open Space Area (Possible Vistas, Geese Issues?): Vista already established, low shrubs.

Other Comments: Pedestrian path in grass adjacent to shared use path.

Pink Aster (10%), Jewelweed (<5%), Plantago (5%), Artemesia (5%), Sensitive Fern (10%), Leucanthemum (5%), Viola (ground coverage), Goldenrod (5%), Persicaria (5%)