River Herring Network Eighth Annual Meeting – Hosted by the Coonamessett River Trust

Thursday October 18, 2018 Waquoit Congregational Church Parish Hall &

Field Trip to Coonamessett River Restoration Site







Catching up with colleagues before the meeting starts





Chuck Martinsen, Falmouth Department of Marine & Environmental Services tells us about Falmouth Herring Runs Wendi Buesseler, Coonamessett River Trust Betsy Gladfelter, Project Coordinator and Conservation Commissioner, Town of Falmouth Linda Deegan, Coonamessett River Trust & Woods Hole Research Center



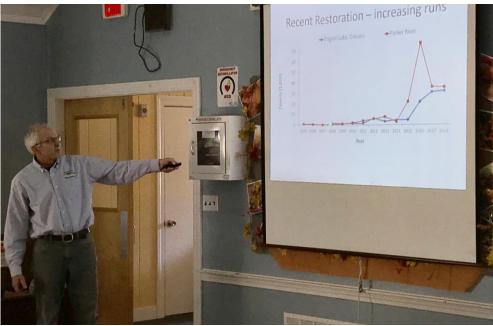






Coonamessett River Restoration Project in Falmouth







Brad Chase gives an update on the MA DMF Diadromous Program activities

Hot Herring: Exploring the effects of temperature on juvenile river herring

- Lian Guo, University of Massachusetts Amherst,
- Massachusetts Cooperative Fish and Wildlife Research Unit





Lunchtime Breakout Session – Recruitment of New Herring Wardens & Public Outreach



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Massachusetts Environmental Police Officer Cole gives an update on enforcement activities Invasive Water Chestnut: Lessons from Watershed Monitoring & Management Alison Field-Juma, Executive Director, OARS for the Assabet, Sudbury, and Concord Rivers



WATER CHESTNUT MANAGEMENT GUIDANCE

BIOLOGY

ONLY

OR THE ASSABEL SUBBURY & CON

TAXONOMY: Family. Lythraceae; Genus: Trapa; Species: 2 toll species are listed by various sources under the Trapa genus, the most common being T. natans and T. bicomis.) The focus of this work is Trapa natans L., which is invasive in North America.

INTRODUCTION TO NORTH AMERICA: Water chestnut, Trapa spp., is native to temperate and tropical Europe, Asia, and Africa. Trapa natans was introduced to North America in Middlesex County, Massachusetts, in the 1870s² and, independently, to Sanders Lake near Schenettady, NY in 1886. Over the last 160 years water chestnut spread across the region. It was documented in the southern end of Lake Champlain in the early 1940s,² in a tributary to the Chesapeake Bay, Maryland, in 19553, in Quebec by 1998, and in the Connecticut River system in 1999. LIFE CYCLE: Trapa natans is an annual, growing each year from seed (nut) and DATES (in Eastern

MA

LIFE CYCLE

October - May Seeds overwinter in sediments (must have dormancy period at <8° Seeds germinate when water temps May C to germinate) early to mid-june reach~12°C First leaves reach water surface; June to late July floating rosette Secondary branches and rosettes New leaves emerge from tip as stem throughout growing elongates; submersed leaves drop late June to Sept Pollination (self-pollination or cross early july to Sept Small four-petal flowers appear

nid late Sept Indiate Sept Indi longer-lived than Plants in high density Plots (200 rosetted square meter) aloning them to paid the order as a second as a second secon plants in high density plots, low-density plans can have bitmes none rosetter and bit to easily be available to a series a table the largest plant from low-density plots bore 31 rosetter, while the argent ton high density measurement of an arbitrary low-density plants showed practically no mortality until the entite plant preserved is topic the series of a series of the series One-seeded green nuts form pollination) Mature seeds fall off and sink to

the largest plant from low-density plots bore & research, while be larged from bightering the mention and the second of research is specific meaning at the second of research in separation are appresented and the second of research in the second of res IOW-density plants showed practically no mortality will be entry plant sensed in Separate because and density suffered continuous mortality. Particularly to the secondary revealed, broughout be grand sense the secondary of the MANAGEMENT OPTIONS Physical removal of Plants before

Hand-pulling TYPE

> Mechanical Harvesting

Hydroraking

ruyancal removal of parts percel seeds drop; hand-pulling from

small boats

Physical removal of plants before rapaical remover or pages reached a seeded drop; roquires mechanical a

scens aropirequires mechanic harvester, convert, and truck Physical removal of Plants before

seeds drop; requires hydron

Winter draw

ABSTRACT

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dying back by the end of the growing

season. Most nuts sink to the bottom of

the water body where they were produced,

overwinter in the soft sediment, and generate the bed of $\mathbb T$ nature at that the ' h

portion of the seeds germinate the following spring the remainder economiae and create a seed bank in the sediments seeds us viable for up to 10-15 years.

To germinate, seeds must have a period of domancy a cold surgenzione (< &C)¹¹ they germinate when water temperatures reach house IPC See a provide statement of the second second

gerrunale fastest at moderately warm temperature (17-190) bu mi

geminate from UPC to 24°C. The fast germation rate was board to be a unaffected by these temperature ranges. The plant particular entropy

128 mg/L calcium carbonate.10

Capable of re

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ACCRESSIVE CRONTH NUCHNERS THE OTRE THRE I MAN IN THE OTRE THRE I MAN IN THE OTRE THRE I MAN IN THE OTRE THREE INTERVIES.

density plots (S-15 readed) in the large neer productine and

Lakes, ponds and rivers across Massachusetts are being choked by invaine water chestoni (Trapa natans). The result is degraded ecology and habitat value, loss of recreational value, and the high cost of control efforts. The development of effective management plans is hampered by lack of life-cycle information, diverse approaches to permiting cost, and evolving control methods.

This Guidance compiles the latest research and management experience in Massachusets Conservation Commissions and communities to use in developing water dustant m approaches and plana. The document reviews biology control options, aid permitting useds for we Appendices include model language for permitting under the Welanda Trainclain Actor us by both applicants ns. The complete document, "West Clastical Management Outnote & New Yor Management Pas for t Sudhury, Earabet, and Concerd Erver Waterback' with sample percenting any be contradict from

WETLANDS PROTECTION ACT PERMITTING opproval, at the distruction of the Conservation Commission, However, ined large state tent-pilling may implicantly data's sedanant energies with a list of plant manerial for disposed and may used

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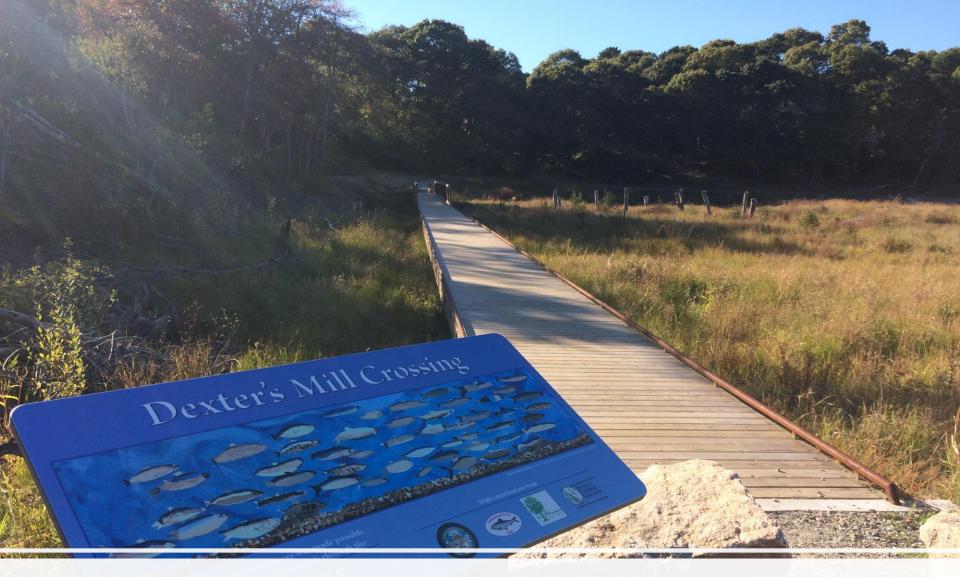
signup



OTHER PERMITTING

OARS

ADAPTIVE MANAGEMENT



Field trip to Coonamessett River Restoration Site





