

Calcareous Wetland Management in Massachusetts



Natural Heritage
& Endangered Species
Program

Massachusetts Division of Fisheries & Wildlife



Calcareous Wetlands in Massachusetts



- Wetlands that typically:
 - are supported by upland seepage permeating through;
 - limestone or dolostone;
 - resulting in high pH and;
 - high concentrations of calcium and/or magnesium
- Substrate is typically either non-acidic peat or muck
- In Massachusetts, found primarily in Berkshire County
- Several distinct communities types in MA (though occur in a gradient)
- All community types in MA are rare (S1-S2), and many are rare in NA
- Support some of the most important occurrences of biodiversity in MA



Bog Turtle: Federally Threatened (2 occurrences in MA)



Swamp Birch



Hooded Ladies'-tresses



Great Blue Lobelia



Andrew's Gentian

CASE STUDY: Jug End Calcareous Wetland Complex



Jug End Fen



- 10 acre core
- DFW & TNC Tracts
- High Quality S1 Natural Community
- 20+ NHESP tracked species

History

- Assumed fire history
- Regular grazing by cattle
- DFW/TNC acquisitions in mid-90s
- Grazing ended following protection
- Beaver arrived in 2001

Issues

- Beaver have elevated water levels
- Key components of habitat flooded
- Typha and Invasives dominating

Typha Dominance



Phalaris Dominance



Compared to the Ideal





Goals

- **Reduce Water Levels to pre-beaver conditions**
 - Remove existing beaver dams and install flow devices
 - Remove beaver from the system over the short-term
 - Control vegetation in order to discourage beaver over the long-term
- **Vegetation Control over the short-term**
 - Herbicide use for Typha, Phalaris and others in fen
 - Herbicide use for willow control in current beaver areas
- **Reintroduce Disturbance to the System**
 - Reintroduce grazing to least intact areas of the fen
 - Develop prescribe fire plan

Controlling Water Level



Vegetation Control



2013 Treatment

Glyphosate Foliar Application – Mist-blower – 1 year Post-Treatment



Grazing





2013

- Fenced in ~ 7-acres of the core fen
- Excluded the Harsh Fen
- Introduced 3 cattle for the final 2 months of growing season

August 2014





Next Step: Introduce Prescribed Fire

Agawam Lake - Stockbridge



45-acres of Phragmites
treated 2013-2014 (55-total)



Hop Brook WMA Calcareous Wetland Complex







Other Issues



Potential Effects of Road Salt



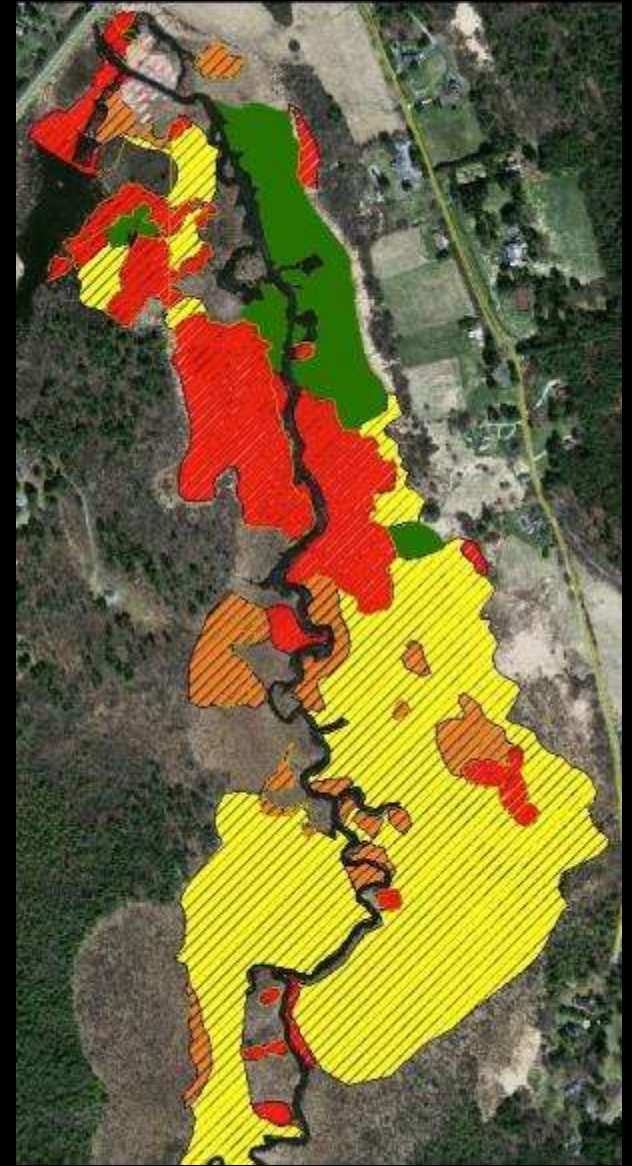
Protecting rare plants from
Deer Browse

The price of Inaction

Konkapot Marsh, Stockbridge



2010



2012

