

OARS Biomass Summary 2020

B. Wetherill October 26, 2020

Starting in 2020, the survey was conducted on the central areas of the impoundments only. Edges were excluded to save time. It was proposed that the real objective of the survey should be biomass in the central portion of the impoundments, not biomass that has collected along the shore. Also, the edge sectors, as drawn, included large portions of exposed land, so percent coverage was somewhat misleading. All years have been adjusted accordingly. This new view of the data seems to show a visible increase in floating biomass since 2005. The trend for duckweed is not clear, but the new view seems to show a more stable picture.

The new analysis represents...

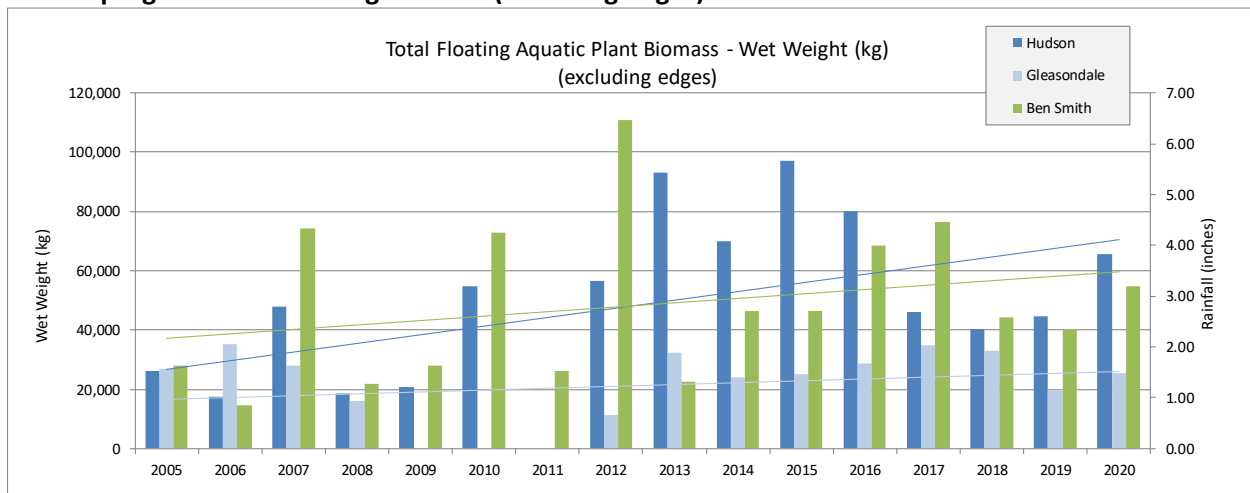
Ben Smith – 88% of original area

Gleasondale – 65% of original area

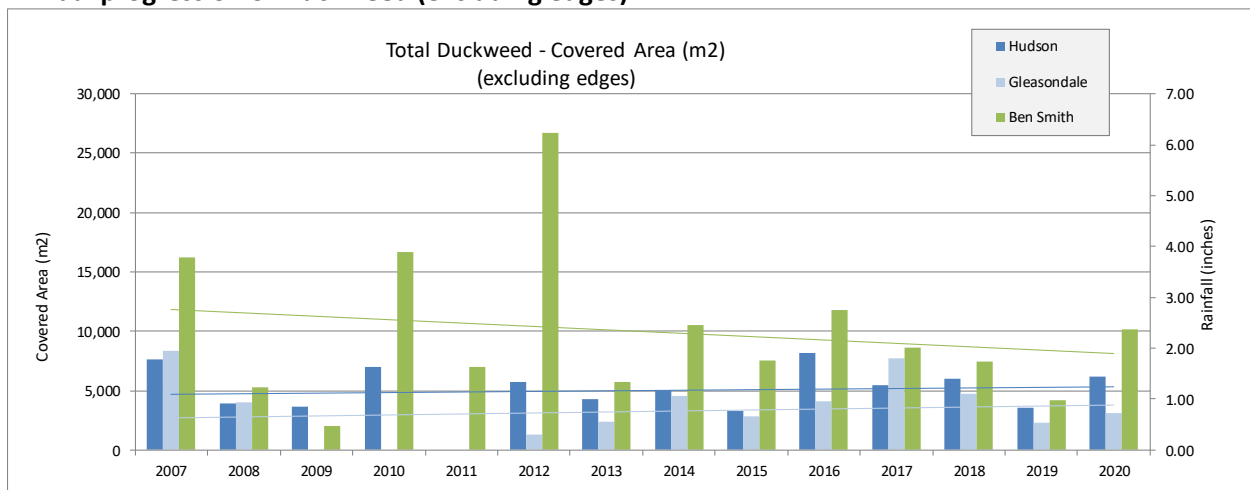
Hudson – 79% of original area

The excluded edges can be seen as a faint gray line in the maps below.

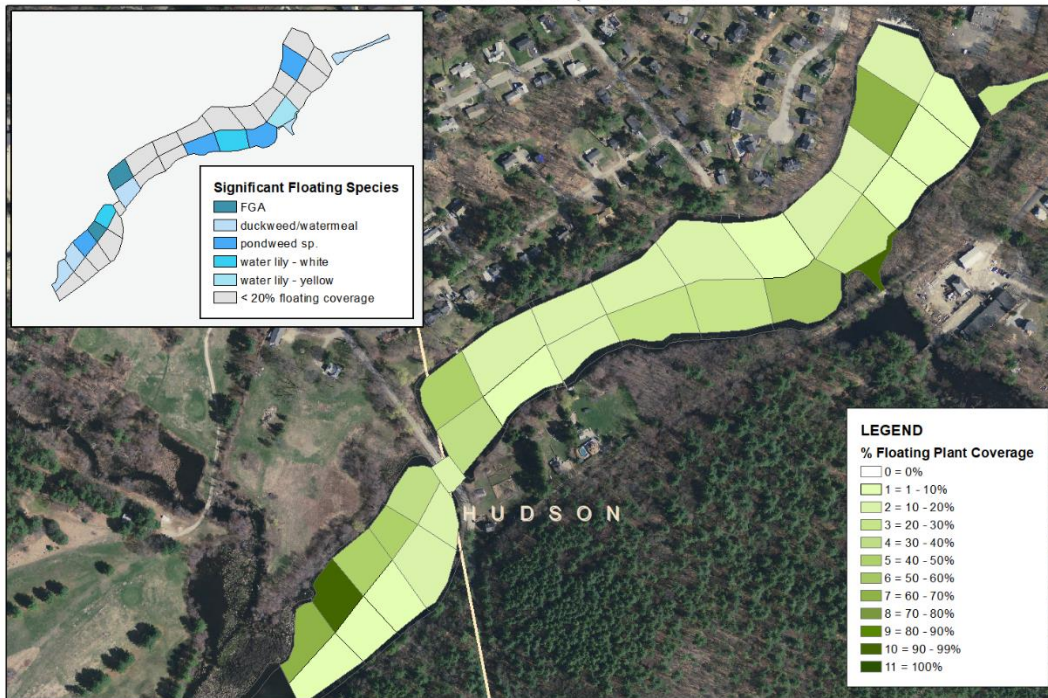
Annual progression of Floating Biomass (excluding edges)



Annual progression of Duckweed (excluding edges)



Aquatic Plant Biomass Surveys - 2020 Assabet River Impoundments



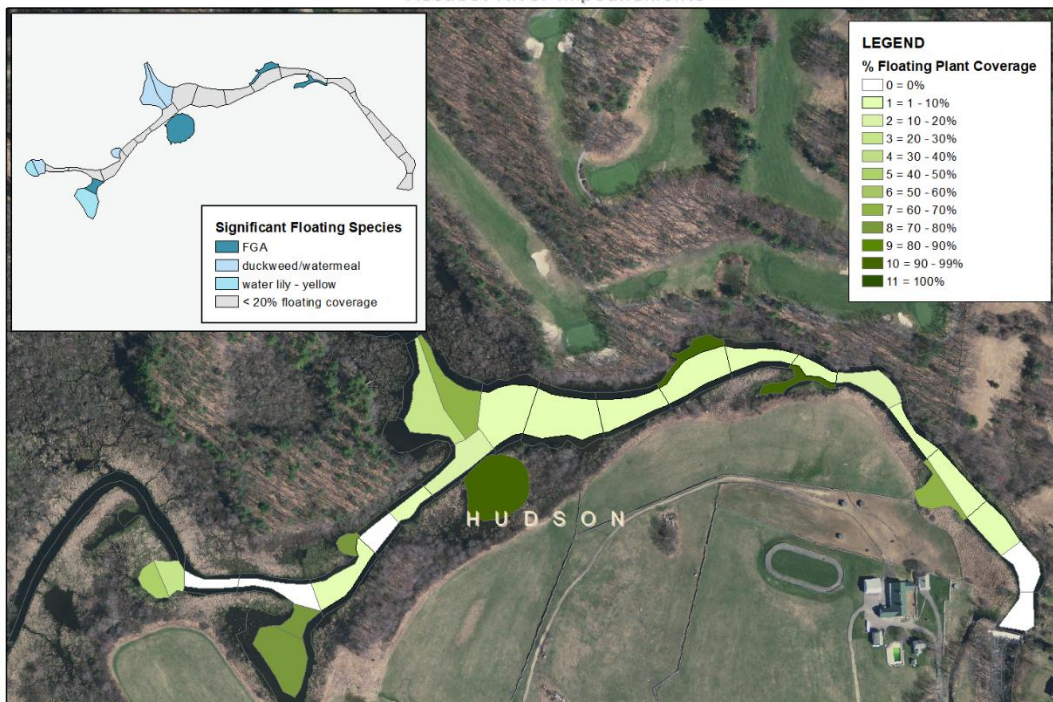
Created by B. Wetherill, OARS, 2020
Basemap from MassGIS
Software ArcGIS donations from ESRI Conservation



1:4,000

Ben Smith Impoundment of the Assabet River
Field observations: August 26, 2020

Aquatic Plant Biomass Surveys - 2020 Assabet River Impoundments



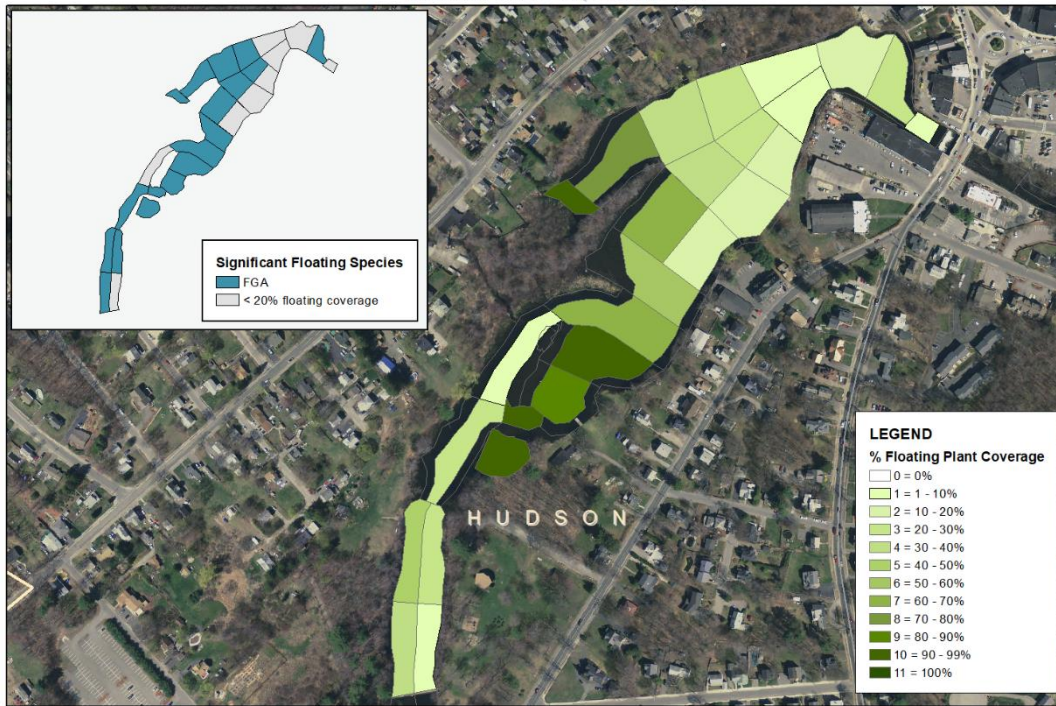
Created by B. Wetherill, OARS, 2020
Basemap from MassGIS
Software ArcGIS donations from ESRI Conservation



1:3,500

Gleasondale Impoundment of the Assabet River
Field observations: August 26, 2020

Aquatic Plant Biomass Surveys - 2020
Assabet River Impoundments



Created by B. Wetherill, OARS, 2020
Basemap from MassGIS
Software ArcGIS donations from ESRI Conservation



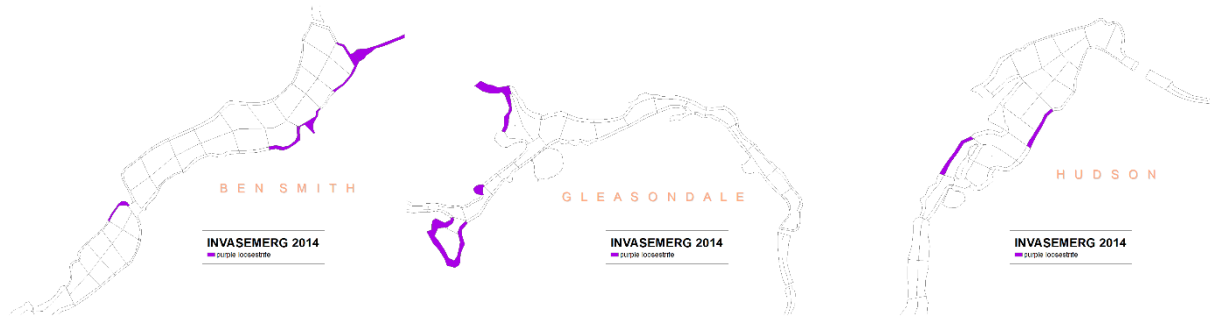
1:3,500

Hudson Impoundment of the Assabet River
Field observations: August 20, 2020

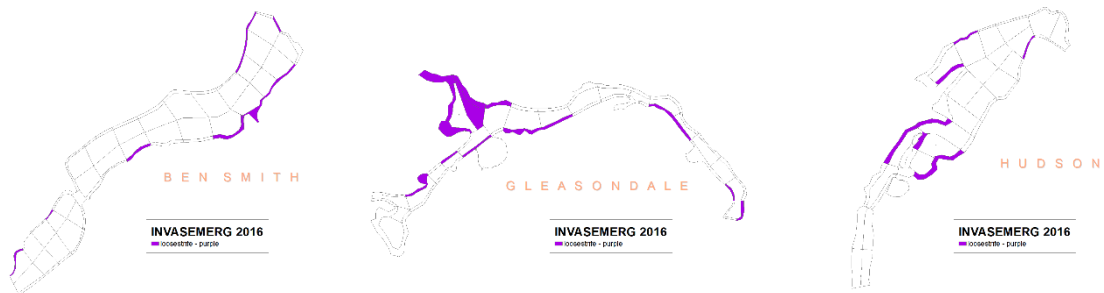
Purple Loosestrife

Maps of sectors with purple loosestrife from 2014, 2016, and 2020 show what seems like an increase in extent. These years were selected because the data was easily available. We still need to review the remaining years to confirm that the trend is not coincidental.

2014



2016



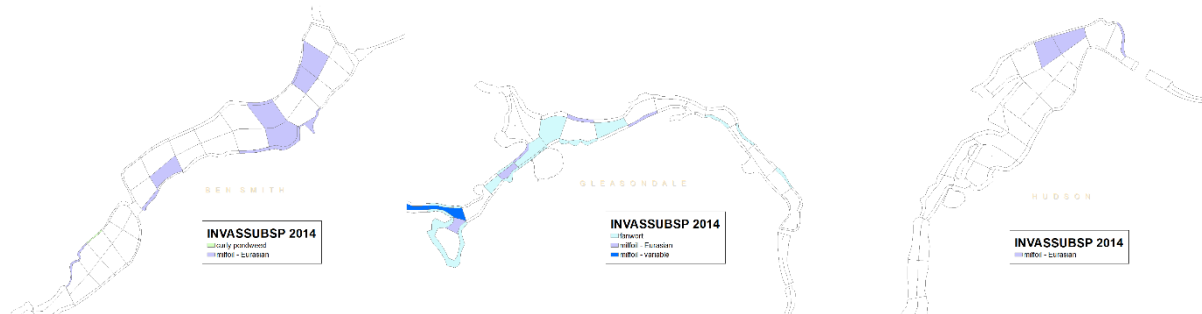
2020



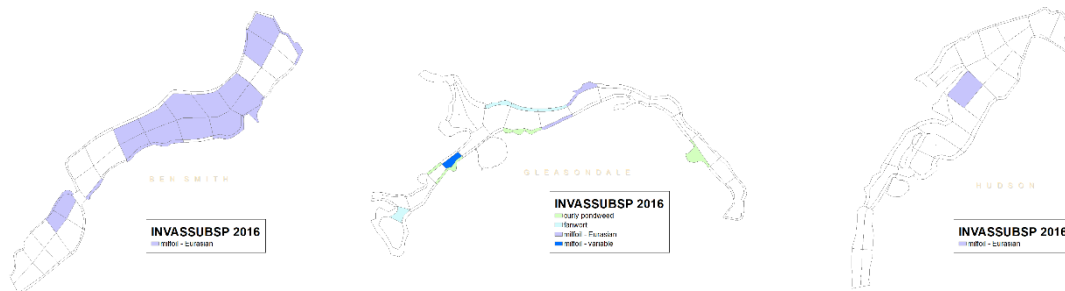
Milfoil (and other submerged invasives)

Maps of sectors with invasive submerged species from 2014, 2016, and 2020 highlight differences between the impoundments, but no particular trend. If these are safely comparable, then milfoil does seem to move around from year to year.

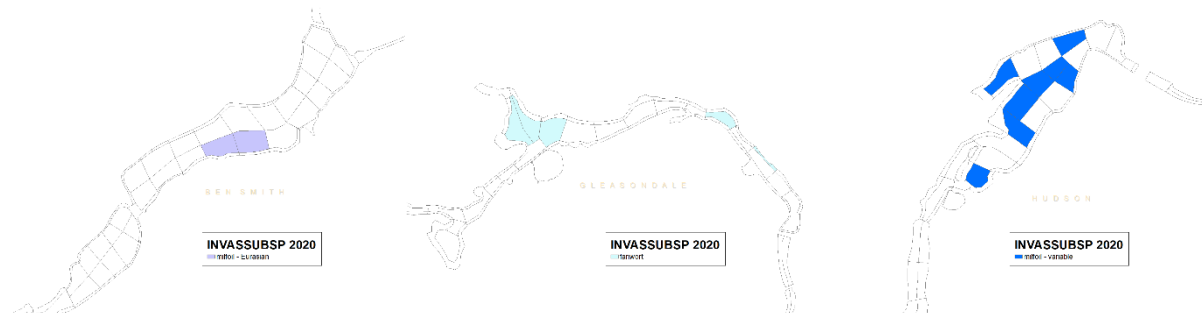
2014



2016



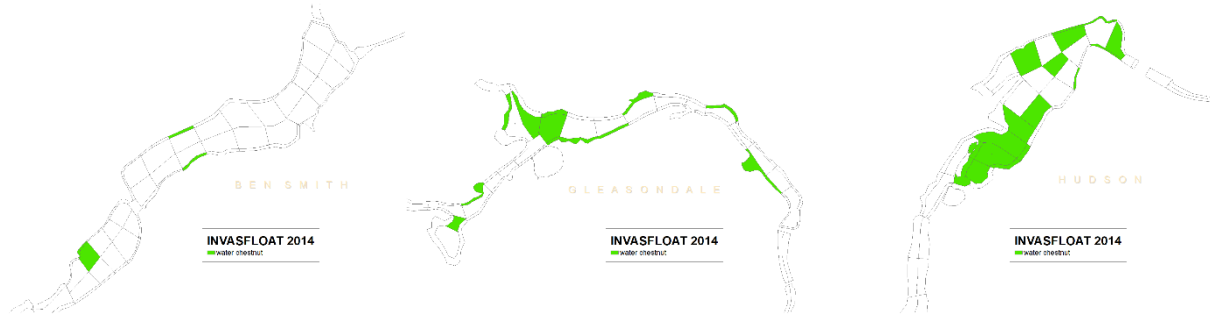
2020



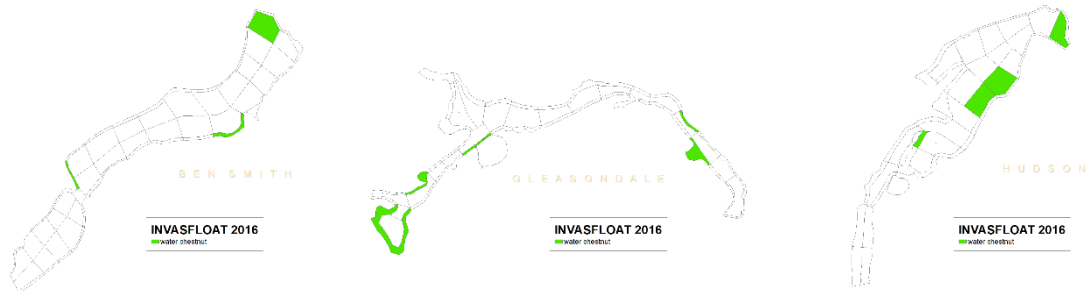
Water Chestnut

Maps of sectors with water chestnut from 2014, 2016, and 2020 show a reduction in water chestnut everywhere except for Gleasondale.

2014



2016



2020

