



GOLDEN SANDS

RESOURCE CONSERVATION & DEVELOPMENT COUNCIL, INC.

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a 501(c)3 non-profit conservation organization

Conservation That Works!

White River Flowage Flowering rush Post - Early Detection and Response 3-yr program

Year 4 Activity Report

Monitoring survey and handpulling activities 2018

Survey method: On July 10, 2018, Golden Sands RC&D (Resource Conservation & Development) completed a visual survey for flowering rush on the White River Flowage. Anna Cisar conducted the survey, completed by kayak and covered the entire shoreline starting upstream ([44.038089, -89.272116](#)) of the chemical treatment area ("ground zero", the source population), downstream along the western shore to the dam and back upstream along the eastern shore to the original starting point. All islands, small coves and bays were surveyed as well as shallow areas where native vegetation formed mats on the water surface. These areas historically collect floating rhizomes and young flowering rush plants. All observed flowering rush outside the treatment areas was removed as the surveyor went.

All observed flowering rush locations were recorded using a handheld GPS. The GPS points were added to aerial maps to show the flowering rush distribution. Attached below is the July map.

Handpulling methods: On July 24-25, 2018 Golden Sands RC&D led volunteer training and work parties on the White River Flowage for local volunteers and an AmeriCorps crew. We trained or refreshed volunteers on identification of flowering rush, distinguishing it from native bur-reeds and wild rice (also present on the flowage), and proper removal techniques. Volunteers were instructed about the importance of loosening sediments when needed (in firmer sand), and carefully extracting the entire root mass, with care to avoid breaking off bulbils. They were also instructed too frequently look around and watch for floating bulbils that may have broken off. (These were observed only very rarely, as teams were diligent about careful extraction.)

Volunteers pulled flowering rush from kayaks, loading pulled plants into a bucket, then shuttling the buckets to the mechanical harvester that waited in the channel nearby. To avoid spreading flowering rush through our activities, care was taken to move the harvester up the channel only after the channel had been cleared of flowering rush. Buckets were emptied into 50 gal drums on the harvester. When the drums were full, the harvester shuttled the material to the boat landing, where it was then unloaded onto a trailer. The piles of plants were hauled to a designated site for drying and burning. Equipment (including kayaks) were power washed on shore to remove muck and other debris.

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Results: During the survey, in the chemical treatment area ("ground zero"), plants were green, robust, and thriving. This area is the yellow and light blue polygons at the top of the maps below. The treatment area was the final location targeted for handpulling. Handpulling efforts initially focused on eliminating the spread of flowering rush in the rest of the flowage. The white line and arrows on the map indicates the upper boundary of the area where all plants downstream had been handpulled.

This time of year, the plants were robust and held together very well for handpulling. They pulled easily from the loose muck. In the very few areas where firmer, sandy sediments are present, the roots need to be loosened before pulling.

Following the handpulling conducted on July 24th and 25th the only area that had remaining flowering rush was at ground zero. It is important to note that while the two work events had thorough removal of flowering rush in the areas downstream of ground zero there is the potential that a few plants were either missed for the water depth or the brush they were growing in. These areas should be double checked for plant growth.

Notable observations: The current appears to create a boundary the plants do not spread beyond easily. At ground zero, no flowering rush was observed east of the channel. Major spread is from the channel westward. Major locations for monitoring would be at any collection points, such as downed trees and weed beds where drifting plants may get hung up.

Focus for volunteers: Monitoring and handpulling efforts should focus on spread downstream from ground zero. Major collection points include:

- 1) From channel westward
- 2) Downed trees where plants may snag
- 3) Weed beds immediately downstream
- 4) Small floaters on weed mats

Figures and map located on the following pages.



Top Left: AmeriCorps team member works in the channel pulling flowering rush.

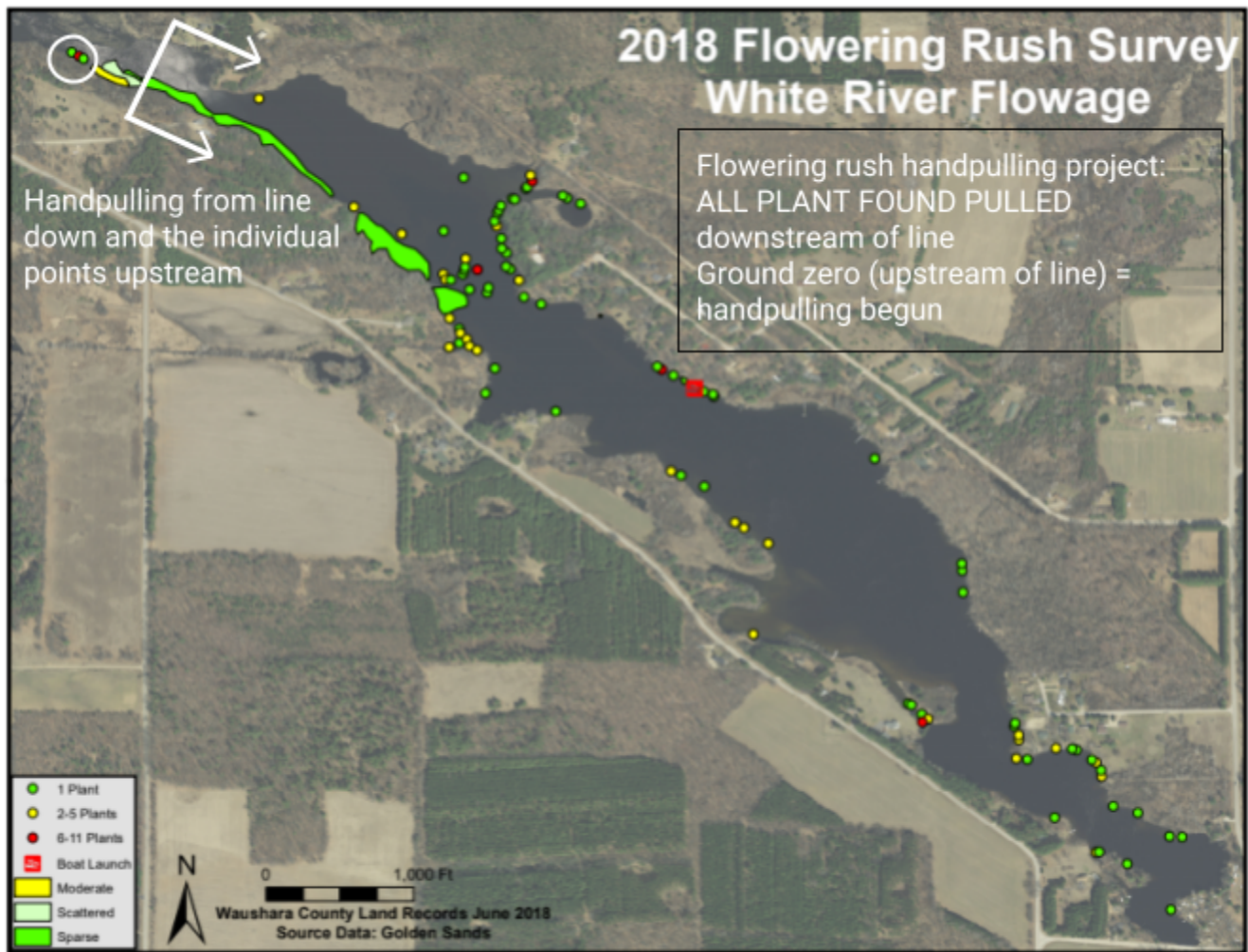
Top Right: AmeriCorps team member pulls flowering rush at the downstream end of ground zero.

Bottom Left: The view of flowering rush at ground zero, looking downstream. Illustrated here is the scattered density (as outlined on the map below) of the flowering rush in the foreground of the photo and the moderate bed in the right, center of this photo.

Bottom Right: Ground zero is located in the right, center of this photo. This is the extent of flowering rush on White River Flowage following the work party July 25th.

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