
To:	Heidi Bunk Wisconsin Department of Natural Resources 141 NW Barstow St Waukesha, WI 53188	From:	Melissa Curran Stantec Consulting Services Inc. 1165 Scheuring Road De Pere, WI 54115
File:	AIS Grant AIRR22317 Stantec Project# 193705378	Date:	July 27, 2020

Reference: ***Aquatic Invasive Species Control Grant AIRR22317 – Final Project Summary,
AIS Control in Bark River & Milwaukee River Tributary***

Southeastern Wisconsin Invasive Species Consortium, Inc. (SEWISC) was awarded Wisconsin Department of Natural Resources (WDNR) Aquatic Invasive Species (AIS) Rapid Response Control grant funding in 2017 (AIRR22317) to control water dropwort (*Oenanthe javonica*) and reed mannagrass (*Glyceria maxima*), along the Bark River in Waukesha County and an unnamed tributary to the Milwaukee River in Milwaukee County (the “Project Area”). This technical memorandum summarizes deliverables performed under this grant.

BACKGROUND

The primary goal of this project is to control pioneer populations of water dropwort and reed mannagrass within the Project Area. In October 2014, water dropwort was identified growing on the banks of the Bark River, northeast of Dousman, Wisconsin. By fall 2016, the target populations expanded to seven patches of water dropwort totaling 14,336 ft.2 and five patches of reed manna grass estimated at 3.75 acres. Water drop wort was also identified along a tributary to the Milwaukee River, in Milwaukee County. The target populations occur within public road rights-of-way and private property. In total, the Project Area includes a 7.1 mi. stretch of the Bark River between Crooked Lake and the river's third crossing of Waukesha County Road 18, and an approximately 350 ft. stretch of the unnamed tributary to the Milwaukee River between W. Dean Rd. and the Milwaukee River in the village of River Hills.

Water dropwort is a NR listed, prohibited category, plant species. Water dropwort inhabits a diverse range of aquatic, riparian, and seasonally inundated habitats. Its preferred substrate for growth is mud or silt, and prefers direct sun to partial or complete shade. Reproduction of water dropwort is not limited to seed deposition as broken fragments can form advantageous roots and grow into reproductively viable plants. Due to the ease of reproduction and proximity to flowing water, downstream transport is highly likely. Once established, water dropwort forms dense monocultures which may choke out native plant communities and decrease biodiversity. It has proven capable of surviving winters in Wisconsin.

Reed mannagrass is likewise a NR listed, prohibited category plant, which is restricted in all of SE Wisconsin. Reed mannagrass flourishes in similar habitats to water dropwort including wetlands and flooded pastures, slow moving rivers and creeks, and shallow, nearshore habitats of ponds and lakes. Reed mannagrass also tends to form dense monocultures which reduce plant diversity. Unlike many native grasses, it is a poor forage source for birds and wildlife and is not considered suitable habitat for nesting birds.

The target species display a tendency to expand their coverage area and form dense monocultures. Therefore, the presence of these AIS threatens to decrease biodiversity and degrade habitat along the banks of the Bark River and tributary to the Milwaukee River. Efforts funded under this grant will control the target species to the extent practical over three years (2017-2019).

Reference: *Aquatic Invasive Species Control Grant AIRR22317 – Final Project Summary, AIS Control in Bark River & Milwaukee River Tributary*

DELIVERBLES

Chemical Control

Chemical treatments were performed by pesticide applicators certified and licensed in the state of Wisconsin for aquatic applications during the growing season in 2017, 2018 and 2019. Treatments were performed on August 29 and 30, 2017, September 22, 2017, August 9, 2018, September 14, 2018 and October 14, 2019. Foliar application techniques using a 2% solution of the active ingredient Habitat were applied via backpack sprayers and Utility Task Vehicle mounted boom sprayers. High water limited access to portions of the treatment sites. Additionally, due to lack of landowner permission, Stantec was not able to treat two populations along the Bark River and the one population along the tributary to the Milwaukee River.

Observations from the treatment crews include:

2017:

- Initial application was completed on 8/29 and 8/30. A follow-up application and additional scouting was recommended. A crew returned on 9/22 to treat additional areas. The overall populations were significantly more expansive than mapped. A total 11-12 acres were treated, whereas only 3.75 acres were originally mapped. The population appeared to be actively expanding outside of the drainage ditch south of the Bark River and west of STH 67.
- Assessments on 9/22 of the areas treated on 8/29 and 8/30 revealed deleterious effects of herbicide. Follow-up applications were recommended for 2018 with no change in methods or approach.

2018:

- Retreatment application was completed on 8/9. Follow-up application was recommended and completed on 9/14.
- Assessment of 8/9 treatment determined to be effective during 9/14 treatment. Only minor additional applications (clean-up) recommended for 2019.

2019:

- Final retreatment was completed on 10/14. There was an area that wasn't fully assessed / treatable in fall 2019 since it was under water. The area was previously killed-off in 2017 and 2018, with minimal (visual) re-growth as of the 9/14/18 application.
- New growth (small plants) was present in fall 2019 in one area along the ditch that was previously treated. This was possibly due to delayed re-growth from belowground rhizomes / propagules post-herbicide, lack of competition, flooding disturbance, etc.

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Revegetation

Native species used for the revegetation were selected based on local site conditions (i.e. soils, topography, micro-climates, etc.), commercial availability, and assumed survival rates. The primary goal of seeding and planting was to stabilize the surface soils in areas where vegetative cover was reduced as a result of the chemical treatments. Establishment of native cover also provides competition against future invasion by invasive species and provides habitat for native wildlife. Stantec developed a native seed mix comprised of 14 different sedge, grass and forb species. The seed was installed on January 17, 2020. All areas treated were also seeded with native vegetation (see attached figure).

CONCLUSION

Stantec performed invasive water dropwort and reed mannagrass herbicide treatments within the Project Area on behalf of SEWISC in support of their WDNR AIS Rapid Response Control grant funding. Annual treatments were completed in 2017, 2018 and 2019, with revegetation completed in early 2020 under Grant AIRR22317. Stantec recommends continued monitoring and treatment to ensure the long-term success of this project.

Please contact me or Jill Hapner (jill.hapner@sewisc.org) if you need any additional information regarding the invasive treatments performed as part of this project.

STANTEC CONSULTING SERVICES INC.



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Attachments: Photographs
Treatment Figure

Photographs



Photo 1. Reed mannagrass population, initial treatment



Photo 2. Dense reed mannagrass population, initial treatment

Photographs



Photo 3. Water dropwort treatment

Photographs



Photo 4. Reed mannagrass, post treatment results

Photographs



Photo 5. Reed mannagrass, post treatment results

Photographs



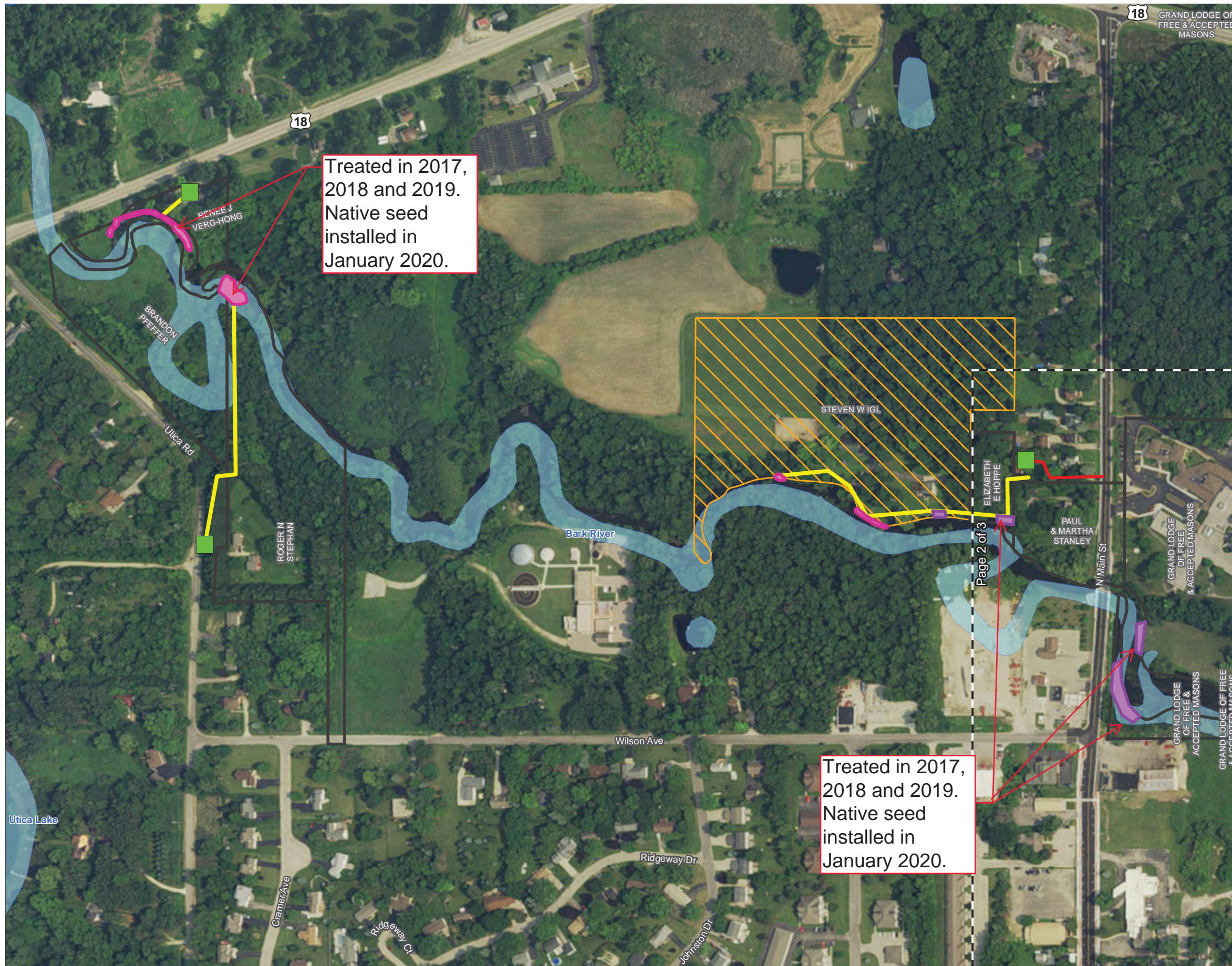
Photo 6. Reed mannagrass winter seeding area

Photographs

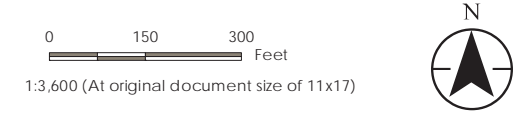


Photo 7. Reed manna grass winter seeding

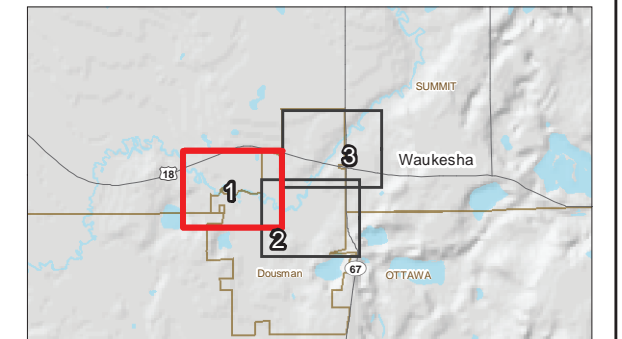
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Client/Project
Southeastern Wisconsin
Invasive Species Consortium, Inc.
SEWISC AIRR22317
Project Location 193705378
T. of Summit and V. of Dousman, Waukesha Co., WI
Prepared by CP on 2017-08-21
Technical Review by DG on 2017-08-21
Independent Review by XXX on 2017-XX-XX



- Legend**
- Project Access Approved
 - Project Access Not Approved
 - Treatment Locations
 - Glyceria maxima (Approx.)
 - Oenanthe javanica
 - Parking Location
 - Site Access
 - Foot Access
 - UTV Access
 - Vehicle Access
 - Page Index
 - DNR 24k Hydrography
 - Perennial Stream
 - Intermittent Stream
 - Waterbody



- Notes**
- Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 - Data Sources Include: SEWISC, WDNR, WDOT, WDOA
 - Orthophotography: NAIP 2015

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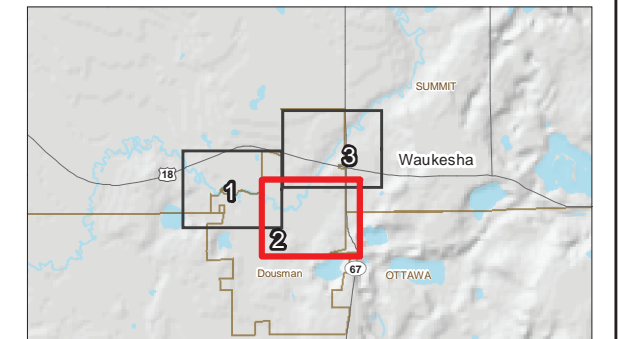


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 T7N, R17E, S33, 34, 35; T6N, R17E, S3, Prepared by CP on 2017-08-21
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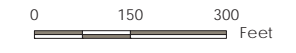
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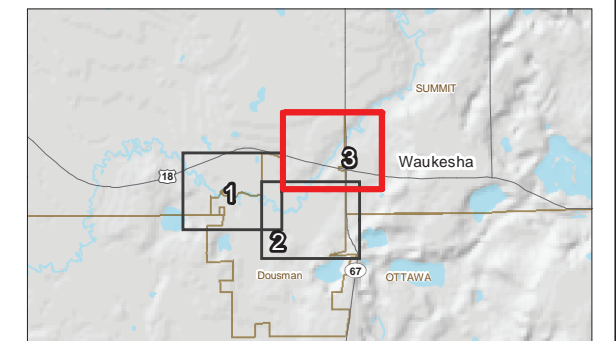


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