

AIS Early Detection & Response Grant for City of Madison

Eradication of Invasive Water Celery AIRR28123

Progress Report 2023

As a recipient of an Aquatic Invasive Species Early Detection and Response Grant, the City of Madison performed two monitoring visits in 2023 of a known infestation of the novel aquatic invasive plant, Java water dropwort, AKA Vietnamese water celery, AKA water celery (*Oenanthe javanica*). Monitoring is done to document the extent and range of an invasive plant and to help prepare an approach to control of the infestation.

Monitoring

Monitoring was performed by City of Madison Engineering staff including:

Stormwater Vegetation Coordinator

Conservation Technician

Greenway Conservation Trainees (2)

Staff have experience in native and invasive plant identification; natural areas land management; invasive plant management and restoration ecology.

Monitoring Visit #1

Staff began monitoring near the originally reported water celery infestation which is located on Starkweather Creek east of the intersection of the creek and Zeier Rd on June 26. The infestation at the originally identified

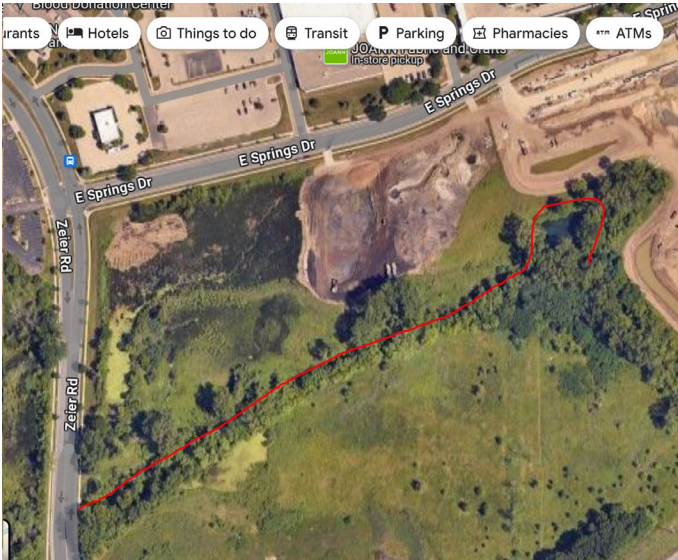


source had formed a solid mat with few, if any other plants growing within.

From the original infestation, staff walked east on the north side of the creek. The water celery population thins, and reed canary grass takes over as the primary vegetation on the north side of the creek. The south side of the creek is more heavily shaded with buckthorn, box elder and other volunteer

Originally reported infestation of water celery located just east of intersection of Zeier Rd and Starkweather Creek

woody vegetation, and the shoreline area is typically devoid of herbaceous vegetation, except where population of water celery have started to grow. This suggests that water celery is both hardy (able to tolerate the allelopathic effects of buckthorn), and at least partially shade tolerant. Scattered, but generally smaller populations of water celery occur on both the north and south shorelines as the creek corridor grades into a fully wooded corridor. Staff continued scouting on the north shore until the spring-fed pool, approximately 0.25 miles from the intersection of Zeier Rd and the creek. Here, the dense undergrowth of honeysuckle and buckthorn and the steep grade down to the pool made scouting by shoreline too difficult to continue.



Monitoring path east of Zeier Rd on north shoreline until spring-fed pool.



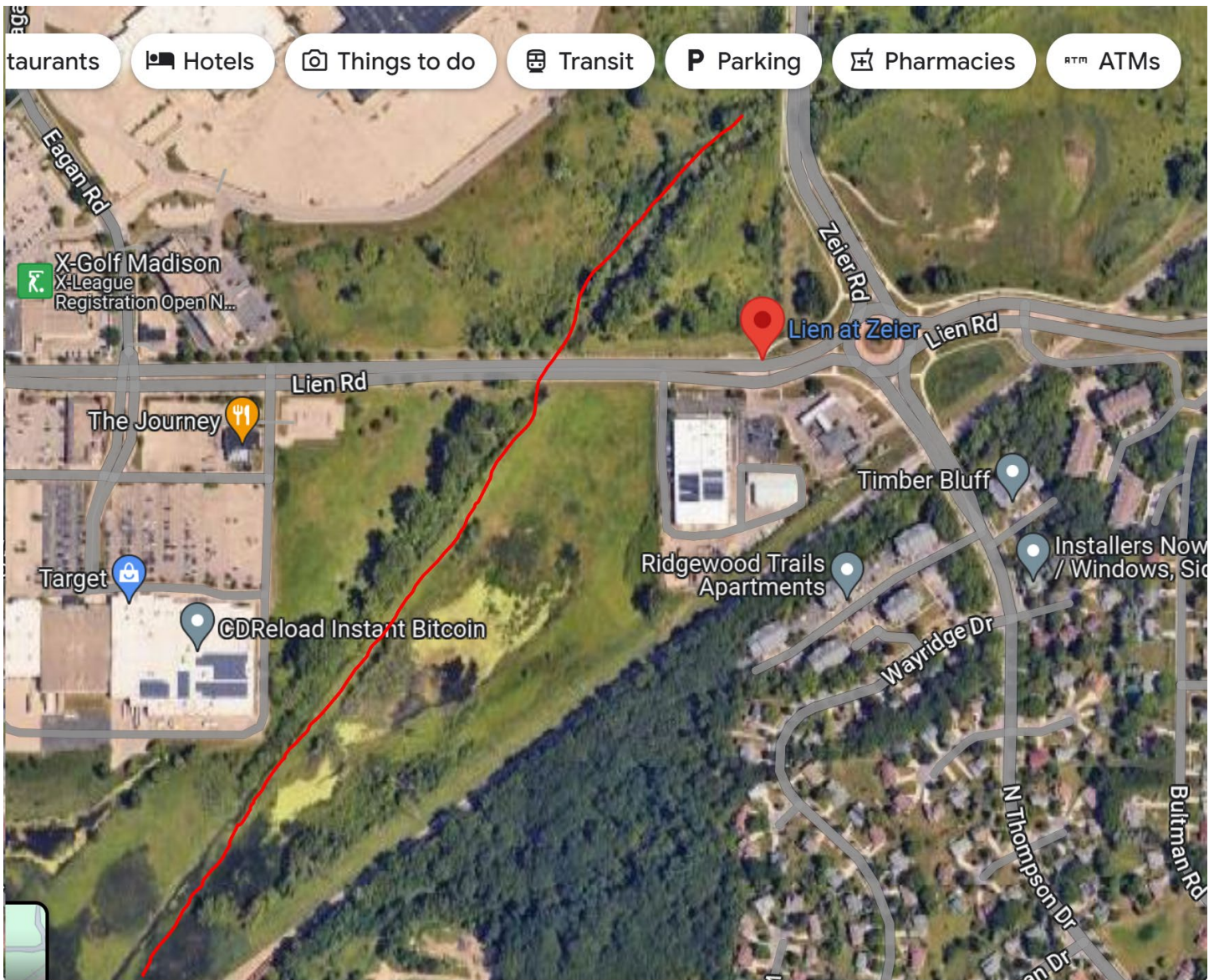
Typical infestation along Starkweather Creek on south shoreline in areas east of Zeier Rd.

Next, staff scouted west of the intersection of Zeier Rd and Starkweather Creek on the northwest shoreline of the creek. Initially, no infestations were found directly west of the culvert under Zeier Rd, but within a few hundred feet west of the intersection, populations were found on both sides of the creek. Generally though, the populations of water celery west of Zeier Rd appear to be smaller and narrower in width. Populations were found all the way up to the intersection of the creek with Lien Rd.



Infestation along Starkweather Creek west of intersection of Zeier Rd but northeast of intersection of creek with Lien Rd.

Staff continued scouting the creek south of the intersection of Lien Rd and Starkweather Creek, this time on the southeastern shoreline. No infestations were found on either side of the creek south of the Lien Rd intersection and staff scouted the shoreline about 0.4 miles further.



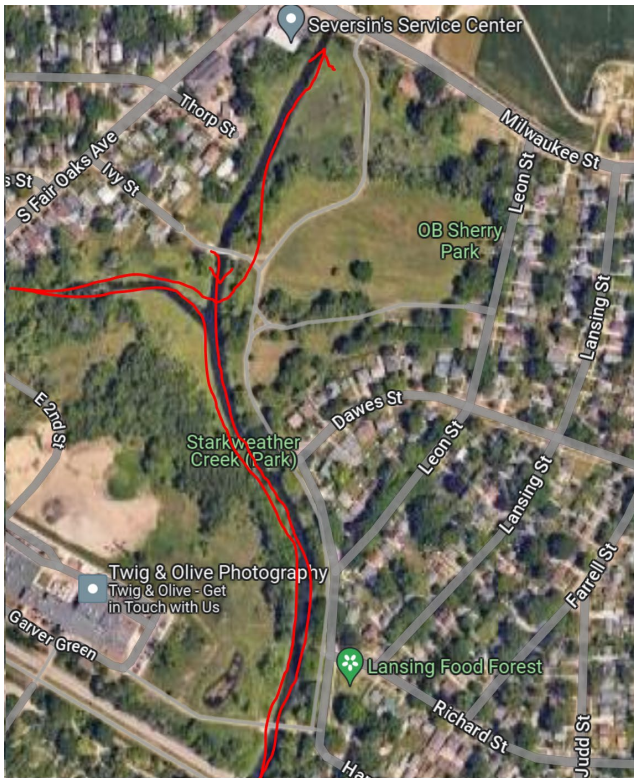
Monitoring route south and east of Zeier Rd intersection.

Results of the initial monitoring session showed that the spread of the infestation is at least as far as the intersection of Lien Rd and Starkweather Creek, and at least as far northeast as the spring-fed pool.

Monitoring Visit #2

In order to facilitate monitoring of a larger area with more difficult conditions, the second monitoring visit was conducted via canoe and waders on August 22. The monitoring began well downstream of the initial infestation where Starkweather Creek runs adjacent to OB Sherry Park, just south of Milwaukee Ave. Staff paddled south from the point of embarkation at Ivy St to Olbrich Botanical Gardens. Paddling back north, staff then took the west branch of Starkweather Creek as far as S Fair Oaks Ave.

After paddling the small western segment out to S Fair Oaks, staff then paddled north of Milwaukee Ave, as far as the creek is navigable, until Highway 30. No water celery was found. Staff also monitored for Japanese knotweed infestations, and none were found visible from the shoreline.



Monitoring route via canoe south of Milwaukee Ave to Olbrich Gardens; west to S Fair Oaks Ave



Monitoring route north of Milwaukee Ave up to Hwy 30

Staff then transported the canoe up to the originally identified infestation at Zeier Rd and Starkweather Creek. Staff attempted to paddle the canoe north along Starkweather Creek, but found the creek was too clogged with downed trees. The rest of the monitoring survey proceeded on foot via waders. With waders, staff were able to traverse the creek all the way up to Interstate 39/94. Along the way, staff noted a great number of homeless encampments and many large areas of litter and pollution. Water celery was found at least as far north as area indicated on the map, about 0.35 miles from intersection of Zeier and the creek. Water celery was in flower at this time. The populations further east of the spring-fed pool were sparser and narrower, suggesting the infestation did not originate further east of the intersection where it was originally reported.



Northernmost population of water celery found in 2023.

Northernmost population of water celery found in 2023.



Monitoring flowering water celery in August east of Zeier Rd intersection.

Monitoring Results

The infestation of water celery along Starkweather Creek appears, at this time, to be located along a section of the creek ranging from about 0.35 miles east and north of the Zeier Rd intersection at the northernmost end, to the intersection of Lien Rd and the creek at the southernmost end. Monitoring did not reveal infestations south of Highway 30 in areas more heavily used for recreation.

Plans for 2024

Now that the apparent range of the originally reported infestation is generally defined, the plan for 2024 is to begin treatment of the infestation. City of Madison will put out a request for bids (RFB) for contractors capable of treating aquatic invasive species. The winner of the bid will follow the treatment plan outlined in the grantee's grant application, or a treatment plan that is substantially similar, or a treatment plan that is developed via close communication with DNR staff. The treatment plan outlined in the grant application is as follows:

Treatment #1: Foliar spray all vegetation present. Chemicals used will be aquatic approved herbicides such as Polaris AC (imazapyr), or aquatic approved formulations of glyphosate. If aquatic conditions require, applicators will be in possession of WI DATCP Aquatic Pesticide Applicator's License in category 5.0 Aquatic and Mosquito and will also obtain an Aquatic Plant Management Permit from Wisconsin DNR.

Treatment #2: Return to infestation no sooner than six (6) weeks after initial foliar applications. Foliar spray resprouts of all infestations. Chemicals used will be aquatic approved herbicides such as Polaris AC (imazapyr), or aquatic approved formulations of glyphosate. If aquatic conditions require, applicators will be in possession of WI DATCP Aquatic Pesticide Applicator's License in category 5.0 Aquatic and Mosquito and will also obtain an Aquatic Plant Management Permit from Wisconsin DNR.

Staff will also continue monitoring for water celery along Starkweather Creek with an emphasis on areas north of Highway 30 and south of Lien Rd. Staff will also begin outreach to local residents, beginning with Friends of Starkweather Creek (FSC), a local advocacy group that supported this grant application. Staff will train the Friends group and other interested residents on identification of water celery, and provide them with DNR Monitoring Form 3200-153, "Aquatic Invasive Species Incident Report" and/or information on how to use DNR SWIMS for monitoring and reporting.

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