

AIS Early Detection & Response Grant Application City of Madison Japanese Knotweed Progress Report 2023

Treatment Sites

As a recipient of an Aquatic Invasive Species Early Detection and Response Grant, the City of Madison monitored and controlled Japanese knotweed (*Polygonum cuspidatum*) infestations at the following submitted sites in 2023:

--Marine Tops Unlimited (219 N Fair Oaks Ave)

--Olin Park Woods

--Commercial Ave @ Mayfair Bike Path

--S dead end of Ingersoll St

--Dixon St railroad right of way

--4151 Nakoosa Tr

--Lake Wingra Bike Path

--Odana Hills Golf Course

--Cannonball Bike Path

--331 S Broom St railroad right of way

--John Nolen Dr Retention Pond

--Eau Claire @ Old Middleton Rd

Treatment Process

2023 was the fifth year of treatment for most sites. As in 2022, the bulk of time spent on Japanese knotweed treatments was spent carefully scouting for small resprouts and satellite infestations. Far less time was spent cutting or spraying than in previous years, but more time was spent on most sites overall due to the need to carefully scout each infestation site.

Once located, infestations at each of these sites underwent one (1) round of treatment in 2023. This is down from 2022 when a few larger sites received two (2) rounds of treatment. This is due to the decrease in size and vigor of infestations at all sites, and the desire to consolidate site visits by City staff performing the work. Only one site, Cannonball Bike Path, might have benefited from two rounds of treatment as described below. Most sites had small, weak populations of knotweed that were easily foliar sprayed.

Treatment methods used were as follows:

Sites Requiring One Round of Treatment

Treatment: Foliar spray all canes, leaves and sprouts to dripping point.

Sites Requiring Two Rounds of Treatment

Treatment #1: Mowed or cut stands.

Treatment #2: Foliar sprayed resprouts of all infestations. Herbicide application treatments primarily occurred during active bloom time in August and September. Some treatments occurred in October.

No sites received the above treatment in 2023.

Progress for Fourth-Year Treatment Sites

All sites except the Cannonball Bike Path were treated for the fifth time in 2023. After five years of treatment, original infestations at all sites appear greatly reduced in size. Infestation areas did not appear to have increased between pre and post treatment.

The original infestation at **4151 Nakoosa Tr** was located under the power lines backing up to the retention wall behind properties fronting Walsh Rd in a sumac clone. While there were no sprouts in general area of original infestation in 2022, there was one stand in this area at top of slope found in 2023. No sprouts were found further south under power lines in sumac stand, but again sprouts were discovered in mown area around the retention pond. Presumably, canes are being spread by mowers in this area, though the number of small sprouts discovered in the mowed area were fewer than in 2022. Going forward, Engineering staff will work with mowing staff to ensure that small resprouts are sprayed earlier in the summer before mowing occurs.

There was construction work and large disturbances at **219 N Fair Oaks Ave—Marine Tops Unlimited** that razed the existing Marine Tops business and prevented City staff from accessing the original infestation site. Fortunately, after four years of treatment, the infestation at this site was well under control. Unfortunately, the stand on adjacent private residential property at 117 N Fair Oaks Ave appeared to be untreated. Engineering again reported this infestation to Building Inspection for enforcement of Madison Noxious Weed ordinance MGO 23.29. Staff also did a survey by canoe of Starkweather Creek shoreline along the frontage of 219 N Fair Oaks and found no visible canes.

The infestation at **Commercial Ave @ Mayfair Bike Path** was again largely contained in 2022 with only a few small resprouts in evidence. Again, a few canes were found in the dense weedy

area along the railroad right of way. This infestation was taller and more visible than the satellite found in 2022, but the site overall requires careful monitoring in the dense stands of musk thistle, Canada thistle, burdock and other weeds adjacent to the railroad right of way.

The original infestation at **Dixon St railroad right of way** that appeared to have been eradicated in 2022 remained clear of shoots. The satellite infestation discovered about 350' NE of the original infestation, also along the railroad right of way, was reduced in size and again treated. Small resprouts were found and treated NW of the original infestation, north of the railroad tracks.

Only a few small shoots were found and treated on public land at the **S dead end of Ingersoll Street**. The shoots were growing out of the riprap along the shoreline so great care was taken to angle spray where it would not drift into the lake. The adjacent private property owner, who may have been the source of the original infestation, continues to control canes on his property.

Progress was made at controlling the infestation at **331 S Broom St** in 2023. After a year of non-compliance by private property owners at controlling the infestation in 2020, Engineering staff reached an agreement with private property owners allowing them to treat the infestation in 2021. The size of the infestation was decreased by about 75% between 2021 and 2022, but construction at adjacent private properties made it impossible to treat some canes in 2022. Construction was complete by the time of treatment in 2023, and only a few sprouts were evident and sprayed in areas that had been matted and seeded with turf grass. The area will continue to require careful monitoring as construction activity is likely to have caused spread.

The infestation was no longer evident at the **John Nolen Dr Retention Pond** infestation, but the original infestation, as well as a small, downstream secondary infestation were cut and treated here. Shoots were small and sickly in appearance.

The infestation at **Wingra Bike Path** remains small, but many small resprouts scattered throughout the woods south of the bike path set back from the shoreline present an ongoing challenge for Engineering staff and careful monitoring.

Eau Claire and Old Middleton infestation remained greatly reduced in size with a few scattered resprouts scattered amongst the Canada thistle monoculture that sprang up after the main infestation was controlled.

After not finding canes in 2022, it was disappointing to discover a small stand of knotweed growing along the edge of the ninth hole at **Odana Hills Golf Course**. Another infestation along DOT land appeared to have been treated by DOT. This site will continue to require careful monitoring as a large infestation on DOT land south of the Beltline Hwy was noted by City staff in 2022. It is possible this infestation is sharing a rhizome system with the golf course infestation, or that vegetative particles or seeds are being transported from this large, Beltline infestation into the golf course. City staff did note that the large infestation N of the Beltline

had been cut, and presumably was later treated so this is good news for efforts to control all knotweed in the area.

The infestation at **Olin Park Woods** appeared to have no active shoots for the fourth year in a row! The area will be closely monitored for resprouts in the future, but eradication is presumed.

Progress for Cannonball Bike Path Treatment Site

Prior to the start of the AIS grant in August of 2018, the Japanese knotweed infestation on the Cannonball Bike Path was treated for the first time. In 2018 the site underwent one round of a foliar application of imazapyr. Quercus Land Stewardship Services performed this treatment.

In 2019 the infestation already appeared reduced in size from the previous year. After undergoing the two treatments there appeared to be no increase in the size of the infestation.

In 2020 the infestation appeared reduced in size across 95% of the site, and similar in size across 5% of the site. On the 5% of the site where the infestation appeared to have remained the same in size, it is possible the contractor missed this part of the infestation and it was not subjected to either treatments.

In 2021 the main infestation remained at 95% or less of its original size, with some secondary infestations creeping out from the original center of the infestation. Careful scouting was done across the entire area to ensure all stray canes were treated.

In 2022, despite having been in treatment for five years, the main clone appeared to have more satellite infestations of medium to small size. New satellite populations were discovered along the steep slopes adjacent to railroad. The tall, weedy vegetation established here may have hid small infestations, and these small infestations grew large enough to be noticeable in 2022. It is likely that scouting was not careful enough on the steep slope in previous years due to the difficult nature of walking this slope. These satellite infestations were large enough to require treatment approach #2. Careful and thorough scouting was undertaken by Engineering staff in 2022, and infestations were flagged with pink flagging tape to increase visibility for 2023 treatments. A few small resprouts were found immediately adjacent on the west side of the bike path, including small resprouts that were likely spread by mowers in the 5' wide courtesy cut area.

In 2023 much time was spent scouting at Cannonball bike path. Some progress appeared to have been made as the largest stands found were both smaller in size. The largest satellite infestation was approximately 3' x 4' with cane heights about 4'. All stands were foliar sprayed. The terrain at this infestation required careful consideration of staff safety as the slopes are steep, sandy or gravelly, and heavily vegetated with invasive shrubs, burdock and thistles, brambles and other difficult to navigate species. Resprouts adjacent to the bike path in the

courtesy cut area were greatly reduced in size and vigor from 2022. This site will require continued monitoring and treatment for years to come. At this time, Engineering staff plan to continue to pursue this work.

Japanese Knotweed Genetics Study

In 2023 City of Madison Engineering participated in a [knotweed genetics study](#) being performed by the University of Wisconsin-Whitewater. Staff collected samples of knotweed from various sites across the City, including from some AIS grant sites. This effort is not directly related to grant work, but may help inform future control efforts in the City of Madison, including on sites that have been part of this grant.

City Staff Treatments

City staff performed all Japanese knotweed treatments for this grant for the third time in 2023. All of the AIS grant sites have reached a size that specialized equipment is no longer required, but careful scouting by caring staff is the best control measure. Monitoring and control work on AIS grant sites was performed by two full-time hourly employees, and two seasonal employees. All staff working on the AIS grant are certified to apply herbicide by the WI Department of Trade and Consumer Protection in category 6.0, Right of Ways and Natural Areas.

Contact information for City Engineering Staff is as follows:

Madeline Dumas
City of Madison Engineering Division
Greenway Vegetation Coordinator
City-County Building, Room 115
Madison, WI 53703
608-266-9525 (work)
612-227-7671 (cell)
Mdumas2@cityofmadison.com