
To: Mary Gansberg
Wisconsin Department of
Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313

From: Melissa Curran
Stantec Consulting Services Inc.
1165 Scheuring Road
De Pere, WI 54115

File: AIS Grant ACEI-167-15
Stantec Project# 193703791

Date: March 3, 2016

Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – Annual Project Summary,
Manitowoc County Lakeshore Project***

Lakeshore Natural Resource Partnership (LNRP) was awarded grant funding in 2015 (ACEI-167-15) to treat the invasive European subspecies of common reed grass (*Phragmites australis* subsp. *australis*) along the Lake Michigan shoreline in Manitowoc County (the "Project Area"). This technical memorandum summarizes 2015 treatments performed under the Aquatic Invasive Species (AIS) Grant for Established Population Control awarded to LNRP.

BACKGROUND

The 2015 control efforts focused on treating common reed grass along the shoreline ecosystem. There are approximately 35 miles of shoreline in Manitowoc County consisting primarily of sand and cohesive bluffs (45%), with the remainder comprised of low banks (28%) and sand beaches (23%). Approximately 4% of the shoreline is artificial waterfront, mostly in the City of Manitowoc. Bluff height varies from 60 feet in the southern extent at the Manitowoc-Sheboygan county line to 40 feet in north-central Manitowoc County. The steep bluffs are continuous except where interrupted by valleys containing perennial and intermittent waterways. The shoreline ecosystem provides unique challenges with respect to control of non-native common reed grass.

The purpose of treating common reed grass along the shoreline is to make beaches useable; to improve shoreline habitat for plant and animal species; to improve riverfront and lakefront property values and maintain a tax base; to promote tourist amenities; to ensure recreational, birding and fishing access; to promote an ecological balance and natural aesthetics; and to minimize the spread of common reed grass to other rivers and waterbodies.

Only recently have non-native treatment efforts focused on controlling populations of common reed grass in Manitowoc County. These efforts have largely been focused on select waterways or areas adjacent to high conservation value lands (i.e., state natural areas, state parks). The project goals are to expand upon these initial efforts and include a much broader project area; thereby significantly reducing the footprint and expansion potential of this aggressive non-native species. The original project plan was to implement treatment efforts in phases; starting along the Lake Michigan shoreline, and moving to adjacent tributaries and other isolated inland pockets as funding allowed. Future efforts will focus only on the shoreline ecosystem because this project was not fully funded.

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MANAGEMENT CONDUCTED

Chemical treatments were performed by certified and licensed pesticide applicators within the state of Wisconsin for aquatic applications. Treatments were conducted on September 16, 17, 21, 22, 23, 24, 28, 29 and 30, and October 6, 7, 8, 12, 13 and 14.

Several methods of chemical (herbicide) control were used to treat common reed grass within the Project Area. The control methods selected for a given site varied depending upon the location, size/stage of the infestation, site dynamics, the presence of rare biotic communities, threatened, endangered or special concern plant or animal species, sensitive natural resources, and resources available.

Wick application via backpack and rubber-tracked, low-ground pressure UTV was used where access was appropriate; such as on sand or rock beach, solid soils, and herbaceous-dominated communities. Wicking typically uses a higher concentration of active ingredient relative to spraying (label-suggested rate: 33% glyphosate) which produces a rapid and effective kill on target common reed grass with little to no residual action. UTV's with rubber tracks allow for very low ground pressures (0.5 lbs/sq. in.) and reduced rutting and soil compaction relative to wheeled vehicles. The wick is mounted on the front of the UTV, and can be manually raised or lowered to the height of the target vegetation. Wicking was used where common reed grass populations were scattered and mixed with native, short-stature vegetation.

Foliar spray application was used for populations where common reed grass density was high, the target vegetation was greater than 8 ft. in height, and the potential to impact sensitive resources was low. During foliar spray application, herbicide is applied to the leaf surface indirectly via airborne droplets, which may affect both target and non-target vegetation in the spray zone. Foliar spray was applied via backpack, UTV-mounted boom, UTV-mounted spray gun, or from a boat-mounted spray gun. Backpack treatments were used in areas with rough terrain, soft sediments, and wooded/shrubby areas; where UTV access was not permissible. Boat-mounted spray gun application was used along the shorelines where UTV access was not possible.

CONCLUSION

Stantec performed invasive common reed grass herbicide treatments within the Project Area on behalf of LNRP with support of their WDNR AIS Established Population Control grant funding. Treatments were initiated in fall 2015 to treat populations of invasive common reed grass along the Lake Michigan shoreline. Follow-up treatments are proposed in 2016 to target re-growth and newly-identified populations. Monitoring shall also be performed in 2016 to determine treatment success and identify future treatment needs.



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Please contact me or Jim Kettler (920-304-1919, jim@lnrp.org) if you need any additional information regarding the invasive treatments performed as part of this project.

STANTEC CONSULTING SERVICES INC.

A handwritten signature in black ink that reads 'Melissa Curran'.

Melissa Curran
Environmental Scientist/Botanist
Phone: (920) 592-8400
Fax: (920) 592-8444
Melissa.Curran@stantec.com

Attachments: Photographs
Treatment Records

c. Jim Kettler (jim@lnrp.org) – electronic copy

Photographs



Photo 1. UTV-mounted spray gun treatment method



Photo 2. Pre-treatment conditions mixed with woody vegetation

Photographs

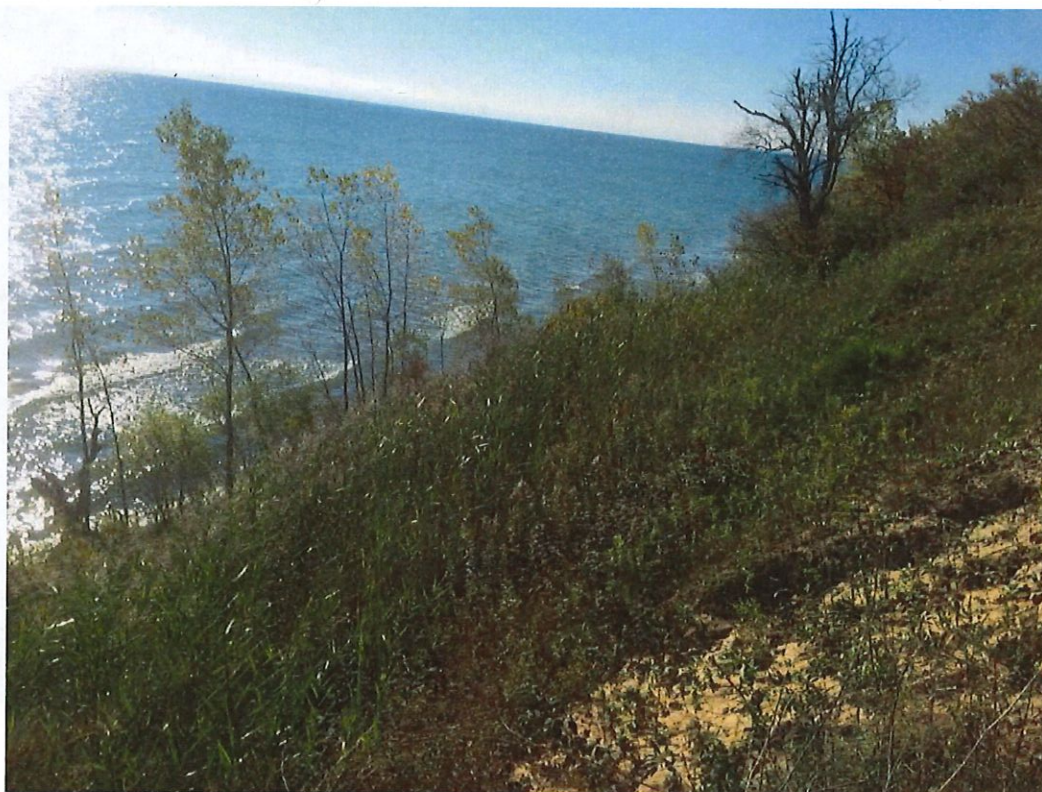


Photo 3. Pre-treatment conditions in 2015, note steep slopes



Photo 4. UTV-mounted wick application

Photographs



Photo 5. Boat-mounted spray gun application along shoreline



Photo 6. Pre-treatment conditions in 2015

Photographs



Photo 7. Pre-treatment conditions in 2015 along shoreline where UTV access was possible