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

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Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – 2016 Annual Project Summary,
Manitowoc County Lakeshore Project***

Lakeshore Natural Resource Partnership (LNRP) was awarded Wisconsin Department of Natural Resources (WDNR) Aquatic Invasive Species (AIS) Established Population Control 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 2016 treatments.

BACKGROUND

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 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.

Initial common reed grass treatments occurred in 2015 along a majority of the Lake Michigan shoreline where landowner permission was provided. 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 near the Manitowoc-Sheboygan county line to 40 feet in north-central Manitowoc County. The bluff shoreline ecosystem presents unique challenges with respect to control of non-native common reed grass. Treatments in 2015 were very successful along the bluff and sand beach shorelines based on site surveys performed in June 2016.

Follow-up treatments in 2016 under control grant ACEI-167-15 was only able to focus on the sand beach shoreline ecosystem near the City of Two Rivers and City of Manitowoc, due to funding constraints. LNRP will seek additional funding to continue control efforts within the low bank and bluff shoreline south of the City of Manitowoc as follow-up treatments in this area will not occur under control grant ACEI-167-15.

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MANAGEMENT CONDUCTED

Chemical treatments were performed by pesticide applicators certified and licensed in the state of Wisconsin for aquatic applications. Treatments were conducted on August 29-31, 2016.

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. Considering the success of the 2015 treatments, wick and spot treatment application was primarily used for follow-up treatments in 2016.

Wick application via backpack and rubber-tracked, low-ground pressure Utility Task Vehicle (UTV) was used where access permitted, such as on sand or rock beach, solid soils, and herbaceous-dominated communities. Wicking typically uses a higher concentration of active ingredient than foliar spray application (label-suggested rate: 33% glyphosate) which produces a rapid and effective kill on target common reed grass with little to no residual action. UTVs 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 via backpack was used for populations where 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. Backpack spray application treatments were used in areas with rough terrain, soft sediments, and wooded/shrubby vegetation where UTV access was not permissible.

CONCLUSION

Stantec performed invasive common reed grass herbicide treatments within the Project Area on behalf of LNRP with support from 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, with follow-up treatments over a reduced Project Area in 2016 to target regrowth. Additional follow-up treatments are proposed in 2017 to target re-growth and newly-identified populations. Monitoring shall also be performed in 2017 to determine treatment success and identify future treatment needs.

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

STANTEC CONSULTING SERVICES INC.



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Manitowoc County Lakeshore Project***

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Attachments: Photographs
Treatment Records

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

Photographs



Photo 1. Illustrating 2015 treatment results of a dense shoreline stand



Photo 2. Spot wicking of scattered re-growth

Photographs



Photo 3. Spot wicking of scattered re-growth



Photo 4. Illustrating 2015 treatment results of scatted stems

Photographs



Photo 5. Illustrating 2015 treatment results of large population



Photo 6. Illustrating 2015 treatment results along the bluff shoreline