

Manitowoc County Phragmites Control Phase II
Project Number: ACEI18917
Grant Cycle: April 15, 2017 to December 31, 2019

RE: Final Report

The following is the final report that outlines the deliverables as defined in the DNR Scope of Work as contained in the grant agreement.

Deliverables:

- All Data Collected
- Agendas and Minutes

Activities

- Continue implementation of adaptive mapping
- Participate in collaborative research with UWGB
- Implement treatments in phase two project area
- Identify suitable revegetation sites and install native vegetation
- Facilitate coordinated, community-focused efforts with private landowners, non-profits, and local governments (see Tom's list of town engagements)
- Continue education and outreach efforts
- Conduct trainings for treatment and control on ROW and public lands
- Develop final report

From LNRP

Meetings and Conference Calls

- 1 May 10, 2017: LNRP, Stantec, MCLA
- 2 Conference Call May 23, 2017
- 3 Conference Call July 24, 2017
- 4 August 02, 2017
- 5 Conference Call August 7, 2017
- 6 August 8, 2017
- 7 September 11, 2017
- 8 October 11, 2017
- 9 December 14, 2017
- 10 December 18, 2017
- 12 January 10, 2018
- 13 January 10, 2018 Meeting with Highway Department
- 14 February 14, 2018
- 15 April 6, 2018

16 May 29, 2018
17 Conference Call May 30, 2018
18 August 7, 2018
19 October 24, 2018
20 December 19, 2018
21 January 25, 2019

Work Plans

Work Plan: August 8, 2017
Phragmites Programming: October 27, 2017
Town Government Meeting Outline: December 11, 2017
NRCS Engagement: December 11, 2017
Town Engagement Plan: April 6, 2018

Education

Landowner Meetings (3): June 15, 19, 28, 2017
Landowner Mailings: (2): July 2017
Landowner Meeting: March 20, 2018
Manitowoc County Highway Department Training: April 11, 2018
DNR hosted workshop: April 27, 2018
Landowner Mailing: May 2018
ERSI Training: June 7, 2018
Landowner Meetings: (2): June 13 and 26, 2018

Outreach

Phragmites Brochure
LNRP Newsletter Spring 2017
LNRP Newsletter Summer 2017
Valders Journal 7/5/18
Grant Award Announcement 7/23/18
Outline for Town Newsletters - Centerville Clarion 6/18/18

Memo

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-189-17 Stantec Project# 193703791	Date:	April 5, 2019

Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – 2017 Final (2018)
Project Summary, Manitowoc County Collaborative Phragmites Project -
Phase 2***

Lakeshore Natural Resource Partnership (LNRP) was awarded Wisconsin Department of Natural Resources (WDNR) Aquatic Invasive Species (AIS) Established Population Control grant funding in 2017 (ACEI-189-17) to treat the invasive European subspecies of *Phragmites* (*Phragmites australis* subsp. *australis*) as part of the County-wide Phase 2 project area. More specifically, Phase 2 included: 1) Lake Michigan shoreline from the Kewaunee/Manitowoc county line south to Point Beach State Forest; 2) 11.3 miles of shoreline from the southern limits of the City of Manitowoc to the northern limits of the Village of Cleveland; and 3) inland populations throughout the near-lakeshore townships, which include the Towns of Centerville, Newton, Manitowoc Rapids, Two Rivers, Two Creeks and Mishicot. This technical memorandum summarizes the second and final year of treatment under this grant.

BACKGROUND

LNRP has been implementing control of invasive *Phragmites* in Manitowoc County since 2013. In 2015, LNRP received Phase 1 project funding (ACEI-167-15 and AIRR20216) from WDNR to control *Phragmites* along portions of the Lake Michigan shoreline, including the shorelines within the City of Two Rivers, City of Manitowoc and Point Beach State Forest (approximately 15 continuous shoreline miles). The Phase 1 treatments were completed in 2015, 2016 and 2017.

Phase 2 funding was secured to build on the initial Phase 1 success by expanding the control efforts westward throughout the near-lakeshore townships of Centerville, Newton, Manitowoc Rapids, Two Rivers, Two Creeks and Mishicot. The purpose of treating invasive *Phragmites* is to make beaches useable; to improve shoreline and wetland 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 spread to other wetlands, rivers and waterbodies. The spread and colonization of *Phragmites* has severe consequences to native ecosystems. Control efforts for Phase 2 were completed in 2017 and 2018.

SCOPE OF WORK

The goals and objectives for Phase 2 of this project were to: 1) continue implementation of adaptive mapping to monitor treatment success and extent of invasive *Phragmites* across the county; 2) participate in collaborative research with UW-Green Bay Cofrin Center for Biodiversity; 3) implement treatments to address emerging infestations and reduce established populations within the Phase 2 project area; 4) identify suitable re-vegetation sites and install native vegetation; 5) facilitate coordinated, community-focused efforts with private landowners, non-profits and local governments to identify and implement long-term control strategies; 6) continue

Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – 2018 Project Summary, Manitowoc County Collaborative Phragmites Project - Phase 2***

education and outreach efforts on invasive species issues; and 7) conduct trainings for local governments who will conduct long-term control strategies within road rights-of-way and other public property. A summary of tasks completed and progress towards achieving the goals and objectives are described below.

MAPPING AND MONITORING

A secure Geographic Information System (GIS) web-map accessible to the project team was created specifically for this project to streamline data management, communication, progress tracking, and planning. Data layers are project-specific, and include existing *Phragmites* populations, treatment areas, and landowner parcels. These project-specific layers overlay base layers such as aerial photography, roads, waterways, and WDNR-mapped wetlands.

The web-map is accessible from both the office and field for real-time interaction. All team members can access the web map and map newly identified *Phragmites* populations from the field or office. *Phragmites* mapping is on-going and will continue beyond the Phase 2 project. Contracted field staff have the web-maps loaded onto mobile tablet devices enabled with Global Positioning System (GPS) capabilities. Field staff use this mobile data collection system to record the areal extent of any newly identified *Phragmites* populations and to document treatment site observations and management, including stand density; identification date; areal extent of treatment areas; documentation such as amount and type of herbicide used and treatment date; and treatment success (post-treatment monitoring).

This mobile data collection system has been used in lieu of traditional paper maps and data forms for field-based activities. Contracted office staff access the web-map to track and administer on-the-ground efforts, including manage progress of field crews; perform quality control of recorded data; update parcel access status when new permissions are received from landowners; assign treatment areas to each field crew; and manage herbicide treatment records. The web-map allows the project team to track project success across all of Manitowoc County and work occurring in adjacent counties.

COLLABORATIVE RESEARCH

LNRP and Stantec Consulting Services, Inc. (Stantec) are partnering with the United States Geological Service (USGS) and Great Lakes Commission (GLC) to provide field monitoring data for the development of an adaptive management framework for *Phragmites* across the Great Lakes Basin, known as the *Phragmites* Adaptive Management Framework (PAMF). PAMF seeks to improve Best Management Practices (BMPs), promote consistent monitoring efforts across the basin, and make progress toward a regional strategy for the effective and efficient management of *Phragmites* across the basin. LNRP and Stantec partner with USGS and GLC by providing monitoring and treatment data from sites within the project area. Monitoring data from eight sites was provided to USGS and GLC in 2017 (pre-treatment) and 2018 (post-treatment). LNRP and Stantec also provided treatment data to UW-GB Cofrin Center for Biodiversity to support a research grant funded by the WDNR.

TREATMENTS

Herbicide treatments were performed by pesticide applicators certified and licensed in the state of Wisconsin for aquatic applications. Treatments were conducted from August 13 to October 18, 2018. Several methods of chemical (herbicide) control were used to treat *Phragmites*, which 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. Foliar spray application via backpack, and

Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – 2018 Project Summary, Manitowoc County Collaborative Phragmites Project - Phase 2***

large volume spray tanks mounted on an amphibious vehicle or tracked Utility Task Vehicle (UTV) was used for populations where the target vegetation was greater than 8 ft. in height, and the potential to impact sensitive resources was low. 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. 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.

Wick application via backpack was used where invasive *Phragmites* populations were scattered and mixed with native vegetation, as wicking typically is more selective to target species than foliar treatment. Wicking uses a higher concentration of active ingredient than foliar spray application which produces a rapid and effective kill on target invasive *Phragmites* with little to no residual action. Herbicide type and percent active ingredient are listed on the attached NR107 treatment records. Posters illustrating treatment locations are also attached.

REVEGETATION

LNRP was successful in securing additional funds via the US Environmental Protection Agency, Great Lakes Restoration Initiative (GLRI) to complement and expand invasive *Phragmites* control efforts funded by WDNR. Therefore, restoration and revegetation efforts on treatment areas will be performed as needed using GLRI funds following one additional year of monitoring and treatment in 2019.

EDUCATION AND OUTREACH

LNRP and project partners completed the following education and outreach activities:

Date	Purpose	Target Audience
Landowner mailing		
July 2017 May 2018	Prepared and mailed brochures, letters and postcards.	Landowners with <i>Phragmites</i> populations.
Landowner Open House/ Presentations		
June 15, 19 and 28, 2017 July 2017 April 27, 2018 June 13 and 26, 2018	LNRP and partners hosted open houses to present project details and answer questions.	General public, but notice was provided to landowners with <i>Phragmites</i> populations.
Municipal Training/Meetings		
January 10, 2018 March 29, 2018 April 11, 2018 March 14, 2019 March 21, 2019 Various town meetings throughout 2017, 2018 and 2019	LNRP and partners led training sessions for municipalities to discuss project tasks and request participation and landowner outreach support.	Municipal staff (County and Township)

LOCAL GOVERNMENT TRAININGS

Training sessions and presentations discussed invasive plant identification, herbicide use, BMPs, herbicide timing, other management tactics (i.e., burning, mowing), post-treatment monitoring,

Reference: ***Aquatic Invasive Species Control Grant ACEI-167-15 – 2018 Project Summary,
Manitowoc County Collaborative Phragmites Project - Phase 2***

and long-term commitments. While *Phragmites* was the focus, the training sessions included additional invasive plant species common to road rights-of-way. Training sessions also include all local governments in Manitowoc County.

LONG-TERM IMPLEMENTATION

LNRP continues to collaborate with a variety of partners regarding ongoing control strategies. These include, Woodland Dunes Nature Center and Preserve, City of Manitowoc, Manitowoc County, Manitowoc County Lakes Association, WDNR, USDA Natural Resources Conservation Service and all eighteen Townships in Manitowoc County. Through this grant, LNRP has established new relationships with local governments to ensure long-term and coordinated control of *Phragmites* within roadway corridors across Manitowoc County. All local governments within the Phase 2 project area have agreed to control *Phragmites* within their respective jurisdictions as part of their annual management. Additionally, the Towns are considering establishment of a management fund to provide long-term control on private properties. The intended outcome is a sustained reduction of *Phragmites* across the county to low levels that can be controlled on an annual basis without the need for significant resource inputs.

The Phase 2 project scope was completed as proposed in 2017 and 2018, except for revegetation. The revegetation task will be completed as needed after one additional year of control in 2019 using federal funds. LNRP will continue control as needed within the Phase 2 project area using grant or local funds and will continue to work with municipalities for long-term, sustained control. Please contact me or Jim Kettler (920-304-1919, jim@lnrp.org) if you need any additional information regarding the tasks performed as part of this project.

STANTEC CONSULTING SERVICES INC.



Melissa Curran
Environmental Scientist/Botanist
Melissa.Curran@stantec.com

Attachments: Photographs
Treatment Records
Township Posters - Centerville, Newton, Manitowoc Rapids, Two Rivers, Two Creeks
and Mishicot

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

Photographs



Photo 1. Small and scattered re-treatment in 2018



Photo 2. New patch identified for treatment in 2018

Photographs



Photo 3. Follow-up treatment for roadside population, showing dead stems from 2017 treatment



Photo 4. Dead stems from 2017 treatment

Photographs



Photo 5. Small roadside population, showing dead stems from 2017 treatment



Photo 6. New treatment patch in 2018

Photographs

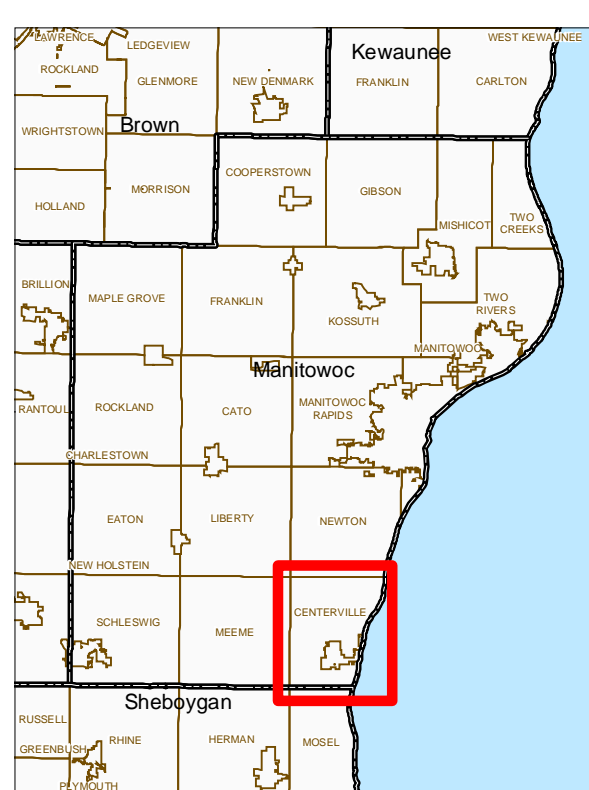
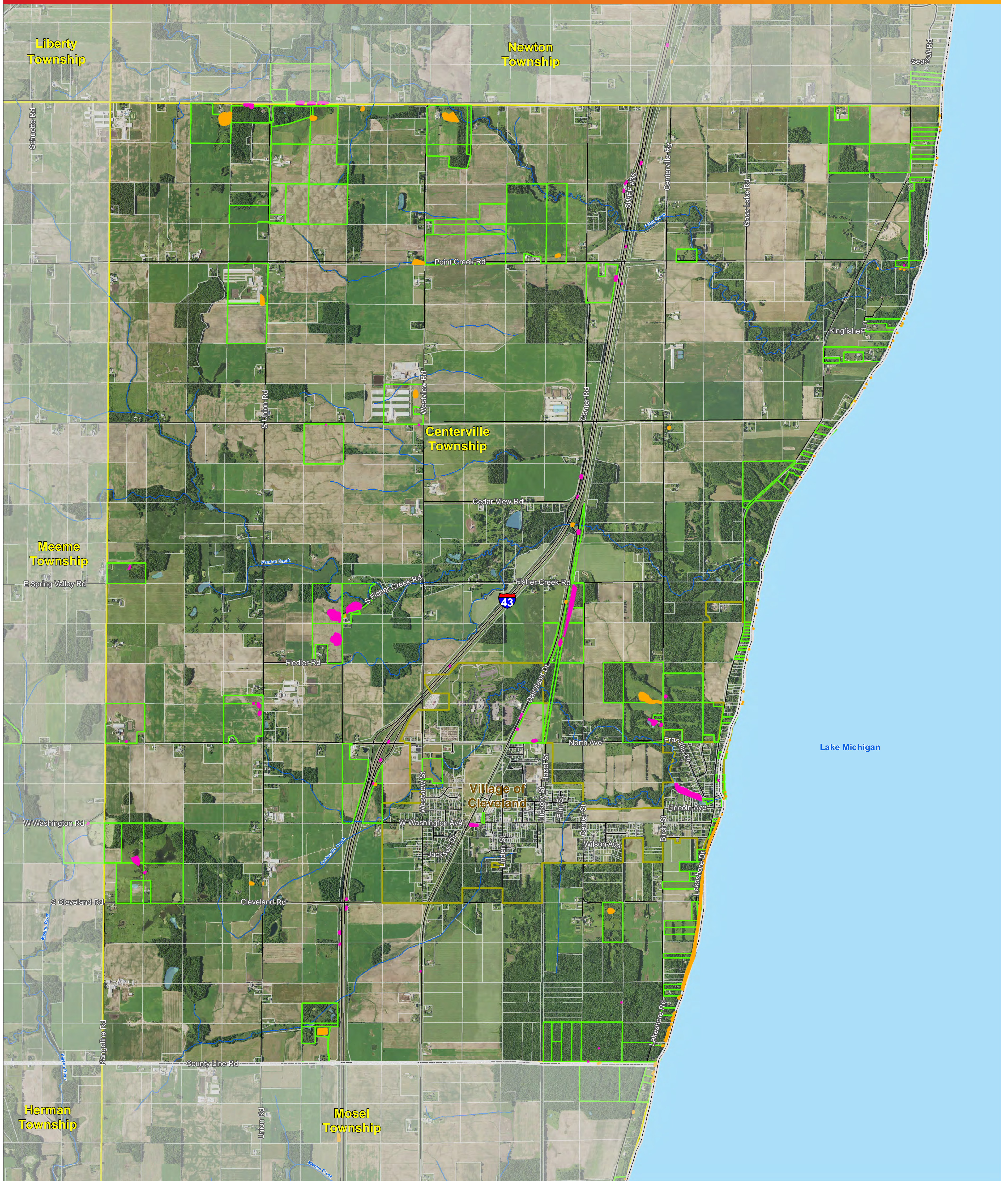


Photo 7. Showing 2018 re-treatment



Photo 8. Dead stems from 2017 treatment on one side of fence, with live stems on the other side where treatment was not successful in 2017 due to grazing

Manitowoc County Phragmites Control: Centerville Township



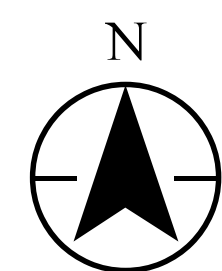
Legend

- Parcel Boundary
- Parcel Access Granted
- Perennial Stream
- Waterbody
- Phragmites Area**
- Untreated
- Treated

Need a permission form? Have questions?

For permission forms and to report populations, contact:
 Melissa Curran, Environmental Scientist
 (920) 841-1072 | Melissa.curran@stantec.com

For general questions, contact:
 Tom Ward (or your Township representative)
 (920) 588-0047 | tomward@tm.net

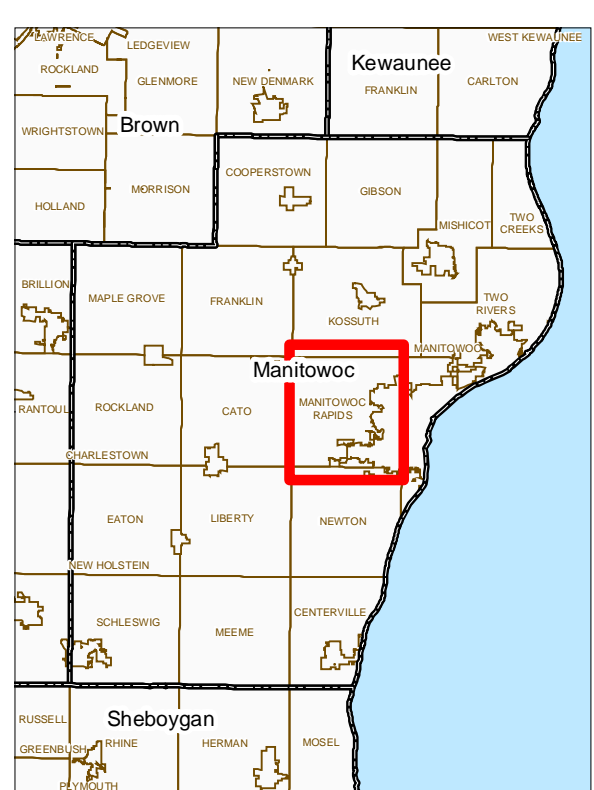
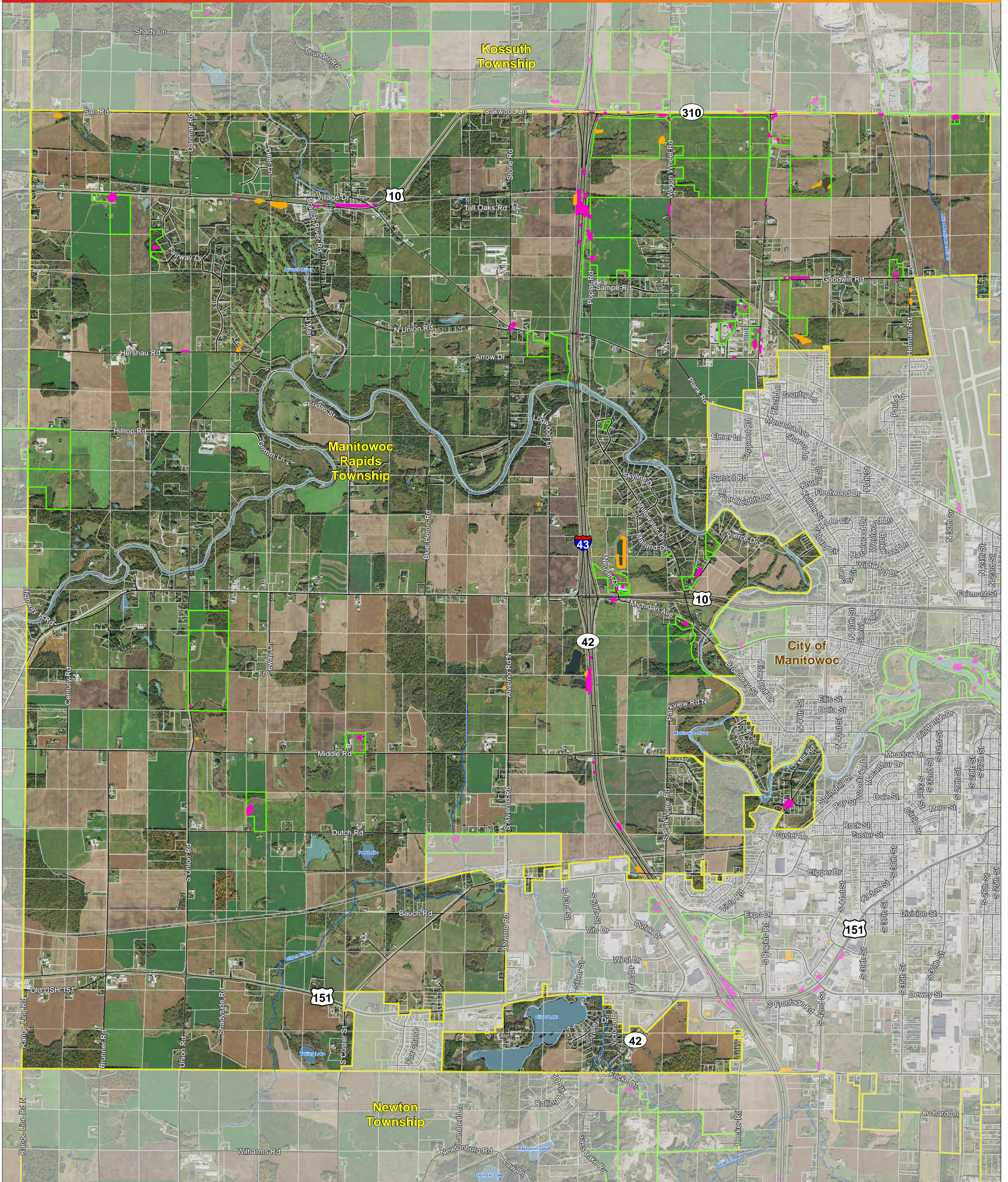


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Manitowoc County Phragmites Control: Manitowoc Rapids Township



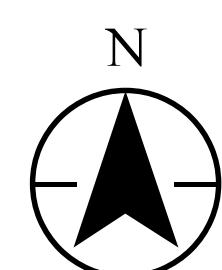
Legend

- Parcel Boundary
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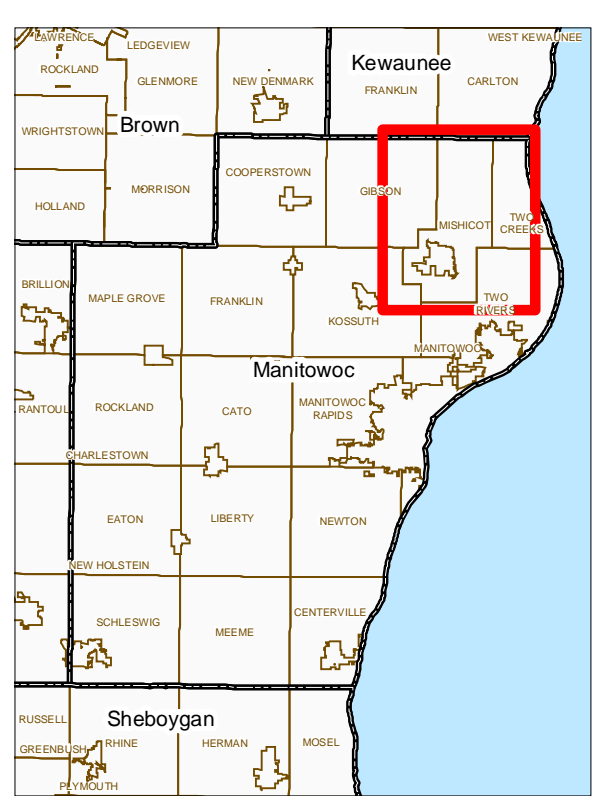
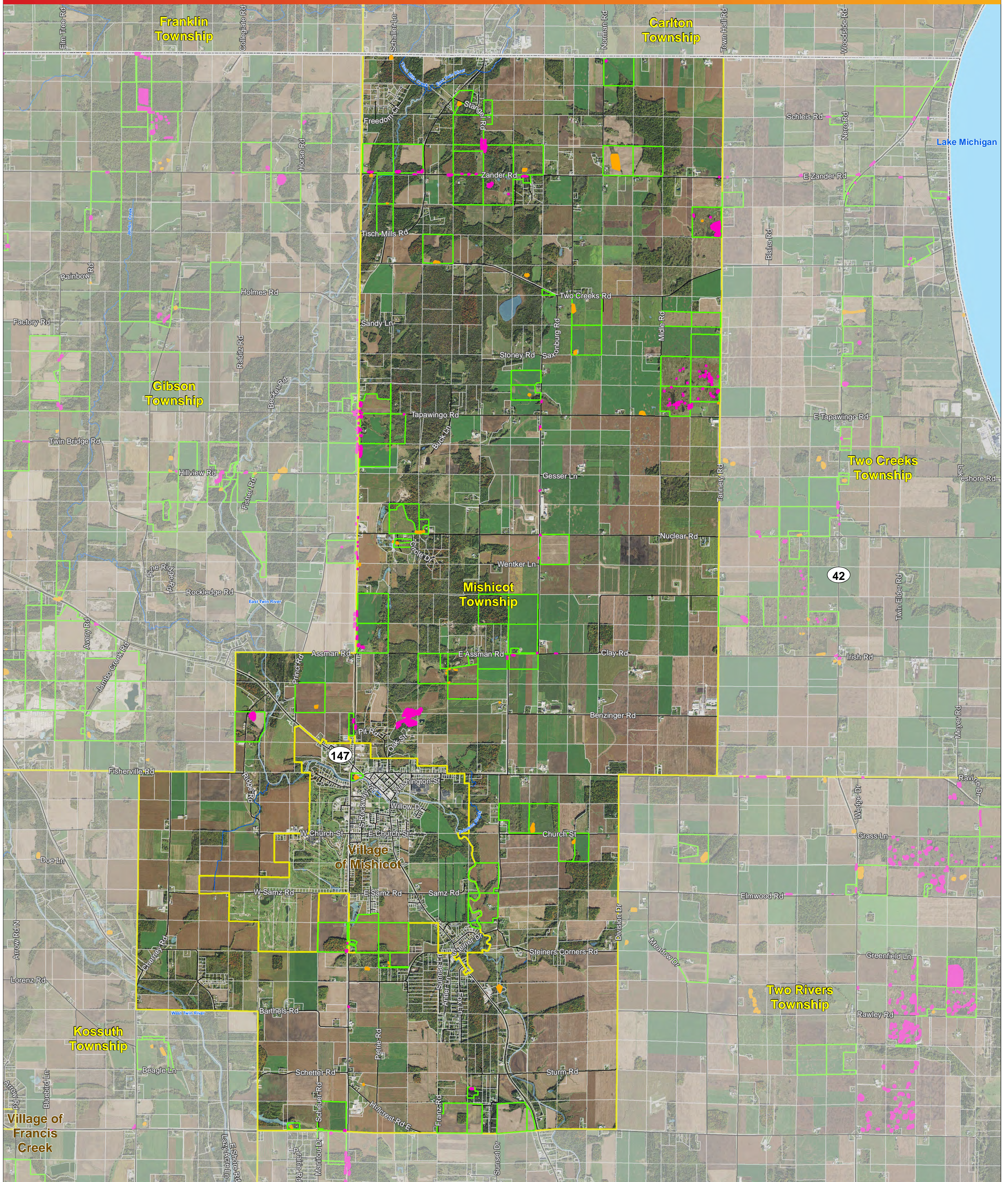


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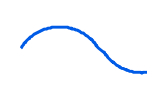



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Manitowoc County Phragmites Control: Mishicot Township



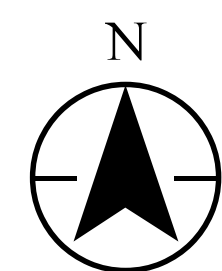
Legend

-  Parcel Boundary
-  Parcel Access Granted
-  Perennial Stream
-  Waterbody
- Phragmites Area**
-  Untreated
-  Treated

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