Detroit River-Western Lake Erie Cooperative Weed Management Area
2023 Annual Report – 2024 Operating Plan

***Photo 1**. A wetland with American lotus and trees in the background, under blue sky. Detroit River International Wildlife Refuge's Gibraltar Bay Unit. Credit: Jess Davenport/DR-WLE CWMA*

Membership

Alliance of Downriver Watersheds
Bay Creek Hunt Club
City of Monroe
DTE Energy
Ducks Unlimited, Inc.
Eastern Michigan University
Huron Clinton Metropolitan Authority,
Lake Erie Metropark
International Wildlife Refuge Alliance
MI Department of Natural Resources Wildlife Division,
Pointe Mouillee, Pointe aux Peaux, and Erie State Game Areas
Monroe Conservation District
Monroe County Road Commission
National Park Service,
River Raisin National Battlefield Park
The Nature Conservancy
River Raisin Institute
Sisters, Servants Immaculate Heart of Mary
Southeast Michigan Council of Governments
The Stewardship Network
U.S. Fish and Wildlife Service,
Detroit River International Wildlife Refuge
Wayne County Parks,
Crosswinds Marsh and Refuge Gateway
Wildlife Habitat Council
Wyandot of Anderdon Nation

Background

The 21 member Detroit River-Western Lake Erie Cooperative Weed Management Area (DR-WLE CWMA or CWMA) collaborates on "preventing the establishment and spread of plant species that are both non-native (not present on an evolutionary time-scale) and invasive (significantly reduce conservation values)..." The CWMA emphasizes detection, inventory, and monitoring; information exchange between members to prevent new invasive species from establishing; and active engagement in invasive species removal.

The DR-WLE CWMA manages current and emerging invasive plant species by using species-specific best management practices. In 2018, a three-tiered system for designating management importance was created that prioritized treatment of invasive species based on three criteria: 1) new or newly emerging invasive species were prioritized over well-established species; 2) invasive species that were more likely to rapidly take over were prioritized over slow invading species; and 3) treatment that significantly benefitted a site was prioritized over invasive species present on land where treatment has little anticipated effect. This new system reframed the focus on aquatic and terrestrial invasive species to better detect and target necessary management (**Table 1**).

Table 1: *Species included in three-tiered invasive species management prioritization based on known invasive species in 2023.*

Group 1	
Black swallow-wort	*Cynanchum louiseae*
Chinese yam	*Dioscorea polystachya*
Black alder	*Alnus glutinosa*
Floating primrose-willow	*Ludwigia peploides*
Giant knotweed	*Fallopia sachalinensis*
Japanese knotweed	*Fallopia japonica*
Pale swallow-wort	*Cynanchum rossicum*
Parrot-feather milfoil	*Myriophyllum aquaticum*
Water hyacinth	*Eichhornia crassipes*
Water lettuce	*Pistia stratiotes*
White poplar	*Populus alba*
Yellow flag	*Iris pseudacorus*

Group 2	
European frog-bit	*Hydrocharis morsus-ranae*
Flowering rush	*Butomus umbellatus*
Common reed (Phragmites)	*Phragmites australis australis*

Group 3	
Autumn olive	*Elaeagnus umbellate*
Canada thistle	*Cirsium arvense*
Common buckthorn	*Rhamnus cathartica*
Dame's rocket	*Hesperis matronalis*
Garlic mustard	*Alliaria petiolata*
Glossy buckthorn	*Frangula alnus*

Year Summary

The strike team went through a complete turnover this year. Strike team leader Alexa Blankenship left her position with the DR-WLE CWMA in April 2023 for a full-time position as a biological technician with the Detroit River International Wildlife Refuge (DRIWR). Emma Delie departed in March after a year as a strike team technician for a position with the Clinton River Watershed Council. As a result of these departures, the CWMA was able to hire Jess Davenport in June as our invasive species coordinator and Kaitlyn Chisholm was brought in as a full-time strike team technician in August. Jess and Kaitlyn received much of their training from Alexa through the treatment season. The pair have loved working with each other and look forward to growing the strike team together in seasons to come.

Training & Outreach

Throughout the year, the CWMA staff attended workshops, webinars, conferences, and trainings (**Table 2**) to keep their knowledge of best management practices up to date and learn about new advancements in the invasive species field.

Table 2*: Full list of invasive species related conferences, summits, and webinars attended from January to December 2023.*

Event Name	Type	Date Held
Great Lakes Phragmites Collaborative: Cut-to-drown management: taking advantage of high Great Lakes water levels to control Phragmites	Webinar	1/17/2023
Not MI Species: If you can't beat 'em, find something that will eat 'em: biological control for invasive knotweeds	Webinar	1/18/2023
Northwest Michigan Invasive Species Network: Serve the Curve: Stopping Invasive Species Early	Webinar	1/18/1023
NAISMA: The Blue Ribbon AIS Commission - Process, Participation and Final Report	Webinar	1/18/2023
Lakes States Fire Science Consortium: Fire and Wildlife", a Fueling Collaboration panel discussion	Virtual Panel	1/19/2023
US EPA: Integrated Pest Management Series: UPDATES FOR MANAGING THE ASIAN LONG-HORNED BEETLE (ALB) (90-minute webinar)	Webinar	1/23/2023
Michigan Invasive Species Coalition: Annual Meeting	In-Person Conference	1/25-26/2023
Not MI Species: Lobster mobsters: an update on Michigan's red swamp crayfish response	Webinar	2/7/2023
NAISMA: Miller Creek Watershed Restoration: The Value of Partnership during a Pandemic	Webinar	2/15/2023
The Wildlife Society: Habitat Restoration: Addressing Challenges in a Changing World	Webinar	2/23/2023
NAISMA: Collaboratively Addressing Feral Swine and Preparing for African Swine Fever	Webinar	2/23/2023
Pierce Cedar Creek Institute: Virtual Herpetology Workshop: Conservation Concerns and Extinction Avoidance	Webinar	2/24/2023
Spot Spotted Lantern Fly: Spotted Lanternfly Annual Summit	Webinar	3/1-2/2023
Northwest Michigan Invasive Species Network: Backyard invasives - groundcovers and vines	Webinar	3/14/2023
US EPA: Integrated Pest Management Series: SPOTTED LANTERNFLY - UPDATE AND NEXT STEPS (90-minute webinar)	Webinar	3/14/2023
European frog-bit Collaborative: Spring Meeting	Meeting	4/17-18/2023
NAISMA: Ventenata: Ventenata (Ventenata dubia) Identification, Impacts, and Management Options	Webinar	4/19/2023
Great Lakes Phragmites Collaborative: 2023 GLPC Webinar Series: European Frog-bit Collaborative	Webinar	4/25/2023
Michigan Invasive Species Coalition: GIS skill building session, Field exercises for GIS, Butterbur, and BMP Discussion, Flowering Rush Management Discussion	In-Person Conference	7/11-13/2023
NAISMA: Using People Powered Restoration to Manage Invasive Species in an Urban National Park	Webinar	7/19/2023

Department of Natural Resources and Conservation Planning: Resist/Accept/Direct (RAD) and Climate Action	Webinar	7/20/2023
EGLE: Innovation in Water Conservation Best Management Practices Request for Proposals	Webinar	7/25/2023
EGLE: Ludwigia Update	Virtual Panel	8/8/2023
FWS Geospatial Services Information: Ask a GIS Question Live - Open Forum	Virtual Panel	8/10/2023
EGLE: EFB surveillance and control summer check-in meeting	Virtual Panel	8/16/2023
FWS/USFWS: Ecological Forestry in the Context of Climate Change	Webinar	9/19/2023
NAISMA: Reviewing the Impacts of Climate Change on Biological Control Agents: Identifying Research Priorities and Knowledge Gaps	Webinar	9/20/2023
Michigan Invasive Species Coalition/Michigan Department of Agriculture and Rural Development: Spotted Lanternfly and Beech Leaf Disease Site Visits	In-Person Conference	9/27/2023
FWS/USFWS: Ecological Forestry in the Context of Climate Change	Webinar	10/31/2023
FWS/USFWS: Ecological Forestry in the Context of Climate Change	Webinar	11/21/2023

In their first weeks after starting, Jess and Kaitlyn both studied hard for and passed the exams required to be licensed commercial pesticide applicators in categories 2 (Forestry), 5 (Aquatic), and 6 (Right-of-Way). Jess and Kaitlyn also completed Heavy Equipment Safety Training required to operate the Marsh Master. Alongside their formal certifications, the pair have learned numerous other applied skills needed for the job, such as trailering the Marsh Master, swapping out implements, and operating the spray pump.

The DR-WLE CWMA has continued to post weekly on Facebook (www.facebook.com/drwlecwma) and maintain the website (www.drwlecwma.org), which has allowed us to reach nearly 14,000 people this year. In addition, nearly 50 people have reached out to us directly through Facebook, email (drwlecmwa@gmail.com), or by approaching us in the field to ask for invasive species advice or more information on the DR-WLE CWMA.

In February 2023, Alexa hosted a table at the Michigan Department of Natural Resources' (DNR) Outdoor Adventure Center "Don't Move a Mussel Event", where she quizzed children and adults on their invasive species knowledge. She also visited Roosevelt Highschool where she gave presentations on invasive species and career pathways to four classes of botany students. In September, Jess and Kaitlyn hosted a table at Pointe Mouillee's Waterfowl Festival for two days, raising local awareness about the DR-WLE CWMA and sharing information about Michigan invasive species.

***Photo 2**. The DR-WLE CWMA Marsh Master, a large metal tracked machine with pontoons, sits on display in front of a wetland at Point Mouillee's Waterfowl Festival. Credit: Jessie Fletcher/USFWS*

Grants & Permits

This year, the DR-WLE CWMA applied for the National Fish and Wildlife Foundation's Sustain Our Great Lakes (SOGL)Grant to support a three-person strike team, aerial treatment of aquatic invasive species, and other management at priority wetlands. While funding was not awarded for this season, we hope to make changes to become more competitive for this grant in the future. The 2023 Michigan DNR's Michigan Invasive Species Grant Program was applied for and is awaiting response. Should we receive this grant, the funding will support the coordinator and strike team leader positions in 2024. Additionally, the CWMA applied for funding through the US Forest Service's (USFS) Great Lakes Restoration Initiative Cooperative Weed Management Grant for two seasonal strike team technicians, supplemental salary for the strike team leader. And survey and treatment efforts in the River Raisin.

All required permit applications were completed, submitted, and granted by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) prior to the commencement of field operations.

Surveys

Due to lack of funding and available staff, no surveys were performed this year. We plan to resume normal survey operations in 2024.

Treatment Provided by DR-WLE CWMA Staff

The DR-WLE CWMA develops and maintains layered maps to accurately display past, current, and future goals of invasive species treatments. **Figures 1-6** display maps of 2023 strike team treatments while associated **Tables 3-8** highlight additional 2023 treatment information as well as 2024 treatment goals. **Figures 7-10** display Phragmites treatments of the last 3 years. In 2023, CWMA staff chemically and mechanically treated a total of 71.53 acres across partner property.

Group 1 Priority Species

On September 5th, 0.02 acres of Japanese knotweed (*Fallopia japonica*) was chemically treated at the Detroit River International Wildlife Refuge's Plum Creek Bay Unit.

Group 2 Priority Species

This year, between the months of August-October, the DR-WLE CWMA chemically treated a total of 40.95 acres of common reed phragmites (*Phragmites australis*) using the Marsh Master, UTV, and backpack sprayers.

On August 28th,1.45 acres were treated at the DRIWR Refuge Gateway. In September, 13.2 acres were treated at The Nature Conservancy's Erie Marsh Preserve on the 13th, and 7.2 acres were treated at DRIWR's Fix Unit on the 19th. In the first week of October, 17.8 acres were treated at the DNR's Erie State Game Dusseau Unit. The next week, the strike team treated 1.3 acres along the roadway at the National Park Service' Hull's Trace property.

Photo 3. *A tall dense stand of brown* Phragmites australis *under a bright blue sky. Credit: Kaitlyn Chisholm/DR-WLE CWMA*

Group 3 Priority Species

In 2023, the DR-WLE CWMA mechanically or chemically treated a total of 15.16 acres of group 3 priority and other invasive species in partnership with the DRIWR on Refuge lands.

A total of 4.4 acres of autumn olive (*Elaeagnus umbellata*) were treated via cut- stump with chemical application. At the Humbug Marsh Unit, on September 21st and 25th, 1.1 acres of autumn olive was chemically treated. At the Taylor Unit, 3.3 acres were treated on October 18th.

On July 20th, 1.1 acres of Canada thistle (*Cirsium arvense*) was mechanically treated by seed head clipping at the Refuge Gateway.

In late fall, 7.9 acres of common buckthorn (*Rhamnus cathartica*) and honeysuckle (*Lonicera maackii*), were treated via foliar spray or cut- stump application. On October 26th, 0.07 acres were treated at the Gibraltar Bay Unit by cut-stump application. On November 2nd, 7.75 acres were foliar treated at the Humbug Marsh Unit and on the Orange Trail. On this day, glossy buckthorn (*Frangula alnus*), multiflora rose (*Rosa multiflora*), and black alder (*Alnus glutinosa*), a group 1 priority species, were also opportunistically treated. On November 30th, 0.08 more acres of common buckthorn were cut-stump treated at Gibraltar Bay Unit.

Throughout the fall, CWMA staff treated a total of 1.76 acres of common and cut leaf teasel (*Dipsacus laciniatus and D. fullonum*) by clipping seed heads or foliar spraying. On August 2nd, 0.6 acres were clipped at the Refuge Gateway. On August 10th, another 0.36 acres were clipped at Gibraltar Bay Unit. The last treatment of the year occurred on December 7th at Blanchett I, in which teasel rosettes were foliar sprayed.

Treatment Provided by Partners

The Detroit River International Wildlife Refuge treated an additional 0.52 acres of autumn olive, honeysuckle, and buckthorn via cut stump treatments.

The Monroe County Road Commission treated 79 acres of Phragmites on the county's primary road network.

Wayne County Parks treated 42.17 acres of woody invasives at Crosswinds Marsh.

DTE aerially treated 125.06 acres of Phragmites via helicopter at the Lagoona Beach Unit.

Biomass Removal

In November, the strike team was able to complete 15.4 acres of biomass removal using the roller-chopper attachment of the Marsh Master to crush the Phragmites that was previously chemically treated at Wayne County Parks' Crosswinds Marsh and DTE Energy's Lagoona Beach.

Photo 4. *Three female technicians stand together on a metal machine in a wetland. Former strike team leader Alexa has just finished training coordinator Jess and technician Kaitlyn to use the Marsh Master's roller chopper implement. Credit: Kaitlyn Chisholm/DR-WLE CWMA.*

Looking to 2024

In 2024, DR-WLE CWMA will be looking to hire two seasonal strike team technicians for the survey and treatment seasons pending award of the USFS Great Lakes Restoration Initiative Cooperative Weed Management grant. These seasonal positions would join the full-time strike team leader and coordinator to accomplish survey, treatment, and education and outreach goals outlined in MISGP 2023 and USFS grants.

In the meantime, the new CWMA staff are looking forward to their first survey season and full treatment season with ambitions of accomplishing acreages consistent with those of previous years.

Acknowledgements

This work would not have been possible without funding provided by the Michigan Department of Natural Resource's Michigan Invasive Species Grant Program and the Cooperative Agreement between the International Wildlife Refuge Alliance and the Detroit River International Wildlife Refuge. Special thanks to all DR-WLE CWMA members who contributed their time, resources, and access to properties for this vital, shared goal of invasive species management. The DR-WLE CWMA is extremely appreciative to have been able to carry out another year of invasive species management.

Report Submitted by:

Jess Davenport, *DR-WLE CWMA Invasive Species Coordinator*

Kaitlyn Chisholm, *DR-WLE CWMA Strike Team Technician*

Jessica Fletcher, *DR-WLE CWMA Chair*

Treatments for 2023 and 2024 Operating Plan

***Table 3**. Treatments for the 2023 field season with target species and 2024 treatment goals: North Zone.*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
Mud Island	USFWS	None	N/A	N/A	Continue EDRR surveys
Grassy Island	USFWS	None	N/A	N/A	Continue EDRR surveys
Stony Island	DNR	None	N/A	N/A	Continue EDRR surveys
Refuge Gateway	Wayne County	1.45	Foliar via UTV and backpack	Phragmites	Spot treat, Continue EDRR surveys
		0.62	Seed head clipping	Teasels	
		1.1		Thistle	
Humbug Marsh	USFWS	7.75	Foliar via UTV and backpacks	Buckthorns and Honeysuckle	Spot treat, Continue EDRR surveys
		1.1	Cut stump	Autumn olive	
Humbug Island	USFWS	None	N/A	N/A	Continue EDRR surveys
Gibraltar Bay	USFWS	0.36	Seed head clipping	Teasels	Spot treat, Continue EDRR surveys
		0.15	Cut stump	Buckthorns and Honeysuckle	
Sugar Island	USFWS	None	N/A	N/A	Continue EDRR surveys
Gibraltar Wetlands	USFWS	None	N/A	N/A	Continue EDRR surveys
Six Points	Wyandot of Anderdon	None	N/A	N/A	Spot treat, Continue EDRR surveys
Celeron Island	DNR	None	N/A	N/A	Continue EDRR surveys
Lake Erie Metropark	HCMA	None	N/A	N/A	Spot treat, Continue EDRR surveys
US Silica	USFWS	None	N/A	N/A	Continue EDRR surveys

Figure 1. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's North Zone.*

***Table 4**. Treatments for the 2023 field season with target species and 2024 treatment goals: North Central Zone.*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
Pointe Mouillee SGA	DNR	None	N/A	N/A	Spot treat, Continue EDRR surveys
Taylor	USFWS	3.3	Cut stump	Autumn olive	Spot treat, Continue EDRR surveys
Strong	USFWS	None	N/A	N/A	Continue EDRR surveys
Burke	USFWS	None	N/A	N/A	Continue EDRR surveys
Osborn	USFWS	None	N/A	N/A	Continue EDRR surveys
Hull's Trace	NPS	1.3	Foliar via UTV	Phragmites	Continue EDRR surveys

Figure 2. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's North Central Zone.*

***Table 5**. Treatments for the 2023 field season with target species and 2024 treatment goals: Central Zone.*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
Brancheau	USFWS	None	N/A	N/A	Spot treat, Continue EDRR surveys
Blanchett I	USFWS	0.78	Foliar via UTV	Teasels	Spot treat, Continue EDRR surveys
Blanchett II	USFWS	None	N/A	N/A	Continue EDRR surveys
Tishkof	USFWS	None	N/A	N/A	Continue EDRR surveys
Sisung	USFWS	None	N/A	N/A	Continue EDRR surveys
Fix	USFWS	7.2	Foliar via Marsh Master	Phragmites	Spot treat, Continue EDRR surveys
Pointe aux Peaux SGA	DNR	None	N/A	N/A	Continue EDRR surveys
Lagoona Beach	DTE	2.3	Rollerchopped	Phragmites	Continue EDRR surveys

Figure 3. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's Central Zone.*

***Table 6**. Treatments for the 2023 field season with target species and 2024 treatment goals: South Central Zone.*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
River Raisin NBP	NPS	None	N/A	N/A	Continue EDRR surveys
Ford Marsh	USFWS	None	N/A	N/A	Continue EDRR surveys
Port of Monroe	USFWS	None	N/A	N/A	Continue EDRR surveys
Immaculate Heart of Mary	Archdiocese of Detroit	None	N/A	N/A	Continue EDRR surveys
River Raisin	City of Monroe	None	N/A	N/A	Spot treat, Continue EDRR surveys
Plum Creek Bay	USFWS	0.02	Foliar via spray bottle	Japanese knotweed	Spot treat, Continue EDRR surveys
Monroe County Roadways	Monroe County	None	N/A	N/A	Spot treat

Figure 4. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's South Central Zone.*

***Table** 7. Treatments for the 2023 field season with target species and 2024 treatment goals: South Zone.*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
Erie SGA	DNR	17.8	Foliar via Marsh Master	Phragmites	Continue EDRR surveys
Lady of the Lake	USFWS	None	N/A	N/A	Continue EDRR surveys
Holloway	USFWS	None	N/A	N/A	Spot treat, Continue EDRR surveys
Bay Creek Hunt Club	Bay Creek Farms	None	N/A	N/A	Spot treat, Continue EDRR surveys
Erie Marsh Preserve	The Nature Conservancy	13.2	Foliar via Marsh Master	Phragmites	Aerial treatments
Gard Island	University of Toledo	None	N/A	N/A	Continue EDRR surveys

Figure 5. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's South Zone.*

Table 8. *Treatments for the 2023 field season with target species and 2024 treatment goals: West Central Zone*

Location	Owner	2023 Acres Treated	Method	Target Species	2024 Goal
Crosswinds Marsh	Wayne County Parks	13.1	Rollerchopped	Phragmites	Continue EDRR surveys

Figure 6. *Invasive species treatments conducted by the CWMA staff in DR-WLE CWMA's Western Central Zone.*

Three Year Treatment Analysis for Phragmites

Figures 7, **8**, **9**, and **10** below highlight the comparison between 2021's, 2022's, and 2023's Phragmites treatments across all Detroit River-Western Lake Erie Cooperative Weed Management Area partner lands.

Figure 7. *Three- year treatment analysis of Phragmites in DR-WLE CWMA's North Zone.*

Figure 8. *Three-year treatment analysis of Phragmites in DR-WLE CWMA's North Central Zone.*

Figure 9. *Three-year treatment analysis of Phragmites in DR-WLE CWMA's Central Zone.*

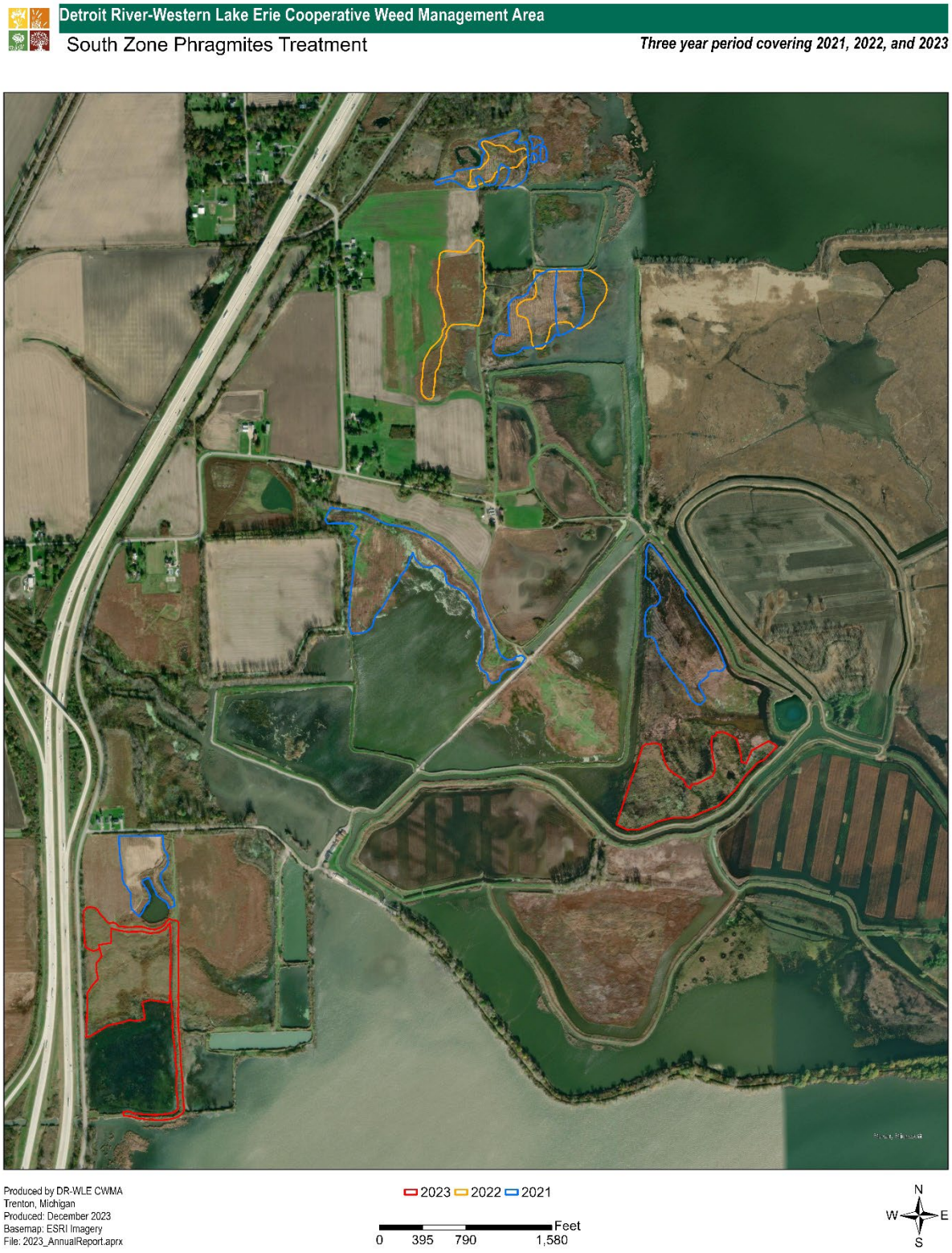

Figure 10. *Three-year treatment analysis of Phragmites in DR-WLE CWMA's South Zone.*