2024 AOC Habitat Restoration Monitoring Site Report
Cottrellville Township

Report Prepared for: Cottrellville Township, MI
Project: Cottrellville Habitat Restoration
Project Completion Year: 2014
GLRI Investment: $2,500,000
Funding Provided by: The Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Owner: Cottrellville Township
Site Visit Date: August 29, 2024
Report Prepared by: Friends of the St. Clair River
Report Date: December 1, 2024

PROJECT PURPOSE:

In 1987, the U.S.-Canada Great Lakes Water Quality Agreement identified 43 aquatic environments around the Great Lakes where "significant impairment of beneficial uses has occurred as a result of human activities at the local level". Of these Areas of Concern (AOC), the St. Clair River was identified as one, having experienced severe environmental degradation. To address this, the EPA, other federal and state agencies, and Friends of the St. Clair River are working to restore the St. Clair River.

The Cottrellville Township Shoreline Project was one of nine habitat restoration sites along the United States boundary of the St. Clair River chosen to address the lack of fish and wildlife habitat Beneficial Use Impairment (BUI) along the shoreline (Appendix 1, Map 1). Federal and State funds were invested in the park's shoreline to remove nearly 400 feet of failing steel seawall and restore the shoreline to a more natural state with cobble, woody structures, and native vegetation. In addition, rocky break walls were placed within the shallow shelf of the river to create calm areas for fish to feed and take refuge (Map 2). Native plants were installed along the shoreline to create a natural riparian zone between the grassy park and the water because their extensive root systems hold soil in place and prevent erosion. Native plants also provide habitat for a variety of wildlife, addressing the "lack of fish and wildlife habitat" BUI.

RECOMMENDED MAINTENANCE:

- Removal of invasive vegetation such as phragmites, multiflora rose, and Canada thistle within the project area once or twice a year would significantly increase the integrity of the shoreline by maintaining riverbank stabilization, and it would provide a welcoming view for the public. Such removal could be accomplished with a few volunteers and would prevent the site from being overrun with invasives. Friends of the St. Clair River could help identify plants in need of removal, and best methods of removal.
- Replacing the removed invasive species with native wildflowers or low-growing shrubs would prevent invasive species from growing back and increase shoreline stability because of their large root systems. They will also provide attractive blooms for park users. Friends of the St. Clair River could help identify and source native plants for the park.

EVALUATION CRITERIA

The Friends of the St. Clair River annually monitors the St. Clair River AOC habitat restoration projects to assess their effectiveness and identify areas of enhancement or improvement. Each site is evaluated on five criteria: vegetation, habitat, human impact, erosion, and project maintenance. The criteria are given a score (Good, Fair, Poor) based on a habitat scorecard rubric (Appendix 2). This report includes our observations, photos (Appendix 3) and recommendations for our site visit on August 29, 2024.

EVALUATION OBSERVATIONS:

VEGETATION – Good

Overall vegetation was estimated at 80% native and 20% exotic/invasive within the 15-foot buffer strip between the water's edge and the mowed lawn. Native species included a mixture of forbs, shrubs, and trees such as: Canada goldenrod, jewelweed, yarrow and dogwood. Maintaining such native species helps maintain shoreline stability and protects Cottrellville's economic investment in this project because the extensive root systems of native plants help hold soil in place preventing erosion. It also increases the ecological integrity of this site for multiple species of fish and wildlife such as young fish, ducks and other waterfowl, amphibians, reptiles and more.

Exotic species that will require regular management include phragmites, multiflora rose, and Canada thistle (plant is from Europe, not Canada). Phragmites is a tall, aggressive spreader that takes over wetland areas and outcompetes native vegetation. If allowed to grow, this plant will also obscure the river view of park patrons. Multiflora rose and Canada thistle are thorny, aggressive spreaders that overtake native vegetation and can prevent water access due to their thorny branches or leaves. These plants are currently at a population level that can be

controlled relatively easily at the park, but quick, active management is necessary to prevent these invasive from taking over the habitat area and decreasing the project's quality. Such action will also protect the community's investment in the project.

See appendix 4 for observed native and exotic vegetation list.

HABITAT - Good

The installed rocky break walls and restored shoreline appeared to be intact and functioning. The break wall provides protection from heavy wave action of the St. Clair River, it also provides habitat for a variety of fish and wildlife. Ducks, geese, gulls, and cormorants were observed using the breakwater. Several logs washed up within the project area, adding diversity to the habitat.

HUMAN USE - Good

Public users regularly use the park, and patrons can be found walking along the natural beach shoreline. Some trash/litter was observed within the project site along the beach and in small paths leading to the shoreline. A trash receptacle that is regularly emptied at the park may encourage proper disposal of refuse and encourage more visitors. No trampling or destruction of shoreline habitat was observed.

EROSION/HIGH WATER IMPACTS – Good

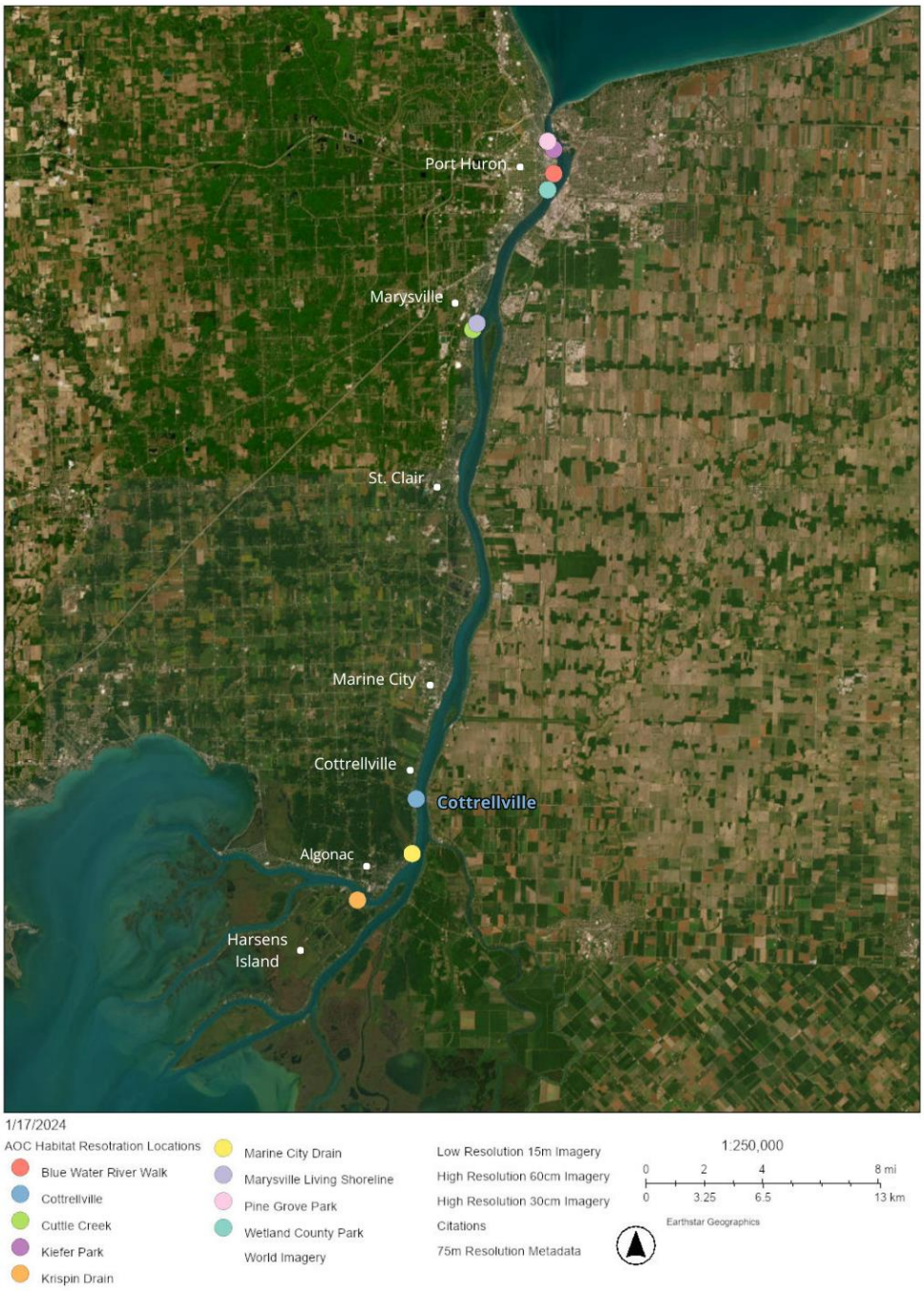
The water was at an average level, and the reef structures were visible with no signs of erosion.

MAINTENANCE – Fair

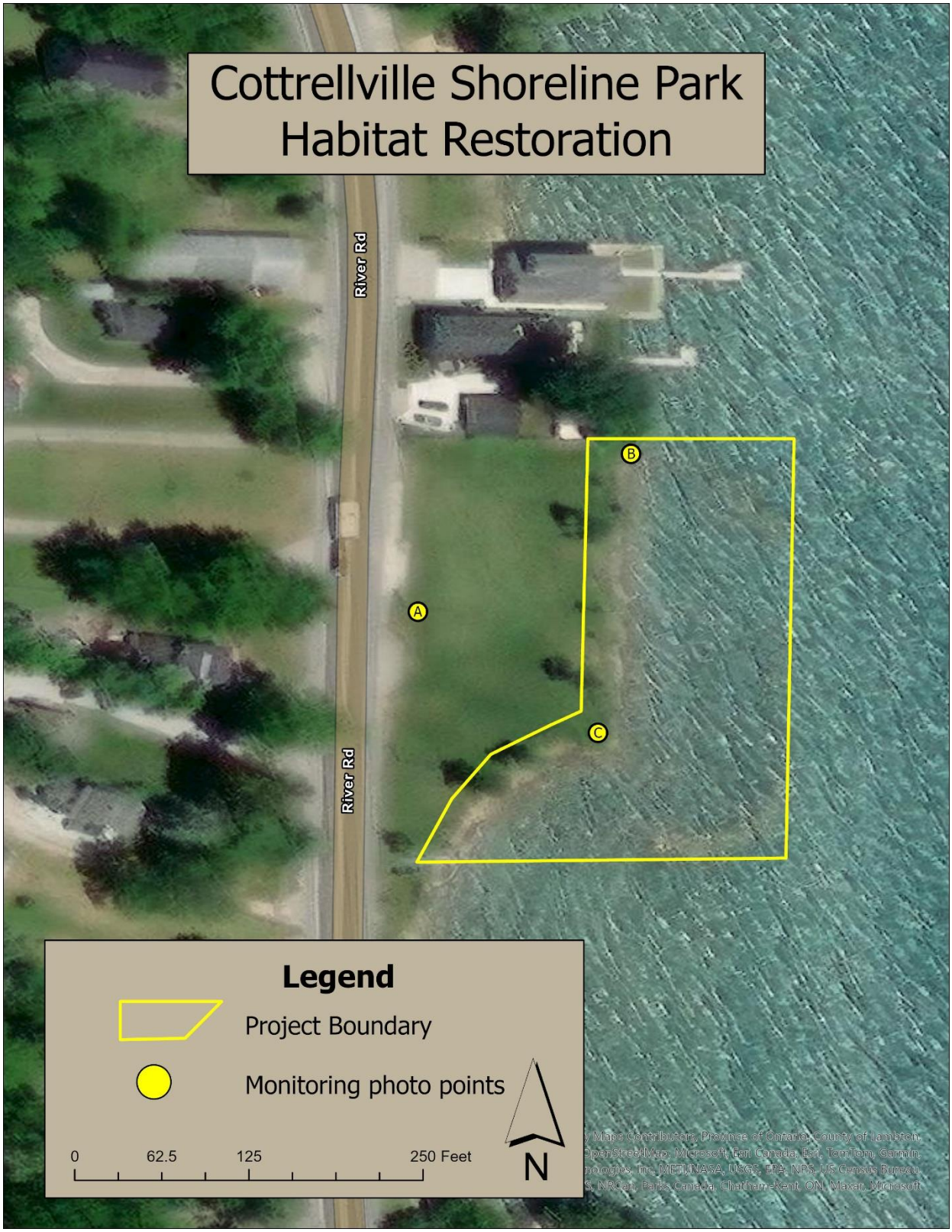
Most of the park was mowed to encourage public use with the exception of a 15-foot riparian buffer strip adjacent to the water to maintain the natural shoreline. Such maintenance is highly encouraged at this site, especially of the unmown area next to the shoreline. Additional maintenance that includes removal of invasive species once or twice a year would benefit the structural and ecological integrity of this location. This would be an excellent opportunity to involve the local community and help showcase this township park as benefiting both the residents and the environment.

Appendix 1

Map of Cottrellville Park in context to the AOC habitat restoration sites along the St. Clair River.



Map 1. The Cottrellville AOC Habitat Restoration is found along the downriver section of the St. Clair River in Cottrellville Township, MI, as identified by the light blue marker on the map.



Map 2. The yellow line outlines the project boundary and includes in-water habitat improvement and shoreline restoration. The yellow circles identify photo monitoring points.

Appendix 2: Habitat Scorecard Rubric

Cottrellville Township

CATEGORY: GOOD	CRITERIA	SCORE	COMMENTS
Vegetation	80%+ native cover, 20%- invasive cover, few or no issues with excessive mowing or trimming of native vegetation.	X	Overall vegetation was estimated at 80% native and 20% exotic/invasive within the natural 15-foot buffer strip between the water's edge and the mowed lawn.
Habitat	Most features intact, abundant and diverse native wildlife observed.	X	The restored shoreline and the rock break walls were intact and functioning.
Human use	Little trash, trampling, or vandalism observed, amenities intact, no safety concerns.	X	Some trash/litter was evident within the project site along the beach and in small paths leading to the shoreline. Overall good condition.
Erosion/water level	Shoreline and upland areas intact without significant damage.	X	Reef structures were visible with no signs of erosion.
Maintenance	Project is well-maintained with dedicated funding, staff and technical guidance.		

CATEGORY: FAIR	CRITERIA	SCORE	COMMENTS
Vegetation	50-80% native cover, 20-50% invasive cover, some areas excessively mowed/trimmed or mowed too short.		
Habitat	Some habitat features missing or damaged, moderate number of native wildlife species observed.		
Human use	Some trash, trampling, or vandalism observed, amenities show minor damage, no safety concerns.		
Erosion/water level	Shoreline and upland areas mostly intact with little damage.		
Maintenance	Some attempts have been made at maintenance, or project is sporadically maintained.	X	Regular invasive species management including the removal of invasive vegetation would benefit this site greatly to maintain its ecological integrity.

CATEGORY: POOR	CRITERIA	SCORE	COMMENTS
Vegetation	<50%- native, >50%+ invasive, several areas excessively mowed/trimmed or mowed too short.		
Habitat	Many features missing or damaged, low biodiversity or few or no native wildlife species observed.		
Human use	Trash, trampling or vandalism are evident, amenities damaged or missing, has safety concerns.		
Erosion/water level	Shoreline and upland areas severely eroded and/or damaged, engineering may be required to restore.		
Maintenance	Project is not well-maintained and has been progressively degraded since completion.		

Appendix 3: Photos

Figure 1. Photo was taken from the park boundary along the road showing the mowed lawn and restored shoreline boundary, shooting upriver. Maintaining the unmown border along the shoreline is important to retain the structural stability of the shoreline and the economic investment of the project.

Figure 2: Photo was taken from the park boundary along the road, showing the mowed lawn and restored shoreline boundary, shooting downriver. Maintaining the unmown border along the shoreline is important to retain the structural stability of the shoreline and the economic investment of the project.

Figure 3: North boundary of shoreline habitat restoration showing the rocks and vegetation that stabilize the shoreline. Some trash is visible in this photo. Removing invasive species will maintain the structure of the shoreline and increase public visual appeal.

Figure 4: The restored beach habitat of the park replaced the failing steel seawall when this project was implemented. The beach is protected by the rocky breakwater (not shown in picture) and is an important habitat improvement for the St. Clair River. The shallow slope, sandy beach and natural vegetation provide important habitat for fish and wildlife.

Figure 5: Outer reef rocks create a breakwater, reducing water current and wave action on the shoreline which helps to reduce shoreline erosion of the restored shoreline. The rocks also provide aquatic and semi-aquatic habitat for fish and wildlife.

Figure 6: A cormorant used the restored habitat during the monitoring visit and was observed resting on a piling, located at the edge of the breakwater habitat.

Table 1. Catalog of photo locations taken at Cottrellville Township AOC habitat restoration site in Port Huron, MI. Map locations can be found on Map 2.

Figure	Map Photo Location	Latitude	Longitude	Comment
1	A	42.65803	-82.51477	Photo taken shooting upriver near River Road to give a broad perspective of the restoration area in comparison with the mowed park.
2	A	42.65803	-82.51477	Photo taken shooting downriver near River Road to give a broad perspective of the restoration area in comparison with the mowed park.
3	B	42.65834	-82.514351	North boundary of AOC riparian habitat restoration showing vegetation and shoreline stabilization, facing downstream (south).
4	C	42.657792	-82.514416	Restored beach habitat.
5	C	42.657792	-82.514416	Outer reef rocks reduce wave action on the shoreline and create aquatic habitat.
6				Cormorant using the breakwater habitat.

Appendix 4. Vegetation Survey

Table 2. Native vegetation and exotic vegetation observed at Cottrellville Township AOC habitat restoration site in Cottrellville Township, MI. August 29, 2024.

NATIVE PLANTS

Common Name	Botanical Name
Black-eyed Susan	*Rudbeckia hirta*
Blue vervain	*Verbena hastata*
Boneset	*Eupatorium perfoliatum*
Bulrush	Scirpus sp.
Canada goldenrod	*Solidago canadensis*
Cottonwood	*Populus deltoides*
Dogwood	*Cornus* sp.
Evening primrose	*Oenothera biennis*
Frost aster	*Symphyotrichum pilosum*
Jewelweed	*Impatiens capensis*
Lambsquarters	*Chenopodium album*
Purple-leaved willowherb	*Epilobium* spp.
Wild mint	*Mentha canadesis*
Yarrow	*Achillea millefolium*
Flat top goldenrod	Euthamia graminifolia
Nut sedge	*Cyperus sp.*
Riverbank grape	*Vitis riparia*
Pokeweed	*Phytolacca americana*
Harvest lice agrimony	*Agrimonia parviflora*
Yellow foxtail	*Setaria pumila*
American elm	*Ulmus americana*
Black walnut	*Juglans nigra*
Common hackberry	*Celtis occidentalis*
Staghorn sumac	*Rhus typhina*
Willow	*Salix sp.*

EXOTIC PLANTS

	Common Name	Botanical Name
	Bindweed	*Calystegia arvensis*
	Burdock	*Arctium* spp.
*	Canada thistle	*Cirsium arvense*
	Curly dock	*Rumex crispus*
	Mullein	*Verbascum thapsus*
*	Multiflora rose	*Rosa multiflora*
*	Phragmites	*Phragmites australis*
	Purple loosestrife	*Lythrum salicaria*
	Queen Anne's lace	*Daucus carota*
	Sow thistle	*Sonchus oleraceus*
*	Tree of Heaven	*Ailanthus altissima*
	White sweetclover	*Melilotus albus*
	Yellow toadflax	*Linaria vulgaris*
	Bull thistle	*Cirsium vulgare*

*Indicates a high-priority exotic invasive species that should be removed to protect the shoreline.