



Wayne County Parks Restoration Project

Vegetation Maintenance plan

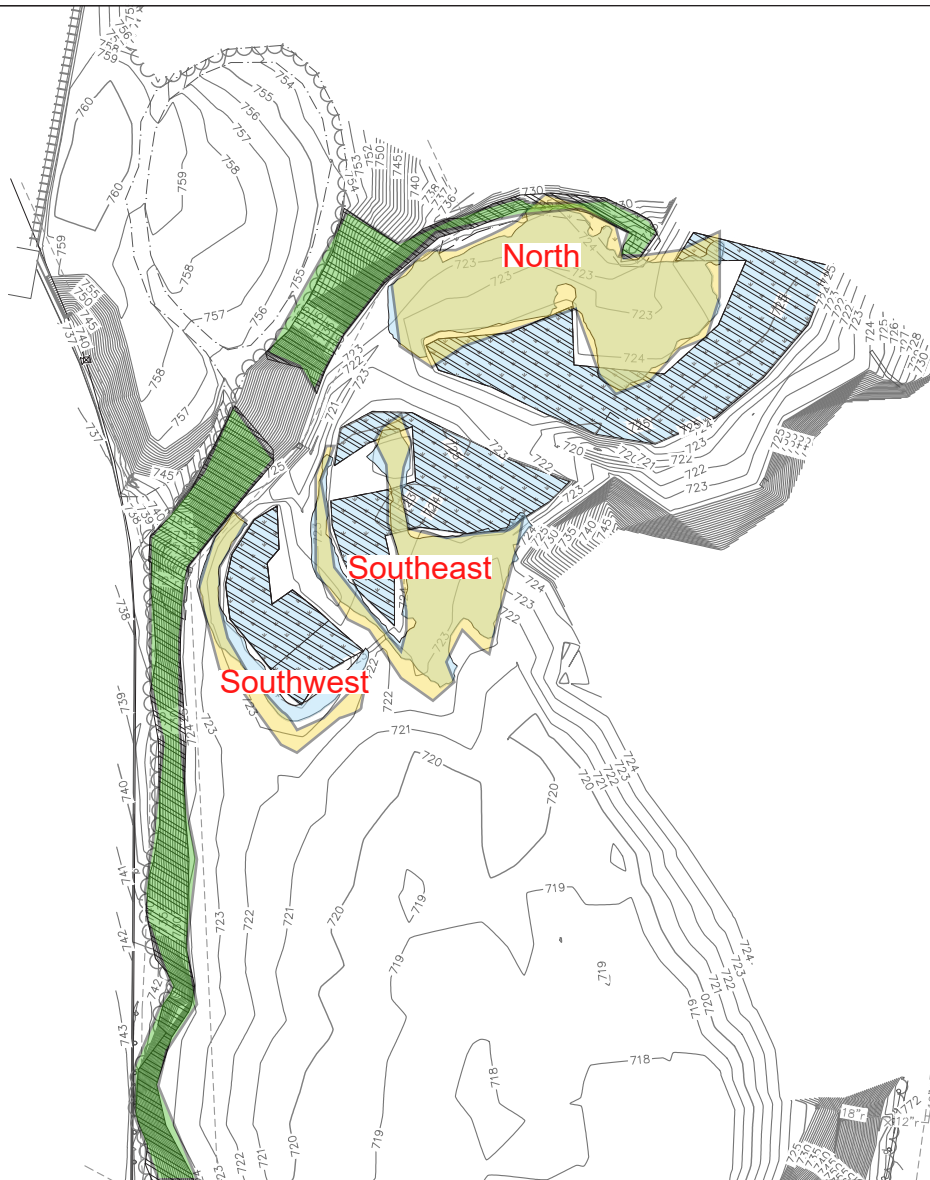
Wilcox Lake/Phoenix Lake Park


Year of Project Installation: 2024-2025


Date : November 2025


Site Map

Site: Phoenix Lake



 EMERGENT WETLAND PLANTING AREA 2.1 AC

 WETLAND INVASIVE SPECIES (MOSTLY NON-NATIVE CAT-TAILS) TREATED 1.9 AC

 WOODY INVASIVE SPECIES CUT STUMP TREATED, MONITOR GROWTH 1.8 AC

Phoenix Lake Installed Plant List, 2025

Nuphar advena

Nymphaea odorata

Peltandra virginica

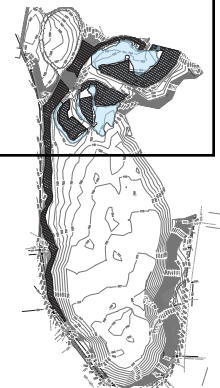
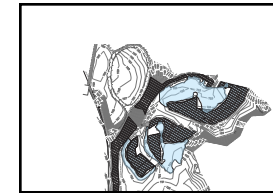
Pontederia cordata

Sagittaria latifolia

Saururus cernuus

Schoenoplectus acutus

Schoenoplectus tabernaemontani



Site Map

Site: Phoenix Lake



Site Specific Considerations

Wilcox Lake Park

Invasives species: During the course of the project, woody invasive species were managed through cut-stump herbicide treatments followed by off-site hauling and disposal. Subsequent follow-up herbicide applications were conducted to address resprouting individuals. Future maintenance activities should anticipate the potential resurgence of invasive understory species, particularly black locust (*Robinia pseudoacacia*), black alder (*Alnus glutinosa*), honeysuckle (*Lonicera* spp.), oriental bittersweet (*Celastrus orbiculatus*), and various buckthorn species (*Rhamnus* spp.). Except for the steep slope descending toward the west peninsula, most treatment areas remain accessible by foot.

Bioretention & Scallop areas: The bioretention and the small "scallop" planting areas along the lake shore are occasionally inundated as lake level fluctuates. These areas were seeded and planted with herbaceous plugs and mulched. Future management should include occasional weeding and targeted spot herbicide treatments depending on the establishment.

Northern seeding area: The northern seeding area, located across the road from Hines Drive, underwent turf removal and was seeded with a native prairie mix in Fall 2025. This area should be monitored for turfgrass re-establishment and colonization by non-native weeds.

Emergent planting areas: Establishing aquatic vegetation presented notable challenges during the initial season. Observations indicated that sedimentation and siltation had buried many of the installed plants. In response, species selection was adjusted in the second season, with water lilies (*Nymphaea* spp.) demonstrating the highest establishment success. Continued monitoring and adaptive management will be necessary to ensure long-term viability of aquatic plantings. We also set up 3' tall bird-exclusion fencing to prevent the swan herbivory pressure in this area it worked well to keep swans out but the fencing needs to be maintained.

Phoenix Lake Park

Woody Invasives: Woody invasive species were treated using a cut-stump method and removed from the site. Follow-up herbicide applications were conducted. Future maintenance should anticipate regrowth from the understory seed bank, particularly black locust, black alder, honeysuckle, oriental bittersweet, and buckthorn. The site features a steep slope from the road, making foot access feasible for spraying, though lake-based access via boat and backpack sprayers may be more efficient.

Emergent planting areas: Establishing aquatic plantings proved difficult, prompting species adjustments in the second season. Water lilies showed the highest survival and performance. Sedimentation and siltation were observed, which buried many plantings. An 8-foot deer exclusion fence was installed to mitigate heavy browsing pressure. Due to limited options, extending fence maintenance remains the primary strategy to reduce herbivory impacts.

Wetland Invasive: Large patches of non-native cattails in the wetland area were treated. Continued monitoring and re-treatment are recommended as part of future maintenance. These areas will require access via small boats for effective management.

Estimated Annual Monitoring/Maintenance Cost

Wilcox Lake & Phoenix Lake

Pricing will vary dramatically from site to site and year to year as no two sites are alike. In 2023, the typical price range falls between \$100 and \$1,000 per acre per visit. For estimating purposes, we use an average rate of \$500 per acre per visit for upland/wet meadow areas at each lake, with a total of 0.2 acres. For emergent planting areas, we use an average rate of \$1,000 per acre per visit at each park, with a total of 5.5 acres. Therefore, the estimated annual cost for monitoring and maintenance in total averages around \$16,800, accounting for 3 visits during a year, subject to factors such as weed infestation, erosion, woody plant encroachment, etc. See Table 1 for a detailed breakdown. Over time, time requirements and associated pricing for management also generally decreases to a point but then tends to plateau since weeds will always migrate into a site through water, wind, and animal dispersal (in addition to possible neighbor encroachment, erosion, etc.)

Project	Upland/Wet Prairie Area (AC)	Average rate per acre per visit	Emergent Wetland Area (AC)	Average rate per acre per visit	Number of visits in a year	Estimated Annual Cost
Wilcox Lake	0.2	\$500	1.4	\$1,000	3	\$4,500
Phoenix Lake	0	\$500	4.1	\$1,000	3	\$12,300
Total	0.2	500	5.5	1000	3	\$16,800

Table 1. Breakdown of Estimated Annual Costs for Monitoring and Maintenance

Seasonal Monitoring/Maintenance Schedule

Year 3-5 after installation

*Plan for 3 site visits each year for monitoring and schedule physical maintenance activities as needed.

SPRING	Focus	Description	Maintenance Actions
Erosion	Erosion?	Walk the site to ensure there are no erosion gullies forming, particularly on steeper slopes or below water inflow pipes.	<ul style="list-style-type: none"> • Repair with additional soil, cover crop, erosion control blanket, and/or stone as needed.
Native herbaceous Plant	Establishment?	Consider using prescribed fire in sites to reduce thatch layer, stimulate native herbaceous plants, and kill or weaken invasive species. For most sites, fire is an important management tool that should be applied to a site every 2-4 years.	<ul style="list-style-type: none"> • Prescribe burn • Mowing
Turf Invasion	Outcompeting natives?	Target turf grasses that may be outcompeting native species.	<ul style="list-style-type: none"> • Target turf grasses that may be outcompeting native species.

SUMMER	Focus	Description	Maintenance Actions
Weeds	Aggressive biennials presence?	In June, biennials such as sweet-clover, bull or nodding thistles, and teasel should be cut near the ground when buds are forming or plants have been flowering for up to three days. Cut material can be left where it falls unless it's so dense that it will smother adjacent native vegetation. Visit https://www.canr.msu.edu/pestid/resources/plant-and-weed-identification/index for common Michigan weeds identification resources.	<ul style="list-style-type: none"> • Timed cutting @ base
	Other perennial weed?	Other aggressive perennial weeds such as spotted knapweed, crown-vetch, bird's foot-trefoil, and Canada thistle should be spot-treated with the appropriate herbicide.	<ul style="list-style-type: none"> • Spot treat
Invasive Species	Reed canary grass & cattail presence?	Reed canary grass and cattail patches should be sprayed or hand-swiped.	<ul style="list-style-type: none"> • Spray/hand-swipe
	Woody Invasive	Woody invasives should be cut and stump-treated or foliar sprayed, based on the size.	<ul style="list-style-type: none"> • Cut stump-treated • Foliar spray

Year 3-5 after installation - continued

FALL	Focus	Description	Maintenance Actions
Invasive species	Reed canary grass & cattail presence?	Retreat reed canary grass and cattail as needed	<ul style="list-style-type: none"> • Spray • Hand-swipe
	Phragmites presence?	Continue treating Phragmites	<ul style="list-style-type: none"> • Continue treating Phragmites
	Woody Invasive	Continue spot-treatments of other aggressive perennial and woody invasives as needed.	<ul style="list-style-type: none"> • Spot treat

Year 5-10 after installation

*Plan for 3 site visits typically June through September in a year every 2 to 3 years. During site visits, conduct monitoring and schedule physical maintenance activities as needed.

SPRING/ SUMMER	Focus	Description	Maintenance Actions
Weeds	Aggressive biennials presence?	In June, biennials such as sweet-clover, bull or nodding thistles, and teasel should be cut near the ground when buds are forming or plants have been flowering for up to three days. Cut material can be left where it falls unless it's so dense that it will smother adjacent native vegetation. Visit https://www.canr.msu.edu/pestid/resources/plant-and-weed-identification/index for common Michigan weeds identification resources.	• Timed cutting @ base
	Other perennial weed?	Other aggressive perennial weeds such as spotted knapweed, crown-vetch, bird's foot-trefoil, and Canada thistle should be spot-treated with the appropriate herbicide.	• Spot treat
Invasive species	Reed canary grass & cattail presence?	Reed canary grass and cattail patches should be sprayed or hand-swiped.	• Spray • Hand-swipe
	Woody Invasive?	Woody invasives should be cut and stump-treated or foliar sprayed, based on the size.	• Cut stump-treated • Foliar spray

FALL	Focus	Description	Maintenance Actions
Invasive species	Reed canary grass & cattail presence?	Retreat reed canary grass and cattail as needed	• Spray • Hand-swipe
	Phragmites presence?	Continue treating Phragmites	• Continue treating Phragmites
	Woody Invasive	Continue spot-treatments of other aggressive perennial and woody invasives as needed.	• Spot treat

Year 10+ after installation

*Plan for 2 site visits typically June through September in a year every 2 to 3 years. During site visits, conduct monitoring and schedule physical maintenance activities as needed.

SUMMER	Focus	Description	Maintenance Actions
Weeds	Aggressive biennials presence?	In June, biennials such as sweet-clover, bull or nodding thistles, and teasel should be cut near the ground when buds are forming or plants have been flowering for up to three days. Cut material can be left where it falls unless it's so dense that it will smother adjacent native vegetation. Visit https://www.canr.msu.edu/pestid/resources/plant-and-weed-identification/index for common Michigan weeds identification resources.	• Timed cutting @ base
	Other perennial weed?	Other aggressive perennial weeds such as spotted knapweed, crown-vetch, bird's foot-trefoil, and Canada thistle should be spot-treated with the appropriate herbicide.	• Spot treat
Invasive species	Reed canary grass & cattail presence?	Reed canary grass and cattail patches should be sprayed or hand-swiped.	• Spray • Hand-swipe
	Woody Invasive	Woody invasives should be cut and stump-treated or foliar sprayed, based on the size.	• Cut stump-treated • Foliar spray

FALL	Focus	Description	Maintenance Actions
Invasive species	Reed canary grass & cattail presence?	Retreat reed canary grass and cattail as needed	• Spray • Hand-swipe
	Phragmites presence?	Continue treating Phragmites	• Continue treating Phragmites
	Woody Invasive	Continue spot-treatments of other aggressive perennial and woody invasives as needed.	• Spot treat

Management Tool & Timing

** Pick your management need from the column on the left and learn the timing of the appropriate technique listed in columns.

Management Tools		Winter		Spring			Summer			Fall			Winter	Notes
Month		1	2	3	4	5	6	7	8	9	10	11	12	
General management							June, July/August, and September are ideal times.							Most newly establishing sites need three or more site visits during the first 1-10 years of establishment, and then typically 2-3 after that.
Turf	Turf grass encroachment			Foliar Spray(Rodeo)										
Invasives & Weeds	Reed canary grass control						Foliar Spray(Rodeo)							
	Phragmites control								Foliar Spray (Rodeo)					
	Cattail control						Foliar Spray(Rodeo)							
	Garlic mustard and dame's rocket					Hand pull							Easiest to pull when the plants bolt. Remove pulled material from site	
	Crown vetch, bird's foot-trefoil						Foliar Spray(Milestone)							
	Canada thistle, spotted knapweed, other pernicious broad-leaved weeds						Foliar Spray(GLY)							Plants are most susceptible when forming buds and early flower stage
	Woody invasives		Foliar spray: stem<pencil size; Cut stump: stem>/= pencil size											Cut-stump: Use Garlon 3a at 54% active ingredient. Stump should be "painted" with herbicide within 5 minutes of cutting and anytime from 6/1 to 3/1.
Mowing/ Cutting	Annuals control						High mowing (4")		High mowing (4")					
	Sweet-clover control						Timed cutting @ base							
	Biennial thistles						Timed cutting @ base							Each time plants develop buds and during early flowering stage
	Early establishment--young natives/many annuals						High mowing (4")		High mowing (4")					

Management Tools		Winter		Spring			Summer			Fall		Winter	Notes	
Month		1	2	3	4	5	6	7	8	9	10	11	12	
Reseeding/Re-planting	Bare soil				Re-seeding (for seasonally saturated soil)						Re-seeding (for unsaturated soil)			Typical rate is 8 lbs per acre. 1/2 this rate when overseeding zones with some native vegetation.
	Erosion		Erosion control blanket + Re-seed										Replace lost soil with clean fill, sow cover crop of annual oats, lay ECB on sloped areas	
Herbivory	Goose/turkey browse			Fencing									Consider erecting stakes with lines at 1', 2', and 3' heights and mylar flagging tied on lines	

Herbicide applicator qualification

Regarding herbicide applications: The Michigan Department of Agriculture requires applicators who are applying herbicide as part of their work to be licensed applicators. All applicators must take the core exam and categories 4 (right-of-way) and 5 (aquatics) cover all aspects of natural area management.

Wilcox Lake Installed Plant List

<i>Emergent & Submergent Plugs Planting Area</i>	<i>Bioretention & Scallops Planting Area</i>
Decodon verticillatus(2025)	Iris virginica
Potamogeton nodosus(2024)	Liatris spicata
Nuphar advena(2024,2025)	Monarda fistulosa
Nymphaea odorata(2024,2025)	Physostegia virginiana
Pontederia cordata (2024)	Pontederia cordata
Sagittaria latifolia (2024)	Rudbeckia fulgida
Schoenoplectus acutus (2024)	Schizachyrium scoparium
Schoenoplectus tabernaemontani (2024)	Sporobolus heterolepis
Sparganium eurycarpum (2024)	

*Note that some aquatic species planted in 2024 did not do well, as a result were substituted in 2025.