

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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Staff Memorandum

MCGOVERN PARK POND SURVEY, MILWAUKEE COUNTY, WISCONSIN

April 2, 2026

In an effort to build upon the Southeastern Wisconsin Regional Planning Commission (Commission or SEWRPC) Planning Report No. 42, *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for the Southeastern Wisconsin Region*, Commission staff secured grant funding from the Wisconsin Coastal Management Program (WCMP) to assist with natural area and aquatic site inventory, protection, and management plan development. The goals of the project include increasing the regional capacity to update existing biological inventories, completing inventories lacking surveys, and incorporating data into ecological restoration plans. Commission staff identified Milwaukee County lakes that had very little or no water quality or biotic information collected to conduct aquatic plant surveys, water quality monitoring, aquatic invasive species surveys, shoreline surveys, and/or sediment surveys. The data collected on the lakes surveyed are being summarized in brief reports that are made available to the public. The data and reporting are intended to help establish the ecological status of the waterbodies to assist in management strategies to protect and restore them so that they can continue to serve Milwaukee County and its residents. Four lakes (Jackson Park Pond, McGovern Park Pond, Scout Lake, and Mallard Lake) were surveyed in the summer of 2025.

LAKE BACKGROUND INFORMATION

McGovern Park Pond (Pond) is a 4-acre drained lake located entirely in the City of Milwaukee within Milwaukee County, Wisconsin. The Pond was constructed in 1933 and is located within McGovern Park, owned and managed by Milwaukee County Parks. The McGovern Park area was acquired by the Milwaukee County Board of Supervisors in 1910; first named Silver Spring Park, the Park was later renamed after the namesake of the longest serving park commissioner, William R. McGovern.¹ Some of the earliest data on the Pond were recorded in the 1964 publication *Surface Water Resources of Milwaukee County*.² According to the report, McGovern Park Pond attained a maximum depth of four feet, receiving its water from the metropolitan water system. The waters of the Pond were stated to be turbid, popular for ducks, with boats available for rental. Additional observations included that bullheads, carp, and sunfish constituted the Lake's fishery, with few planktonic crustaceans present (e.g., daphnia, copepods, rotifers). The Pond has been transformed alongside the Park, and the development of both can be seen in Figure 1. A 1970 map by the WDNR indicates that the Lake had a maximum depth of 4 and-a-half feet with a volume of approximately 12.9 acre-feet (see Map 1).³ Today the Park remains a popular destination and offers a variety of outdoor recreation fields, greenspace, walking paths, and opportunities for year-round fishing.⁴ Fish are stocked

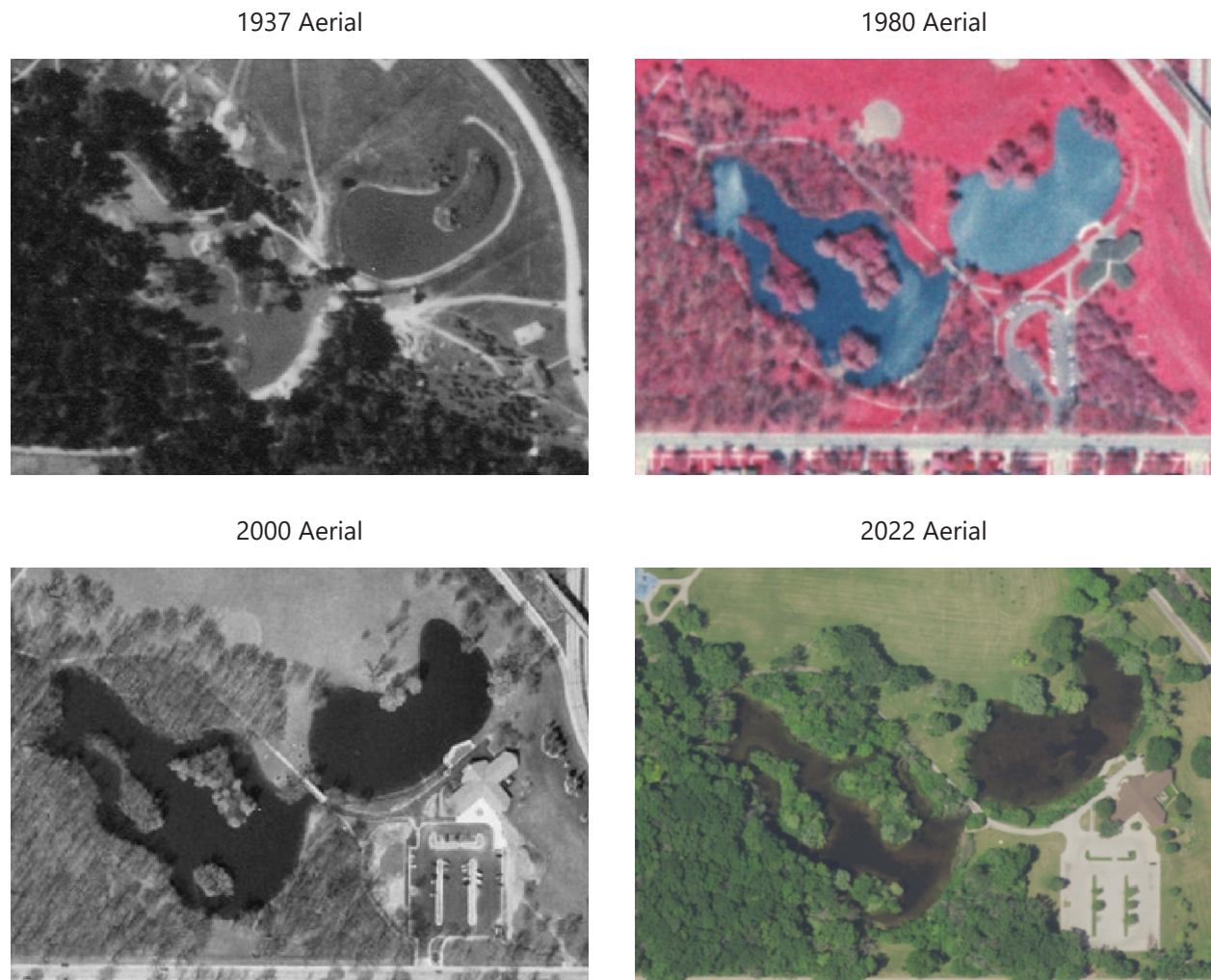
¹ www.neighborhoodsinmilwaukee.org/McGovern%20Park.pdf.

² *Wisconsin Conservation Department, Surface Water Resources of Milwaukee County, 1964.*

³ *Wisconsin Department of Natural Resources, McGovern Park Pond – Milwaukee County, Wisconsin DNR Lake Map, May, 1970.*

⁴ mkecoparks.helpscoutdocs.com/article/42-ice-fishing.

Figure 1
Aerial Imagery of McGovern Park Pond: 1937, 1980, 2000, and 2022



Note: The red color seen in the 1980s aerial image of McGovern Park Pond was due to infrared imaging processes used that year.

Source: U.S. Department of Agriculture and SEWRPC

by the WDNR as a part of their urban fishing waters program and continues to be a popular use of the Lake.^{5,6} Based on citizen science observations on the iNaturalist and eBird platforms, the Pond provides habitat for several waterfowl and shorebird species.⁷ Additional surveys conducted by Milwaukee County Parks as well as citizen scientist observations identified several aquatic wildlife species, including crayfish, fish, herptiles, and odonates (see Table 1). The woods on the western side of the Pond are a natural area of local significance (NA-3), as designated by Planning Report No. 42, *2nd Amendment to the Natural Areas & Critical Species Management & Protection Plan for the Southeastern Wisconsin Region*.⁸ As a natural area, the Park offers wildlife habitat and native species that are not common to nearby areas due to development,

⁵ Milwaukee County has historically stocked the lake in the mid-2000s with several species (bluegill, yellow perch, black crappie, and largemouth bass) to support children's fishing clinics See dnr.wisconsin.gov/topic/Fishing/anglereducation/urbanfishing for more information on the urban fisheries program.

⁶ Multiple reviews of McGovern Park on Google Maps mention fishing and walking the trails.

⁷ Commonly observed species include great blue heron, green heron, black-crowned night herons, mallard, Canada goose, wood duck, American black duck, and hooded merganser. See ebird.org/barchart?byr=1900&eyr=2026&bmo=1&emo=12&r=L3137968 for eBird observations at McGovern Park.

⁸ More detail regarding the McGovern Park Woods NA-3 site can be found at: gis.sewrpc.org/ENVB_Projects/NaturalAreas/McGovern%20Park%20Woods.pdf.

Map 1
Bathymetric Contour Lines of McGovern Park Pond: 1970



Note: Bathymetric contour lines of McGovern Park Pond in 1970 may not reflect the current the current contours. Contour lines are drawn in intervals of 3 feet.

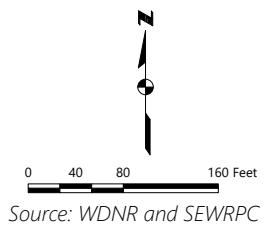


Table 1
Aquatic Wildlife Observed at McGovern Park Pond

Species Type	Species Name	Status	Year Observed
Crayfish	Virile Crayfish (<i>Faxonius virillis</i>)		2014
	White River Crayfish (<i>Procambarus acutus</i>)		2014
Fish	Brown Bullhead (<i>Ameiurus nebulosus</i>)		2014
	Green Sunfish (<i>Lepomis cyanellus</i>)		2014
Herptiles	American Bullfrog (<i>Lithobates catesbeiana</i>)		2015
	Northern Green Frog (<i>Lithobates clamitans</i>)		2015
	Common Snapping Turtle (<i>Chelydra serpentina</i>)		2015
	Western Painted Turtle (<i>Chrysemys picta</i>)		2015
	Red-Eared Slider (<i>Trachemys scripta elegans</i>)	Nonnative	2015
Odonates	Common Green Darner (<i>Anax junius</i>)		2024
	Skimming Bluet (<i>Enallagma geminatum</i>)		2020
	Eastern Pondhawk (<i>Erythemis simplicicollis</i>)		2020
	Eastern Forktail (<i>Ischnura verticalis</i>)		2024
	Widow Skimmer (<i>Libellula luctuosa</i>)		2020
	Twelve-spotted Skimmer (<i>Libellula pulchella</i>)		2020
	Blue Dasher (<i>Pachydiplax longipennis</i>)		2020
	Black Saddlebags (<i>Tramea lacerate</i>)		2020

Source: Data courtesy of Milwaukee County Parks (MCP) Staff. Data taken from MCP staff surveys, WI Odonate Survey website, Odonata Central, and iNaturalist.

and is a part of the Milwaukee County Parks Forked Aster Nature Trails and the Oak Leaf Birding Trail to promote the flora and fauna in the Park.⁹

The WDNR Watershed Explorer tool was unable to delineate the Pond’s watershed and provide sufficient watershed characterization due to the Pond’s small size. However, the Pond is within the larger Lincoln Creek Watershed which provides a broader context to the Lake’s pollutant loading sources. Residential and urban lands constitute the majority of the Lincoln Creek Watershed, with the largest amount of greenspace immediately north of McGovern Park in Havenwoods Forest Preserve. As the Park is in an urban setting, high amounts of stormwater runoff and erosion are the most likely concerns for nutrient loading. Incorporating environmentally friendly turf-grass management and planting and maintaining native vegetative buffers can help in reducing phosphorus coming to the Pond and improve water quality.

SURVEY FINDINGS

Commission staff surveyed McGovern Park Pond’s aquatic plant community on July 16th, 2025. These efforts included identification of aquatic invasive species (AIS). The weather conditions were warm and sunny with mild wind. The Pond’s water clarity was poor, most likely due to suspended solids in the water. The Pond’s shoreline was varied, with some areas having vegetative buffers and naturalized shoreline, and some areas with turf grass up to the edge and visible shoreline erosion (see Figure 2). Commission staff accessed the Pond on the northwest end and launched off the shoreline. Several native birds and mussels were observed during the survey (see Figure 2).

Commission staff completed a point-intercept aquatic plant survey of the Lake using a 93-point sampling grid provided by the Wisconsin Department of Natural Resources (WDNR) (see Figure 3). At each survey point the water depth, sediment type, and the qualitative abundance of each species observed as well as all aquatic plants combined, were recorded. Photos and specimens were collected for each observed aquatic plant species. Water quality measurements, including a Secchi disk reading and profiles of temperature, dissolved oxygen, dissolved oxygen saturation, and pH measured using a Hanna Instruments meter, were recorded at the lake’s deep hole site, shown in Figure 4.

⁹ Information regarding Nature Trails within the Milwaukee County Parks system can be viewed at: county.milwaukee.gov/EN/Parks/Explore/Trails/Nature-Trails.

Figure 2
Images from McGovern Park Pond

Erosion on Shoreline



Bridge over McGovern Park Pond



Chinese Mystery Snail



Native Mussel Shells



Source: SEWRPC

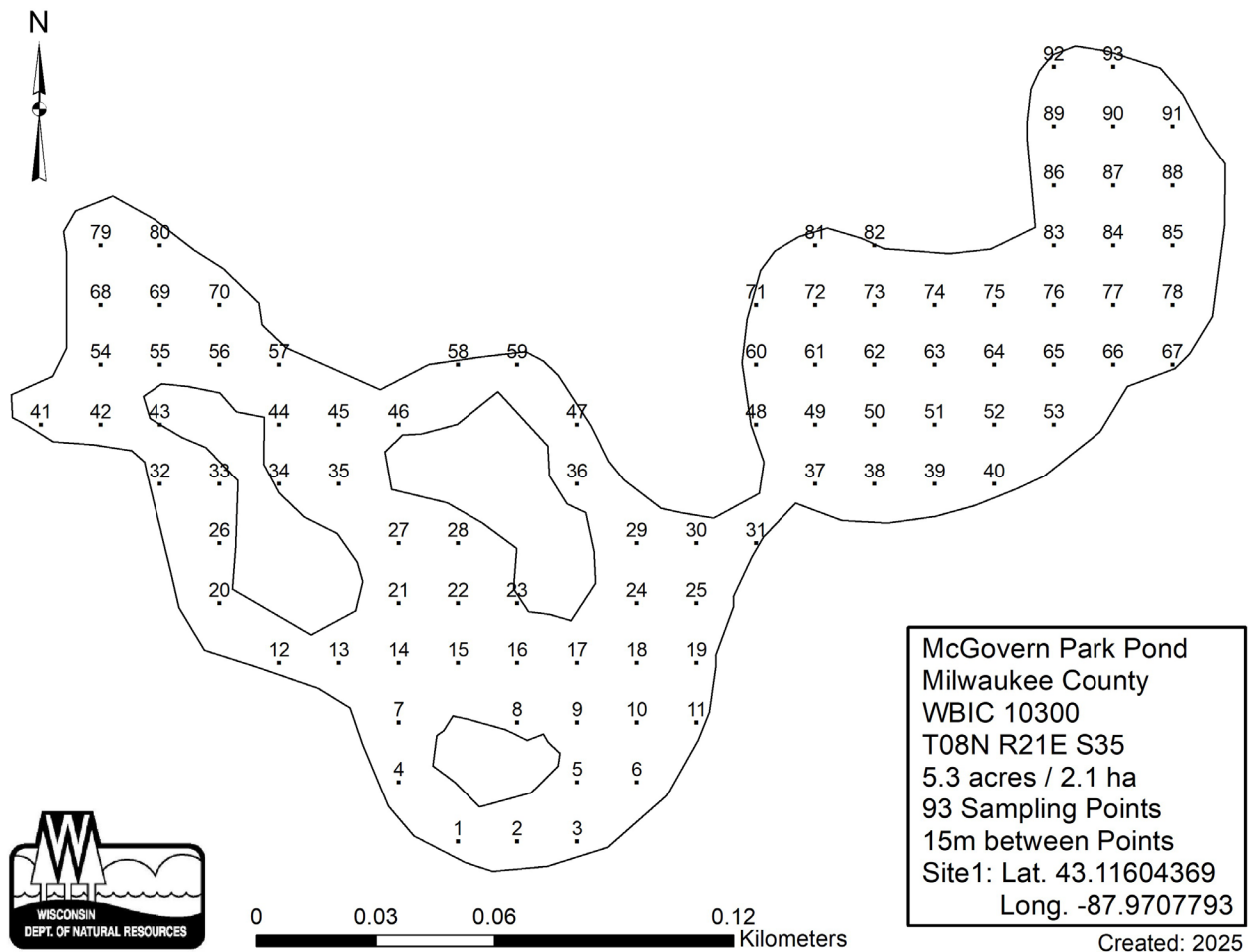
Aquatic Plant Observations

Commission staff observed ten aquatic plant species during the point-intercept survey (see Table 2 for a subset of the benefits of observed species).¹⁰ The total littoral vegetation coverage, or the percentage of aquatic plant occurrence in depths that were shallower than the maximum depth of plants, was 61.5 percent. The maximum depth of colonization by plants was five-and-a-half feet. The average rake fullness was one (see Figure 5). Nine total species were identified by rake sampling, while one plant was seen visually by staff (*Typha* sp., cattail) and not collected on the rake. For the littoral points, the species ranked in order of abundance were: coontail (*Ceratophyllum demersum*, 67.5 percent), common waterweed (*Elodea canadensis*, 60.0 percent), Eurasian watermilfoil (*Myriophyllum spicatum*, 50.0 percent), large duckweed (*Spirodela polyrhiza*, 45.0 percent), and forked duckweed (*Lemna trisulca*, 42.5 percent). Eurasian watermilfoil and curly-leaf pondweed were the only aquatic invasive plant species seen in the Pond. Commission staff observed the invasive Chinese mystery snail (see Figure 2). Common reed (*Phragmites australis*) has been reported near the Pond but was not recorded directly by staff.¹¹

¹⁰ Filamentous algae was observed and collected in the Pond but is not biologically classified as a plant.

¹¹ All invasive species listed have been previously known to occur, first reported in 2014. apps.dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=10300&page=invasive.

Figure 3
Point-Intercept Grid of McGovern Park Pond



Source: WDNR

Aquatic plant metrics, such as species richness and the floristic quality index (FQI), can be useful for evaluating lake health. In hard water lakes, such as those common in Southeastern Wisconsin, species richness generally increases with water clarity and decreases with nutrient enrichment.¹² The FQI is an assessment metric used to evaluate how closely a lake’s aquatic plant community matches that of undisturbed, pre-settlement conditions.¹³ To formulate this metric, Wisconsin aquatic plant species were assigned conservatism (C) values on a scale from zero to ten that reflect the likelihood that each species occurs in undisturbed habitat. These values were assigned based on the species substrate preference, tolerance of water turbidity, water drawdown tolerance, rooting strength, and primary reproductive means. Native “sensitive” species that are intolerant of ecological disturbance receive high C values, while natives that are disturbance tolerant receive low C values. Invasive species are assigned a C value of 0. A lake’s FQI is calculated as the average C value of species identified in the lake, divided by the square root of species richness.

Only nine aquatic plant species were directly sampled during the point-intercept survey, though invasive species (Eurasian watermilfoil and curly-leaf pondweed) and filamentous algae are not included in calculating FQI, leaving six species included in the FQI calculation. The FQI of McGovern Park Pond in 2025 was 11.0. For reference, the average FQI value for the Southeastern Wisconsin Till Plains ecoregion is 20.0. The lower-

¹² Vestergaard, O. and Sand-Jensen, K., “Alkalinity and Trophic State Regulate Aquatic Plant Distribution in Danish Lakes,” *Aquatic Botany* 67, 2000.

¹³ Nichols, Floristic Quality Assessment of Wisconsin Lake Plant Communities with Example Applications, *Lake and Reservoir Management* 15(2), 1999.

Figure 4
Water Quality Profiles for McGovern Park Pond

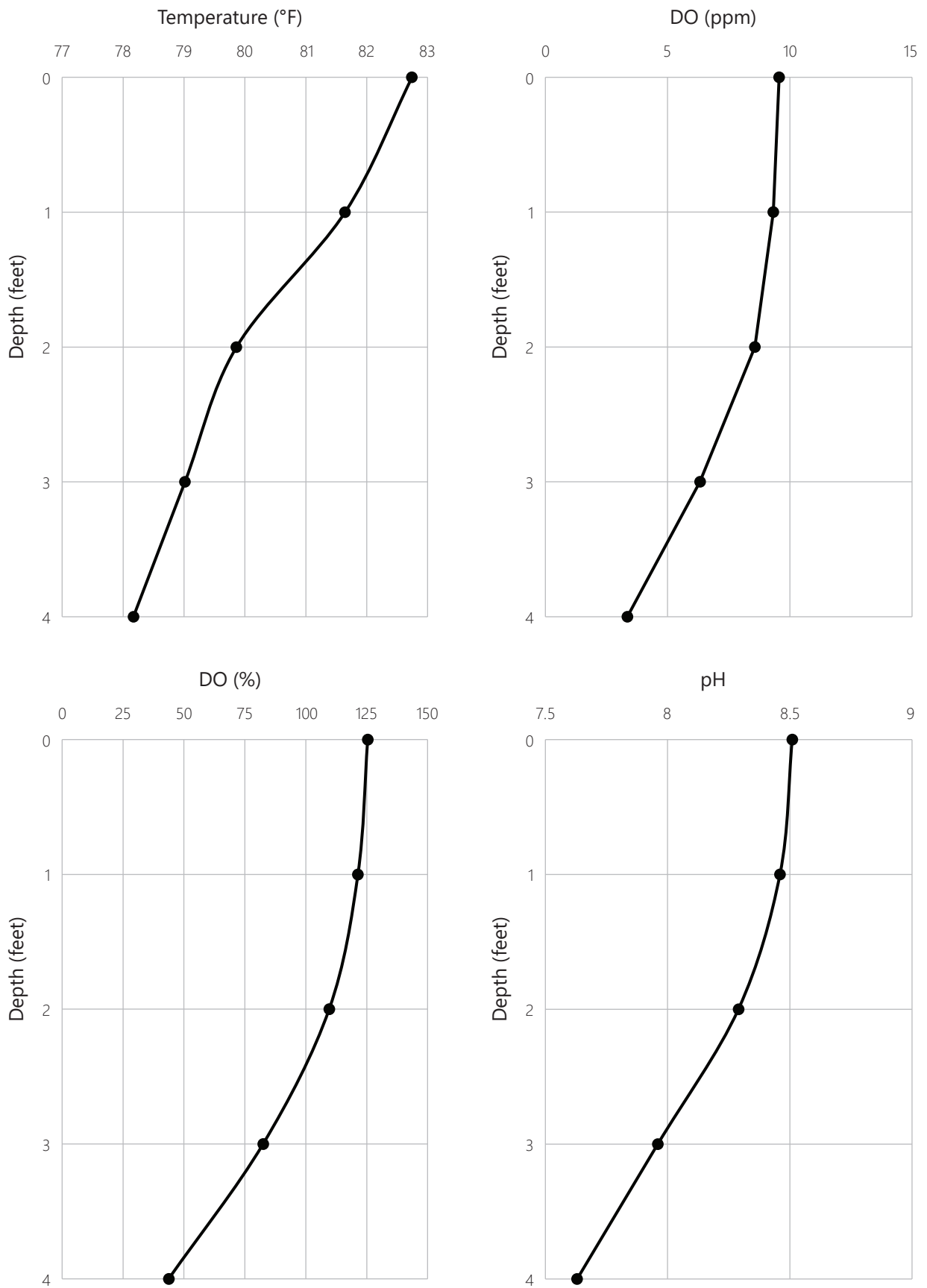
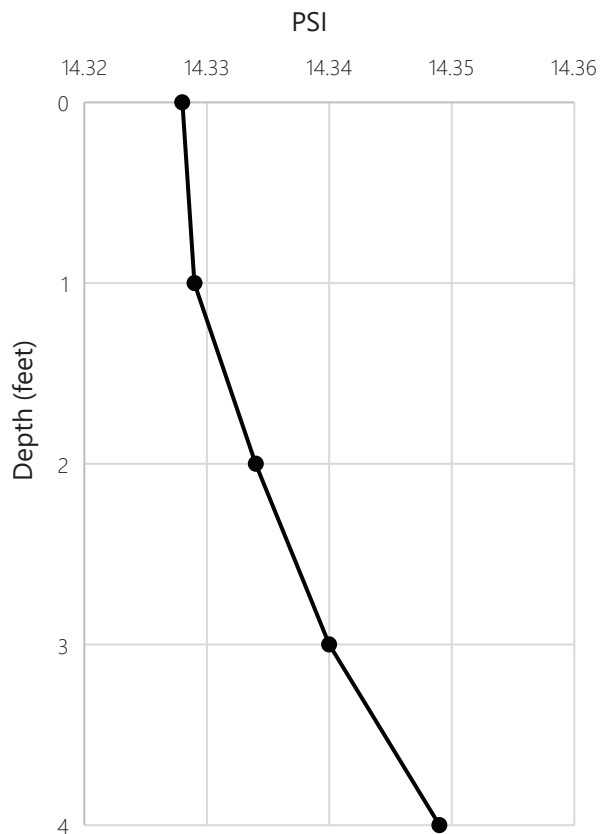
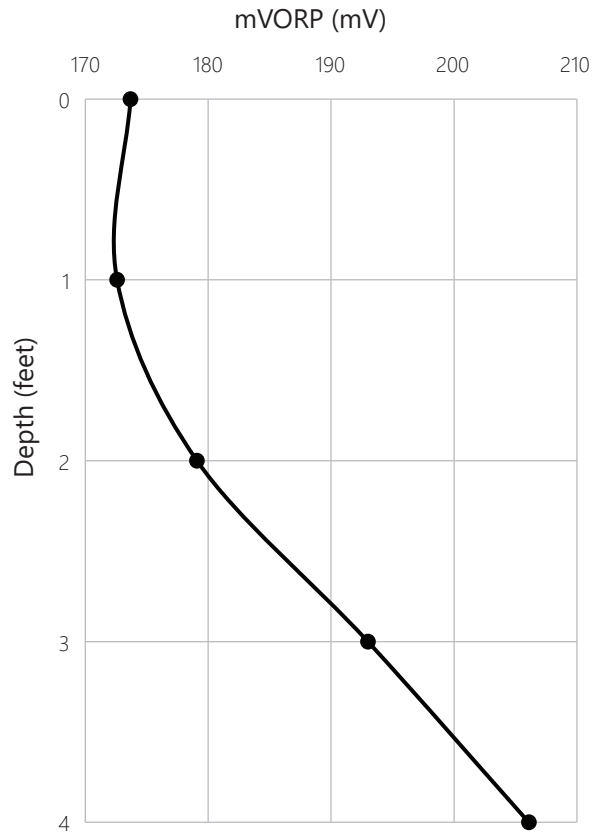
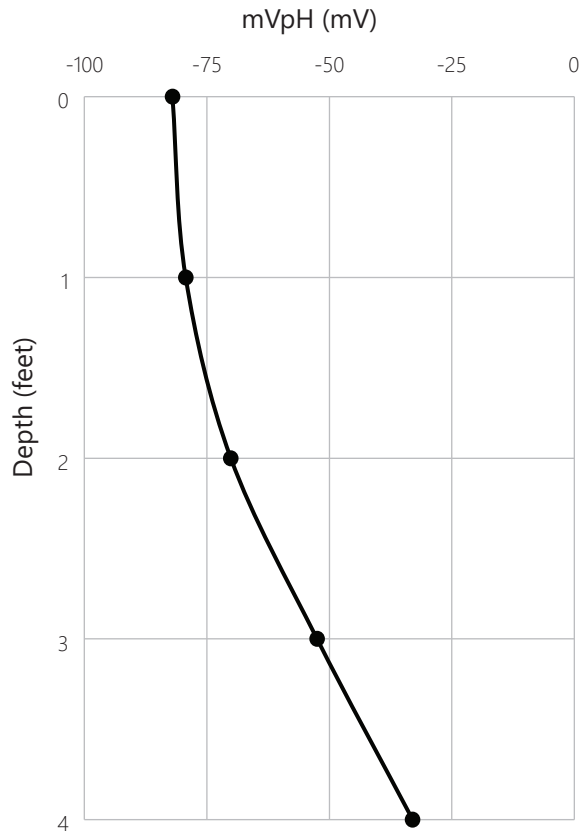


Figure 4 (Continued)



Source: SEWRPC

Table 2
Ecological Significance of Aquatic Plant Species in McGovern Park Pond

Species Name	Ecological Significance
<i>Ceratophyllum demersum</i> (coontail)	Provides good shelter for young fish and supports insects valuable as food for fish and ducklings.
<i>Elodea canadensis</i> (waterweed)	Provides shelter and support for insects which are valuable as fish food.
<i>Lemna</i> sp. (duckweeds)	Provides food for waterfowl. Rapidly absorbs nutrients from water column; mats can prevent extensive mosquito breeding; native.
<i>Myriophyllum spicatum</i> (Eurasian watermilfoil)	Invasive species that can cause navigation issues. Provides habitat for fish.
<i>Potamogeton crispus</i> (curly-leaf pondweed)	Provides habitat for aquatic life in winter and spring; midsummer die-off creates sudden habitat loss and releases nutrients into the water column. Invasive.
<i>Stuckenia pectinata</i> (sago pondweed)	Most important pondweed for ducks as a food source. Provides food and shelter for young fish.
<i>Typha</i> spp. (cattail)	Provides food and shelter for aquatic and terrestrial lifeforms.

Note: Information obtained from A Manual of Aquatic Plants by Norman C. Fassett, University of Wisconsin Press; Guide to Wisconsin Aquatic Plants, Wisconsin Department of Natural Resources; Through the Looking Glass: A Field Guide to Aquatic Plants, Wisconsin Lakes Partnership, University of Wisconsin – Extension; and U.S. Forest Service; Encyclopedia Britannica.

Source: SEWRPC

than-average FQI score is influenced by the very low species richness of McGovern Park Pond as well as the disturbance-tolerant nature of the species observed. Although no known previous aquatic plant inventories have been taken for the Pond, the aquatic habitat may not be suitable for high species richness considering its artificial origin, small size, shallow depth, and high ecological disturbance.

The Pond was treated with herbicide on July 31, 2025, two weeks after Commission staff surveyed the aquatic plant community. Chemical treatments (Cutrine-Plus, Tribune, and Flumioxazin) were applied to the Pond to maintain fishing access and to control duckweeds, emergent species like cattail, and invasive populations.¹⁴ Other chemical treatments to the Pond have been documented in 2015 and 2018, and are the main aquatic plant management tool used. Other management options to consider for the Pond given the high usage of the Park and nearby natural area could include physical removal of invasive species and potential stocking of native species. Selecting native plant species like muskgrass (*Chara* sp.), sago pondweed, and various pondweeds (*Potamogeton gramineus*, *P. natans*, and/or *P. zosteriformis*) can provide both habitat for fish and food for waterfowl while increasing biodiversity of the aquatic system.¹⁵ If these native species can outcompete the invasives, the need for aquatic plant management of the Pond may be reduced as these species do not grow to nuisance levels as readily as invasive species.

Water Quality

McGovern Park Pond has been previously surveyed for aquatic invasive species (AIS), sediment contamination, and water quality parameters within the last 25 years, with limited information before the 21st century. Commission staff have endeavored to summarize previous efforts and report on the Pond’s water quality using the available data from the WDNR and the County.

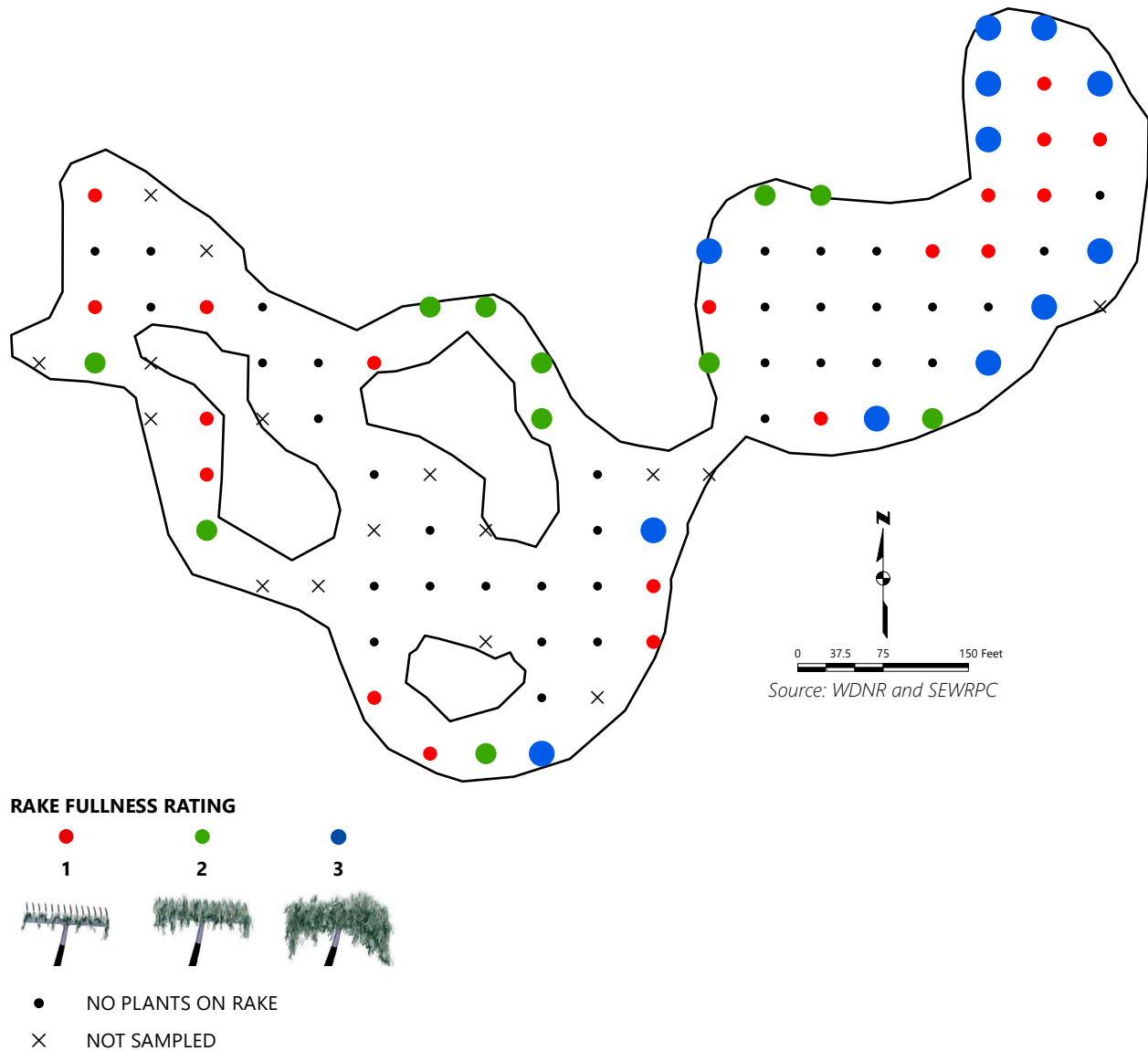
Temperature and Dissolved Oxygen

Seasonal air temperature fluctuation and varying amounts of sunshine influence lake temperatures, causing waters to mix and stratify seasonally. In spring and fall, most lakes are well mixed and therefore are the same temperature from the water surface to the lake bottom. In summer, surface water warms and becomes more buoyant than underlying cooler water. Commission staff measured water temperatures as a depth profile, taken at the deep hole sit down to four feet (see Figure 4). Water temperatures ranged from 25.7 to 28.2°C (78.2 to 82.7°F). McGovern Park Pond did not exhibit stratification and the Pond most likely experiences constant mixing of waters throughout the summer. While the majority of water temperatures measured during the 2025 survey are indicative of healthy conditions for warmwater fish species found in Southeastern Wisconsin, the surface water temperature passed the sublethal threshold for warmwater

¹⁴ permits.dnr.wi.gov/water/SitePages/Permit%20Search.aspx#k=mcgovern%20park#l=1033.

¹⁵ Commission or WDNR staff can provide assistance in aquatic plant species selection upon request.

Figure 5
Total Rake Fullness in McGovern Park Pond: Summer 2025



Note: Survey was conducted on McGovern Park Pond on July 16th, 2025.

fish species.¹⁶ Surpassing sublethal criteria can increase fish stress and decrease the vitality and longevity of stocked species. The drop in water temperature past the surface waters and into the first foot of water may have been due to the presence of duckweeds and watermeal shielding waters from the Sun. As the temperature profile was taken before aquatic plant treatment, more extensive monitoring and depth profiles should be conducted to evaluate water fluctuations in temperatures for fish species.

Dissolved oxygen (DO) levels are one of the most critical factors affecting the living organisms of a lake ecosystem. DO is generally higher at the surface of a lake where there is an interchange between the water and atmosphere, stirring by wind action (which aids in atmospheric oxygen diffusion into the surface waters at the air-water interface), and oxygen production by plant and algae photosynthesis. Metabolic processes, such as bacterial decomposition and respiration by aquatic organisms, consume oxygen and decrease DO concentrations. Dissolved oxygen was reported both in ppm, or parts per million, as well as percent

¹⁶ docs.legis.wisconsin.gov/code/admin_code/nr/100/102.pdf#page=18.

saturation. While ppm measures the amount of oxygen in a volume of water, interchangeable with mg/L, the percentage of dissolved oxygen reports the relative amount of oxygen the water could hold at a given temperature and air pressure. When water is holding as much oxygen as can be absorbed, it is 100 percent saturated. Oxygen saturation values above 100 percent, called supersaturation, occur when water contains a higher concentration of dissolved oxygen than is normally soluble at ambient conditions of temperature and pressure. Supersaturation can occur when photosynthesis is releasing oxygen faster than can be used, indicative of algae blooms or eutrophic conditions.

A minimum DO concentration of 5 mg/L is considered necessary for survival of most species of fish. Commission staff measured dissolved oxygen concentrations ranging from 3.4 to 9.6 mg/L (see Figure 4) decreasing with depth.¹⁷ The DO percent saturation of the Pond ranged from 43.8 to 125.4 percent. The surface waters down to three feet of depth met dissolved oxygen criteria for fish habitat, while the bottom foot of the water column was unsuitable. Oxygen supersaturation, recorded at the water's surface down to two feet in the water column, is likely caused by high intensities of photosynthesis from the duckweeds, algae, and watermeal that covered the surface waters. As 140 percent saturation can cause fish kills, the recorded supersaturation conditions are likely stressful to fish. The anoxic levels recorded are likely a result of the respiration of sediments at bottom of the lake consuming (reducing) the dissolved oxygen concentrations. These conditions are a likely indicator of an enriched nutrient status within the Pond. Incoming sediment and nutrient loading may exacerbate present supersaturation conditions, decreasing habitat quality for aquatic organisms. As fishing is an important recreational activity to the Pond, maintaining dissolved oxygen levels through aquatic plant management, regular monitoring of water quality conditions, and reducing nutrient loads to the Pond (see discussion below) can aid in creating a thriving environment for fish. Other methods to alleviate dissolved oxygen conditions, such as operating an aerator or circulator, could also be considered to alleviate conditions during particularly stressful mid-summer periods.

Nutrients and Trophic Status

Nutrients are elements and compounds needed for plant and algal growth. They are often found in a variety of chemical forms, both inorganic and organic, which may vary in their availability to plants and algae. Typically, growth and biomass of plants and algae in a waterbody are limited by the availability of the nutrient present in the lowest amount relative to the organisms' needs. Lake biological productivity is referred to in terms of "trophic status." Water clarity, total phosphorus, and chlorophyll-*a* are three important determinants of a lake's trophic status.

Water clarity, or transparency, provides an indication of overall water quality—the greater the clarity, the better the water quality. In most Southeastern Wisconsin lakes, water clarity is influenced by the abundance of algae and suspended sediment. Water clarity generally varies throughout the year as algal populations increase and decrease in response to changes in lake temperature, sunlight, and nutrient availability. Large rainfall events can also influence water clarity, with sediment-induced clarity declines caused by heavy runoff. Clarity is measured using a Secchi disk, a black-and-white, eight-inch-diameter disk. This disk is lowered into the water until it is no longer visible, at which point the depth is recorded, and then it is raised until visible again, when depth is recorded again. The average of these depths is called the "Secchi depth." Commission staff measured a Secchi depth of one and-a-half feet at the deep hole site, which is indicative of very low water clarity and likely high abundance of algae and/or suspended solids. The only previously recorded Secchi depth on the Lake was taken in 2004 and was 3.2 feet. Estimated Secchi depth, measured via satellite imaging, was 1.9 feet in 2010.¹⁸ The low water clarity has been consistent throughout the Pond's history, as the 1964 *Surface Water Resources of Milwaukee County* described the waters as "generally turbid". Measurements taken in the Phase II *Milwaukee County Pond and Lagoon Management Plan* in 2003 reported that McGovern Park Pond had the highest amount of total suspended sediments out of all the Milwaukee County park ponds sampled, with concentrations as high as 94 mg/L.¹⁹ As suspended sediments can cloud the water column, the low observed water clarity in the Pond is expected.

¹⁷ Conversion of units from ppm to mg/L is a direct conversion of 1:1.

¹⁸ Information provided by Milwaukee County Parks and the Surface Water Integrated Monitoring System (SWIMS) database.

¹⁹ apps.dnr.wi.gov/lakes/waterquality/Station.aspx?id=413680.

Other parameters indicating trophic status can include phosphorus and chlorophyll-*a*. Phosphorus is a key nutrient for aquatic plants and algae and its availability often limits their growth and abundance. Chlorophyll-*a* is a photosynthetic pigment whose abundance is used to indicate algal biomass within a lake. Although chlorophyll-*a* and phosphorus were not collected in the 2025 survey, the historically collected data is briefly discussed in this memorandum. Between 2003 to 2024, the total phosphorus concentrations ranged from 0.05 to 0.67 mg/L. The most recent measurement was taken in August of 2024 and was 0.11 mg/L. All measurements taken surpass the 0.04 mg/L numeric criterion that would indicate impairment due to nutrient enrichment based on WDNR standards for unstratified lakes.²⁰ Within the same 2003-2024 period, the chlorophyll-*a* concentration ranged from 14 µg/L to 150 µg/L. It should be noted that the most recent samples taken in 2017 and 2024 both had recorded concentrations that are under the 27 µg/L criterion that would suggest impairment of lakes and reservoirs (18 µg/L and 14 µg/L, respectively). The data suggest a trend that the productivity of the Pond may be reducing over time. When converted to a trophic state index, these measurements indicate that the Pond is most likely eutrophic/hypereutrophic, meaning that it is excessively rich in nutrients. These findings are consistent with the 1964 publication *Surface Water Resources of Milwaukee County* as well as the 2004 *Milwaukee County Pond and Lagoon Management Plan*. Notably, both plans site erosion and high waterfowl presence in the Pond, which may contribute to the present-day high nutrients observed.²¹

A 2003 assessment of McGovern Park Pond determined that an estimated 950 linear feet of shoreline exhibited erosion. This assessment was part of the larger Lagoon Shoreline Assessment that surveyed over 30 Milwaukee County Park ponds/lagoons.²² Erosion not only contributes nutrients and pollutants in the eroded sediment but also decreases future stormwater infiltration capacity. As precipitation events occur, stormwater more readily flows directly over eroded sites and into the waterbody instead of being stored and filtered for contaminants by vegetation.

Past measurements of *E. coli* concentrations in McGovern Park Pond indicate fecal matter presence, another source of nutrients in aquatic environments. Samples have been observed up to 461 CFU/100mL. For reference, beach advisories occur at 250 CFU/100 mL while closures occur at 1,000 CFU/100mL; though the Pond is not permitted for beach use and there is presently no standard for recreational waters.²³ McGovern Park was listed as a Pond of concern in the 2004 *Milwaukee County Pond and Lagoon Management Plan* for nuisance levels of geese populations and have been subject to deterrent methods though egg adding, trained border collie chases, and chemical applications in the early 2000s.²⁴ In 2025, up to 103 geese were seen in a single week, as reported by the online database eBird, and thusly could still be a major component of fecal matter and associated nutrients.²⁵ Using the average number of geese seen per week in the Park, Commission staff estimate that there are 10,138 geese-days throughout the year.²⁶ Using the high range of 0.62 grams of phosphorus contributed per day per goose (Gramillion and Malone, 1986), up to 13.9 pounds of phosphorus a year can be contributed to the Park and Pond by geese feces.

²⁰ dnr.wisconsin.gov/topic/SurfaceWater/Impairments.html.

²¹ *Other studies have estimated that geese can contribute between 0.49 and 0.62 grams of phosphorus per day per goose. See P.T. Gremillion and R.F. Malone, Waterfowl waste as a source of nutrient enrichment in two urban hyper-eutrophic lakes, Lake and Reservoir Management 2: 3193-22, 1986, and L. Marion, B. Clergeau, L. Brient, and G. Bertu, "The importance of avian-contributed nitrogen (N) and phosphorus (P) to Lake Grand-Lieu, France," Hydrobiologia 279 (5485): 1743-1746, 1994.*

²² Spuhler, University of Wisconsin Extension, Lagoon Shoreline Assessment, February, 2003.

²³ dnr.wisconsin.gov/topic/Beaches/Predicting.html.

²⁴ Milwaukee County Environmental Services, Milwaukee County Pond & Lagoon Management Plan, June 2005. county.milwaukee.gov/files/county/administrative-services/Environmental-Services/MILWAUKEECOUNTYPONDANDLAGOONMGMTPLAN.pdf.

²⁵ ebird.org/barchart?r=L3137968&bmo=1&emo=12&byr=1900&eyr=2026&spp=cangoo.

²⁶ 'Geese-days' serves as an estimate of the daily geese visitations throughout the year. This metric does not serve to count unique individuals, as it is assumed the same geese stay for extended time periods. The metric was calculated by taking the sum of the average geese per week, multiplied by seven for the number of geese seen per day.

The surrounding woods of the Pond were reforested in 2024-2025 (see Figure 6), providing assistance in stormwater runoff, enhancing biodiversity, and reducing nutrient loading into the Pond. Other future nutrient reduction methods can include dredging the Pond, applying an alum treatment, reducing the geese population, and/or enhancing native shoreline vegetation could help to reduce phosphorus and chlorophyll-*a* concentrations and enhance water clarity. While these additional management options can be costly, grants are available through the WDNR for implementation of best management practices.^{27,28} Implementing a variety of improvements could allow for synergistic outcomes for improved Pond quality. Particularly, native shoreline plantings can decrease soil erosion, increase pollinator visitation, and discourage direct access of geese into and out of the Pond to deter nuisance populations.²⁹

Other Parameters

Commission staff additionally recorded pH and mVORP values as detected in the suite of the Hanna Instruments meter (see Figure 4). The pH scale measures the acidity of water, a logarithmic measure of the hydrogen ion concentration on a scale of 0 to 14. Pure water has a pH of 7, neutral on the pH scale. In Wisconsin lakes, pH can range anywhere from 4.5 in some acid-bog lakes to 8.4 in hard water, marl lakes.³⁰ Many chemical and biological processes are affected by pH, as are the solubility and availability of many substances. Different organisms can tolerate different ranges of pH, with most preferring ranges between about 6.5 and 8.0. Although moderately acidic (slightly below a pH of 7) does not usually harm fish, as pH drops to 6.5 or lower, some species can be adversely affected, especially during spawning. In addition, many metals are more soluble in water with low pH than they are in water with high pH and can be released from lake sediment if present under low pH conditions.

With an average pH of 8.2, McGovern Park Pond is a slightly basic waterbody.³¹ The pH of the Pond ranged from 7.6 to 8.5 and was more alkaline near the surface (see Figure 4). These measurements are consistent with past findings from 2010 to 2024 (pH between 7.7 and 8.6) and indicate no long-term change in the Pond pH. A waterbody's pH can be affected by acids released by decomposition of organic material, underlying soil and bedrock type, and photosynthesis of aquatic plants, phytoplankton, and algae. Additionally, external factors such as pollutants contained in discharges from point sources and in stormwater runoff can also affect the waterbody's pH.

Additionally, mVORP measurements refer to the oxidation-reduction potential (ORP), measured in millivolts (mV), which reports the electron transfer capacity by measuring oxidizing or reducing agents. The unique combination of dissolved solutes in the water (i.e. chlorine, decaying matter, hydrogen, oxygen) swing the redox value to be positive or negative. A high ORP typically signifies oxidizing conditions in a lake ecosystem, which sustains aerobic bacteria to enhance decomposition, while low ORP can indicate reducing conditions that sustain anaerobic bacteria and may limit decomposition. The mVORP values of McGovern Park Pond were positive and increased with depth, a negative correlation to the dissolved oxygen water profile seen. These positive results likely indicate that decomposition can occur efficiently under aerobic, oxidizing conditions.

Sediment

A historic 1970 WDNR survey indicated a maximum depth of 4.5 feet in McGovern Park Pond, whereas the 2025 survey found a maximum depth of 7 feet (see Map 2). This change in depth may have been due to changes in water levels at the time of the surveys or dredging of the Pond, as the northernmost island in the top lobe of the Pond was present in 1970 but no longer seen in 1980 aerial photography (see Figure 1). This suggests that the Pond was manipulated in that timeframe, though the exact cause of change and the time of occurrence is unknown. All but one surveyed point in the 2025 survey was recorded to be organic,

²⁷ More information regarding surface water grants can be found here: dnr.wisconsin.gov/aid/SurfaceWater.html.

²⁸ Commission staff would be able to provide guidance on grant navigation under request.

²⁹ Smith, et al., *Managing Canada Geese in Urban Environments*, 1999.

³⁰ Wisconsin Department of Natural Resources, Byron Shaw, Christine Mechenich, and Lowell Klessig, *Understanding Lake Data, 2004*. www3.uwsp.edu/cnr-ap/weal/Documents/G3582.pdf.

³¹ Lillie, R.A. and Mason, J.W, *Limnological characteristics of Wisconsin lakes: Wisconsin Department of Natural Resources Tech. Bulletin No. 138, 1983*.

Figure 6
Reforestation Project in McGovern Park: 2024-2025

McGovern Reforested Areas



Source: Milwaukee County Parks

mucky sediment; these findings were consistent with the 1970 WDNR map of the Pond.³² Given the erosion issues in the Pond, sedimentation has most likely been occurring over the years. Sedimentation is a part of the natural aging process, as all lake basins gradually fill with sediment through the decay of organic matter as well as runoff from surrounding areas. When the supply of such material exceeds the ability for material to be decomposed and removed from the lake bottom, organic deposits form. These deposits are commonly termed muck. The amount of these materials deposited within lakes is highly variable and is highly dependent upon the level of lake nutrient enrichment.

McGovern Park Pond's sediment was tested for metal contaminants in 2003 as a part of Milwaukee County's Phase II of the Park and Lagoon Management Plan.³³ The sediment cores were not found to exceed any quality guidelines that would affect benthic macroinvertebrates or groundwater.³⁴

Water and Flocculent Sediment Depths

Commission staff surveyed flocculent sediment depths in McGovern Park Pond using a seven-foot-long hollow plastic tube marked in inches to the top. At selected points from the point-intercept survey, the pole was lowered until it hit the current Pond bottom, and a depth measurement was recorded. The pole was then pushed down once more to break through accumulated sediment until it could not be pushed further, called the point of refusal, and another measurement was made. Accumulated sediment was calculated by subtracting the point of refusal measurement from the current Lake bottom depth.

³² WDNR, 1970, op. cit.

³³ Milwaukee County Environmental Service, 2005, op. cit.

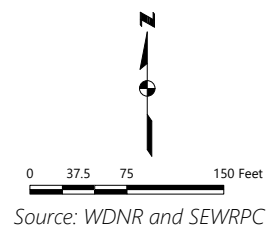
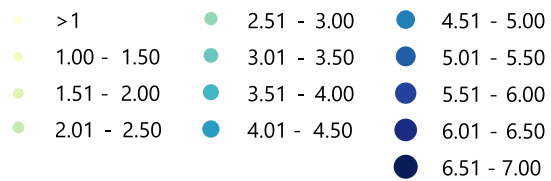
³⁴ See Table 1 on page 17 on the WDNR, Consensus-Based Sediment Quality Guidelines; Recommendations for Use & Application, December 2003. (widnr.widnr.net/s/fkwscvxq26/rr088).

Map 2
Water Depths in McGovern Park Pond: Summer 2025



Note: Water depths were collected on July 16th, 2025.

Water Depth (feet)



Out of the 35 sediment depths collected, accumulated sediment depths ranged from zero to 1.8 feet (see Map 3). The highest amount of accumulated sediment was seen on the shorelines. Areas deeper than 7 feet were unable to be quantified for sediment accumulation. As only a limited number of sediment depths were taken, the total flocculent sediment volume within the Pond is unable to be confidently quantified.

SUMMARY

- McGovern Park Pond is of great value to Park users and supports great wildlife viewing opportunity, access to greenspace, and recreational opportunities. The adjoining NA-3 Natural Area on the west side of the Pond encourages unique wildlife habitat and is highlighted by the Milwaukee County Parks nature and birding trails.
- Past management of the Pond have included targeted geese reduction and chemical treatments for aquatic plants. The Lake has been surveyed historically for water quality, heavy metal sediment contamination, shoreline erosion, and AIS surveys.
- The Pond has historically had fairly poor water quality, noting shoreline erosion, sedimentation, and low dissolved oxygen for aquatic life.
- The aquatic plant community in the Pond is not very diverse, with species present that have a high tolerance to pollution. The County should consider stocking native aquatic plant species that could provide long-term benefits to wildlife by providing food and shelter as well as colonize areas currently dominated by invasive species growth. Additionally, this method can reduce long-term maintenance needs of chemical applications.
- McGovern Park Pond likely suffers from eutrophic or hypereutrophic conditions, which is contributed by waterfowl, turf management, and/or shoreline erosion. These pollution sources can be managed through methods such as native shoreline plantings, which deter geese and reduce nutrient erosion, as well as reducing fertilizer use on Park turf grass near the Pond.
- Project fundraising and volunteer hours for restoration projects could be provided by Milwaukee Parks Foundation, The Park People, or other non-profit organizations. Aquatic rakes could be provided for hand-pulling aquatic invasive species.

Map 3
Sediment Depths in McGovern Park Pond: Summer 2025



Note: Water depths were collected on July 16th, 2025.

Sediment Depth (feet)

- <0.50
- 0.51 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00

