

## Memorandum

**To:** Indian Lake Government Lake Board  
**From:** Joe Bischoff, Senior Aquatic Ecologist  
**Subject:** Work order for 2026 Indian Lake Activities  
**Date:** November 14, 2025  
**Project:** 22141003.00

In September of 2021, a five-year plan for managing Indian Lake in Cass County, Michigan was developed. In conjunction with Indian Lake Improvement Association, a five-year action plan and associated costs was developed as a strategy to improve conditions in Indian lake and better define the stressors limiting water quality in the lake. Table 1 outlines the proposed activities over the five-year plan. Each of the actions is linked to a goal for Indian Lake.

The whole lake fluoridone treatment was completed in 2023 to control Eurasian watermilfoil and Curly-leaf pondweed. Continued monitoring is required to assess the effectiveness of the treatment and determine next steps in the management of the lake. Lake water quality and aquatic vegetation monitoring occurred in 2021, 2022, 2023, and 2024 as prescribed in the plan. Additionally, lake level and stream level (Mann Drain) equipment were installed to develop flow rating curves and estimate water volumes entering and leaving the lake.

Activities for 2026 are included in the attached work order (2026A) continuing to follow the 5-year plan in Table 1. Activities included in the 2026A work order include:

### Water Quality and Vegetation Monitoring

The 2026 work order includes water quality and vegetation monitoring similar to previous years. Monthly water quality sampling will occur as well as vegetation surveys in Spring and Fall of 2026. We will also manage 2026 aquatic vegetation management activities including spot treatments of aquatic plants or other management activities.

### Annual Reporting and Meeting Attendance

The work order also includes development of an annual report and in-person attendance at one Indian Lake Improvement Association or Government Lake Board meetings (June or August) as outlined in the five-year plan.

In addition to these general activities, the five-year plan identified the development of a Mann Drain Improvement Project to support the design of a restoration project if the Mann Drain was determined to be a major source of phosphorus to Indian Lake. While the Mann Drain was not identified as a large contributor of phosphorus to Indian Lake, sediment loading could cause some localized impacts on the north end of the lake. Since the project was undefined at the time of the development of the plan, \$15,000 was added as a placeholder for the project in 2025 and another \$25,000 for 2026. These potential activities will be further discussed at the Government Lake Board meeting.

**Board request: Approve Barr's 2026A work order for 2026 monitoring and management activities.**

**Table 1. Indian Lake five-year action plan and estimated costs from the 2021 five-year plan. Linked objectives and assumptions can be found in the five-year plan.**

Objective	Action	2022	2023	2024	2025	2026
1	Whole Lake fluoridone treatment to control invasive vegetation (EWM and CLP)	\$73,000	--	--	--	--
1	Spot herbicide treatments for invasive control	--	\$35,000	\$47,000	\$30,000	\$30,000
2	Harvesting for recreational support	\$2,000	\$4,000	\$4,000	\$4,000	\$4,000
3	Monitor Mann Drain for nutrient and sediment influx	--	\$15,000	\$15,000		
	Mann Drain improvement project (if necessary)	--	--	--	\$15,000	\$25,000
	Develop HAB response action plan		\$3,000	\$1,000	\$500	\$500
4	Bathymetric mapping of dredged areas to assess changes	--	--	--	\$10,000	--
5	Improve AIS signage and provide educational materials	--	\$2,000	--	--	--
1,2	Aquatic vegetation monitoring and management	\$ 10,000	\$11,000	\$12,000	\$13,000	\$14,000
3	Lake water quality monitoring	\$ 10,000	\$10,000	\$11,000	\$12,000	\$12,000
7	Lake level monitoring	--	\$5,000	\$500	\$500	\$500
ALL	Annual reporting and lake management support	\$ 12,000	\$12,000	\$12,000	\$13,000	\$13,000
	<b>TOTAL</b>	<b>\$ 107,000</b>	<b>\$97,000</b>	<b>\$102,500</b>	<b>\$98,000</b>	<b>\$99,000</b>