



**Title:** Update on the Implementation and Closeout of the Six Mile Creek Halsted Bay Habitat Restoration Project

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**Purpose:**

During the June 22, 2023, Board Meeting, staff will provide an update on the Six Mile Creek Halsted Bay (SMCHB) Habitat Restoration Project regarding the steps being taken to close out the Lessard-Sams Outdoor Heritage Council (LSOHC) grant.

**SMCHB Habitat Restoration Project Background:**

In September 2017, the LSOHC recommended the SMCHB Habitat Restoration Project for \$567,000 to the Minnesota State Legislature. The funding bill was approved, and the grant period began on July 1, 2018.

The project took a comprehensive approach to managing common carp in the SMCHB Subwatershed, based on the University of Minnesota's (U of M) SMCHB carp assessment (2014-2017). This assessment developed a carp population census for each waterbody, identified migration patterns, and located reproduction areas. To address the carp population, the university researchers collaborated with District staff to develop a three-pronged management strategy.

1. Barriers to prevent carp movement between waterbodies and assist with removal
2. Aeration of shallow lakes to prevent successful carp reproduction
3. Carp removal to reduce biomass below the U of M established target of 100 kg/ha for each lake

Between 2018 and 2022, MCWD implemented the LSOHC funded management strategy by:

- Installing four permanent carp barriers to impede carp migration to spawning areas
- Installing three aeration units in key carp nurseries to maintain the population of fish that predate carp eggs
- Implemented approximately fifty carp removal efforts across eight water bodies

**SMCHB Habitat Restoration Project Close Out with LOSHC:**

After successfully implementing the management strategy, the SMCHB Habitat Restoration Project has completed the approved grant requirements and must formally close the LSOHC grant.

Although the LSOHC grant is complete, MCWD's commitment to the overall project will continue, with a focus on the following next steps:

1. Assessing lake response to carp management by analyzing vegetation and water quality data from SMCHB lakes
2. Identifying the conditions under which future carp management may produce the greatest return on investment
3. Communicating MCWD's story with project partners and other interested public agencies
4. Monitoring and maintaining carp biomass to ensure continued success

### Assessing Carp Management Effectiveness and Identifying Suitable Conditions for Future Carp Management:

MCWD staff are currently evaluating the impact of carp reduction in SMCHB lakes by analyzing changes in water quality and aquatic vegetation, and using this information to help guide the future application of targeted carp management within a holistic suite of watershed restoration strategies.

Preliminary analysis has yielded three key findings:

1. Improvements in aquatic vegetation are observed in shallow and moderately shallow lakes that began with a carp biomass greater than 300 kg/ha.
2. Deep lakes in the SMCHB subwatershed appear to have healthy plant communities and good water quality despite having carp biomass greater than 100 kg/ha.
3. SMCHB lakes that have achieved the 100 kg/ha target have not yet demonstrated measurable improvement in water quality.

MCWD staff will summarize these results in a technical memorandum to document the findings and establish the conditions under which carp management may be most effectively leveraged in the future. To support this work, in a potential partnership with state agencies, the Board of Managers allocated \$50,000 within the 2023 budget, to support partnership and consultant services to analyze the data collected by MCWD to characterize improvements in aquatic habitat (water quality and vegetation).

### Communicating the SMCHB Habitat Restoration to Strategic Partners:

As the District completes its data analysis for the project, it will be communicating its gratitude, findings, and recommendations to key partners and stakeholders. This work will begin with the June 20, LSOHC west metro tour. It may also include distribution of print materials, in the form of a brochure, to partners. As well as the potential for in person presentations, and the potential for shared communications between MCWD and state level partners.

### Operation and Maintenance of Capital Assets and Carp Biomass:

Sustaining the project's function requires long-term operations and maintenance of all elements, including:

1. Four barriers to prevent carp migration
2. Three aerators to maintain native fish populations that prey on carp eggs
3. Removals to maintain low carp biomass if populations increase due to successful recruitment

MCWD's Research and Monitoring, Project Maintenance and Land Management, and Planning and Projects departments have collaboratively developed a draft Operations and Maintenance Plan for the SMCHB Habitat Restoration.

This plan outlines how District staff, in partnership with Three Rivers Park District, will take a data-driven and adaptive management approach towards maintaining the ongoing success of the project.