

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40__



July 10, 2017

Dennis Walsh
Mayor, City of Orono
P.O. Box 66
Crystal Bay, MN 55323

Re: DNR Advisory Report on the Formation of the Carman Bay Lake Improvement District in Orono, Hennepin County

Dear Mayor Walsh:

The Minnesota Department of Natural Resources has reviewed the petition submitted to create the Carman Bay Lake Improvement District (CBLID) and prepared this Advisory Report in accordance with Minnesota Rules part 6115.0970 subp. 5.

Goals of the Proposed Lake Improvement District

The stated goal of the CBLID is to manage existing Aquatic Invasive Species (AIS), as well as any future AIS that become established in the bay.

Residents of Carman Bay have treated the bay with herbicides for Eurasian Watermilfoil (EWM) and curlyleaf pondweed (CLP) since 2008, in accordance with a Lake Vegetation Management Plan (LVMP) developed by the DNR for several Lake Minnetonka bays (including Carman), in cooperation with the Lake Minnetonka Association (LMA) and the Lake Minnetonka Conservation District (LMCD). Funding for treatments has been voluntary on the part of residents, sometimes supplemented with grants and other funds provided by the cities, the DNR, and other organizations.

Background Information on Carman Bay

- 1 Carman Bay is a subbasin of upper Lake Minnetonka (27013305). It has a wide connection to the main upper lake, and does not have its own subbasin number.
- 2 The bay has a surface area of about 294 acres with a littoral area (15 feet deep or less per M.R. part 6280.0100, sub 9) of 187 acres, or 64 percent of the surface area¹. Generally, the littoral zone is the part of a lake where rooted aquatic plants can grow, though the maximum depth at which plants can grow depends on water clarity and so varies from lake to lake and even from year to year within the same lake.
- 3 Several aquatic invasive species have been documented in or near the bay. Eurasian watermilfoil (*Myriophyllum spicatum*, EWM) and curlyleaf pondweed (*Potamogeton crispus*, CLP) have been present at nuisance levels for decades. Zebra mussels (*Dreissena polymorpha*) were observed in 2010, and the DNR has a record of purple loosestrife (*Lythrum salicaria*, *L. virgatum*, and hybrids) and flowering rush (*Butomus umbellatus*) in the catchment.²

¹ Lake Minnetonka Conservation District (LMCD) Comprehensive Eurasian Watermilfoil and Curly-leaf Pondweed Management Plan, 2013

² Minnesota Department of Natural Resources

- 4 Carman Bay was one of three Lake Minnetonka bays involved in the Lake Minnetonka Milfoil Project in 2006. This project assessed various technologies and approaches for conducting large-scale herbicide treatments to control EWM, and was the impetus for the formation of the bays' Lake Vegetation Management Plan.
- 5 Aquatic invasive plant management in Lake Minnetonka is focused on the lake's numerous bays, because the bays contain most of the lake's littoral zone and therefore the majority of aquatic plant growth.
- 6 The bay is in an urban/suburban landscape dominated by development.
- 7 The lake is considered an impaired water for mercury, and the Minnesota Pollution Control Agency (MPCA) has issued a consumption advisory for fish caught in the lake.
- 8 Lake Minnetonka is classified as a General Development (GD) lake. GD lakes have structure setbacks of 50 feet above the Ordinary High Water Level (OWHL) for sewered structures and 75 feet for unsewered structures.
- 9 Public access to the bay is available at several points. The City of Orono owns three parcels on the lake, and the lake can also be accessed via city rights of way on four streets. One of these, Lydiard Avenue, has a beach swimming area. The DNR does not operate any boat landings or water access points on the bay, but it is easily accessible via main Upper Lake Minnetonka.
- 10 Secchi depth readings have a 5-year (2006-2010) summertime average of about 8.5 feet. The lake's trophic status is mesotrophic, and it fully supports surface recreational use. Water quality is monitored by the Lake Minnetonka Association or its agent³.
- 11 The proposed method of the Lake Improvement District formation is by citizen petition.

Issue Analysis

Aquatic Invasive Species Management

EWM was discovered in Lake Minnetonka in 1987, and is currently the most problematic plant in Carman Bay. It is the second most abundant plant in the bay, after the native *Ceratophyllum demersum* (coontail). EWM grows in dense mats on the water surface, interfering with surface recreational use, and can grow over and choke out native plants. The LMCD and the LMA have adopted the goal of reducing EWM coverage to a maximum of 20% in Carman Bay to reduce interference with surface recreational use, maintain or increase frequency and richness of native aquatic plants, and maintain or increase water quality.

Current treatment and monitoring regimens are described in a DNR-approved Lake Vegetation Management Plan (LVMP), with the Lake Minnetonka Association serving as project manager. The current LVMP addresses AIS management in several Lake Minnetonka bays (Grays, Phelps, and North Arm, in addition to Carman), and includes a variance approval to treat more than the standard 15% littoral area with herbicides. Although frequency of CLP has been drastically reduced, EWM remains at nuisance levels and supports the granting of the variance. Section 7: Conditions of APM Permits and Variance, restricts herbicide treatment to a maximum of 96 acres and prohibits treatment within 75 feet of areas with bulrush or water lilies. Table 3 of the LVMP lists several aquatic plant management monitoring requirements. If approved, the DNR expects the LID to continue AIS management work under the guidelines and requirements of the LVMP, and to take over the responsibilities in Table 3 unless otherwise carried out by the LMA or the LMCD.

The herbicide treatments regulated under the LVMP are only one component of a comprehensive EWM and CLP Management Plan, developed and overseen by the LMCD, for all of Lake Minnetonka. This comprehensive plan includes not only systemic herbicide treatment, but also spot herbicide treatment

by private landowners and mechanical weed pulling. It also includes lakewide assessment of EWM growth via aerial surveys and vegetation assessments during treatments. This plan identifies Carman Bay as a suitable candidate for large scale herbicide treatments, ranking it at 4th of seven bays so identified. In the current Lake Minnetonka AIS management strategy, responsibility for the baywide herbicide treatments falls to the local property owners; the activities of the proposed LID would take over this part of the management plan.

If any new AIS become established in Carman Bay, the DNR encourages the LID to coordinate with the DNR, the LMA, and the LMCD to devise, adopt and carry out any management actions needed for these new AIS. Because zebra mussels have already been found in the bay, the LID may want to consider adding monitoring for zebra mussel distribution in the bay, and if necessary management of mussels, to its scope of activities.

The bay is easily accessible from a large number of points. There is a public beach and several public access points at the ends of streets. Although there are no public boat launches on the bay, there are two licensed multiple dock areas—Pheasant Lawn HOA and Walters Port Association⁴. The bay also has a very open connection to the rest of Upper Lake Minnetonka. All of these areas provide opportunities for new AIS to be introduced, and for those already present to be transferred elsewhere. The petition does not discuss monitoring, cleaning stations, or educational efforts at any of these locations, but such efforts are a key component in managing and limiting the spread of AIS. The DNR strongly encourages working with the Pheasant Lawn HOA and the Walters Port Association to implement a campaign to promote AIS prevention and management at these locations.

The local AIS specialist, Keegan Lund (Keegan.lund@state.mn.us, 651-259-5828) and the local contact for the DNR's Watercraft Inspection Program, Adam Doll (Adam.Doll@state.mn.us, 651-259-5835), can provide guidance on these efforts. In addition, the DNR issues grants to help with many of these activities, and Hennepin County may also. See http://www.dnr.state.mn.us/grants/aquatic_invasive/index.html, or contact AIS Grants Coordinator Wendy Crowell (wendy.crowell@state.mn.us, 651-259-5085) or DNR Ecosystem Management and Protection Section Manager Ann Pierce (ann.pierce@state.mn.us, 651-259-5119) for possible funding opportunities.

Recommendations/Conclusions

Proposed LID Boundaries

The boundaries of the proposed LID include only properties adjacent to Carman Bay. It does not include all of Lake Minnetonka. MR part 6115.0920 subpart 5 requires that the boundaries include all lands and waters within the direct drainage basin of the lake (shown on the attached map). However, this rule also allows the County Board or City Council to create a boundary less than the entire drainage basin with written Commissioner approval if the boundary selected includes a sufficient amount of the lake's watershed to develop and implement feasible solutions to the problems the LID intends to address. Restriction of the district's boundary to the riparian properties of the bay is sufficient to address the AIS mitigation for which the LID is being proposed, and this practice would be consistent with the history of AIS management as currently conducted in Lake Minnetonka and as described in the LVMP. Therefore, in accordance with these rules, the DNR approves the proposed boundaries identified in the resolution.

Other

The information provided meets the requirements of lake improvement district statutes and rules. Thank you for consideration of these comments. Please contact Kathy Metzker, DNR Land Use Hydrologist at 651-259-5694, if you have any questions. If approved, please provide the name and address of the primary contact of the Board of Directors for the LID and remind the LID of its obligation to provide DNR notice of annual meetings and copies of annual reports per MS § 103B.571.

Sincerely,
DIVISION OF ECOLOGICAL AND WATER RESOURCES

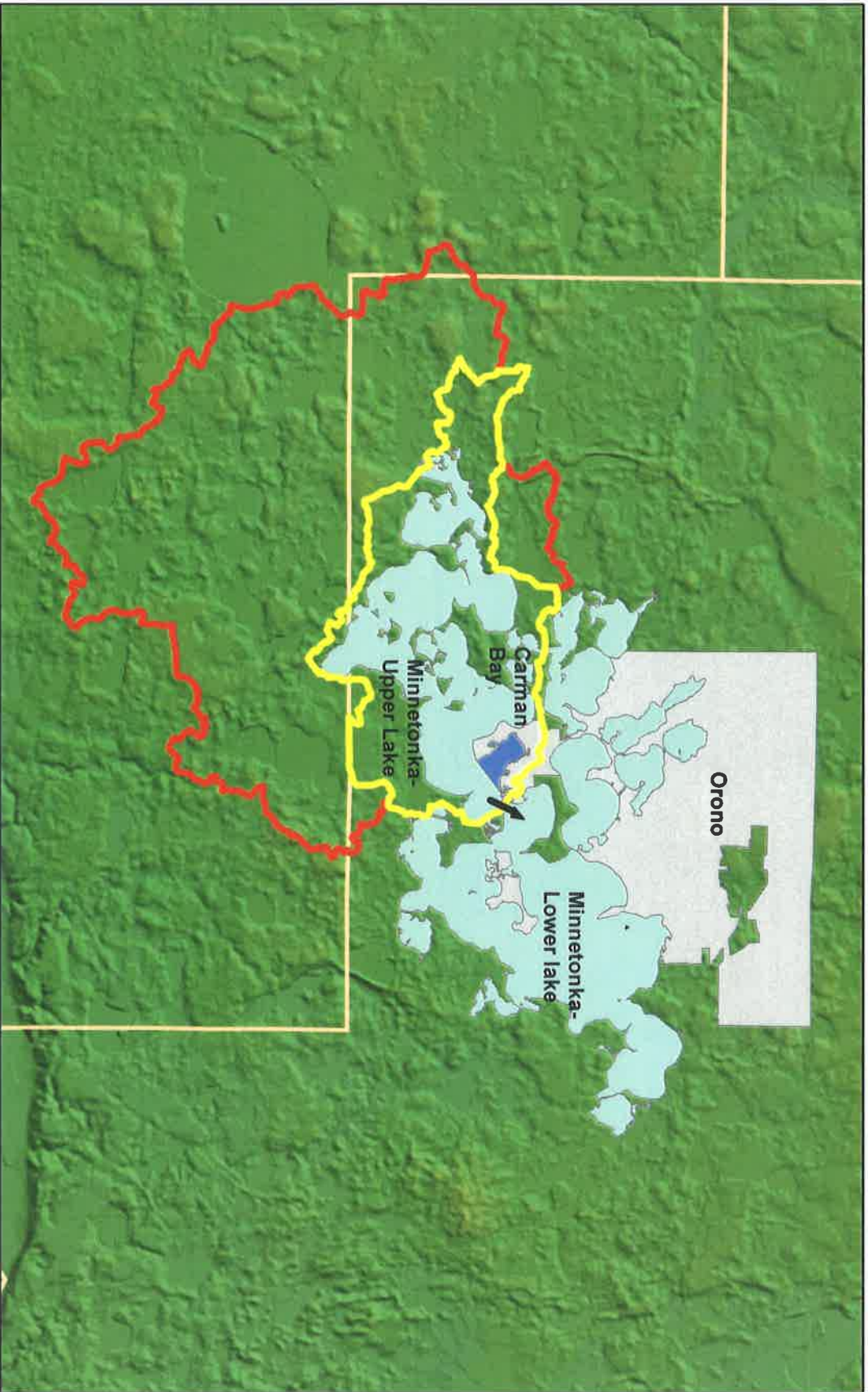


Julie Ekman
Manager, Conservation Assistance and Regulations (CAR) Section

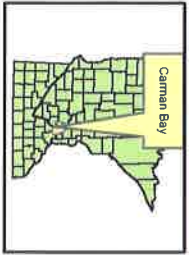
Attachment

- c: Jennifer Shillcox, Land Use Programs Supervisor
- Kate Drewry, Area Hydrologist (Hennepin County)
- Doug Reeder, Interim City Administrator-Orono
- Keegan Lund, DNR Aquatic Invasive Species Specialist- Central Region
- Adam Doll, DNR Regional Watercraft Inspection Supervisor- Central Region
- Chuck Holtman, Minnehaha Creek Watershed District
- Daniel Petrik, Land Use Specialist

Watershed - Carman Bay, Upper Lake Minnetonka



The watershed data presented here are part of the National Watershed Boundary Dataset (NWBD). A Hydrologic Unit (HU) is the smallest division in the nested, hierarchical watershed classification system of the WBD. Electronic data for use in a GIS (Geographic Information System) can be downloaded from the DNR Data Deli: <http://deli.dnr.state.mn.us/>



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Watershed	Acres	Area Sq Miles
Carman Bay	294	0.46
Direct Catchment Watershed Upper Lake Minnetonka	10411	16
Upstream Watershed Minnehaha Creek	33453	52