

A background image showing a sunset over a body of water, with the sun low on the horizon and its light reflecting on the water's surface.

## Future of Freeborn Lake

Freeborn City Hall on August, 2015 6:30 pm to 8:30 pm

### Meeting Notes

After introductions of those in attendance, the issues and objectives of the meeting were reviewed as there were a few attendees new to these meetings. At the July 20 meeting there had been some questions regarding the state public water access on the eastern shore of the south bay of the lake. Joel Wagar, DNR Parks and Trails, discussed the site and potential development plans. Development of the DNR public access will require further assessment and a development proposal. It is expected that the access is at least 2 years out from development, so the discussions were largely conceptual. The advisory group and DNR share common objectives that the development proposal will take into account conservation of the woodland and shorelands. Some in the advisory group questioned the need for a second access on this large lake and also suggested improvements for the Arrowhead County Park boat access.

Much of the meeting was devoted to review of information and discussions from the April and July meetings. Several items from past meetings were reviewed including how to improve water quality and why Freeborn Lake is being targeted.

- There is a shared responsibility to improve water quality
- The dam needs replacement
- Funding is available to accomplish water and habitat quality problems (i.e. the Outdoor Heritage Fund)
- Freeborn Lake's position at the top of the watershed has consequences for the fishery, water quality and other natural resources that extend well beyond the lake

How to improve water quality was revisited. Improvement strategies fall into two categories: those addressing **internal** pollutant loads; and those designed to reduce impact from **external** loading. **Internal** loading can be addressed with lake management efforts that fall within the purview of the DNR and Freeborn County. Some questioned the value of attempting lake management prior to reducing the external loading as much as possible. Department of Natural Resources staff believe this is not an either/or choice. Certainly **external** loading from municipal and agricultural runoff should continue to be addressed via best management practices and water treatments. Many of the practices to reduce nonpoint source pollutants are largely voluntary and beyond the scope of

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the lake planning effort. Nevertheless, staff believe that lake management can substantially reduce the internal cycling of nutrients and relieve some of the lake effects and downstream effects of this nutrient load. Management will need to be more intensive if external loading is excessive, but the external loading is not such that it should preclude improvements with management and rough fish exclusion. Furthermore, Freeborn Lake has intrinsic values that can benefit from management.

In-lake nutrient cycling and watershed nutrient loading and effects on water quality and wildlife habitat were discussed. Freeborn Lake has a relatively small watershed and it is located near the headwaters of the Cobb River tributary in the LeSueur River watershed. The small watershed for the lake helps compliment active lake management because typically there will be less flooding, fewer nutrient inputs and reduced fish connectivity for rough fishes.

The DNR Shallow Lakes program developed a depth contour map from recent surveys of Freeborn Lake. This map was shown to the group to facilitate further discussions of possible strategies, including temporary drawdowns, which can be used to improve water and habitat quality (see Freeborn Lake depth contours). There was additional discussion about water management and how that would affect water levels.

There was some concern over estimated refill times. The refill times have been modeled in the past. That information will be made available. As planning and designs proceed Engineers will model hydrology including estimated refill/draw down times using the most recent watershed data available.

Questions were also raised about the consequences of water level management. Will it result in a permanent lowering of water levels? No. Freeborn Lake has a legally established runout level. The reconstructed dam will have a runout that conforms with that level. While water levels may be **temporarily** lowered to improve habitat and water quality once the actions are completed the runout for the dam would be returned to the permanent runout. Whether drawdowns (and other management actions) are recommended is governed by the lake management plan and specific “trigger” points identified in the plan.



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The DNR staff explained legal requirements to implement management; including legal requirements for implementing water management and rebuilding the dam. A lake management plan is required for water level manipulation and an outline of a plan for Freeborn Lake was presented and discussed. Lake management plans are prescriptive and are subjected to public review and public hearing as well as permit requirements.

In order for the project to move forward in 2016, a plan would be developed this fall, available for public review and comment by late fall or early winter. A public hearing on the plan would be held and the results considered by the Commissioner of the DNR before a permit to manipulate water levels would be issued. The hearing should take place in late winter. The plan will have specific objectives, management strategies and trigger points that would be used to determine when actions are needed. Freeborn County and the Department of Natural Resources intend to maintain a permanent lake advisory group that would continue to monitor lake health and review planned management actions.

To implement water management the dam will be designed to be a variable crest dam. There were questions and discussions about what the DNR staff may envision for initial lake management strategies. Typically, the lake would be lowered as much as possible in the late summer or fall to facilitate dam construction and promote a fish kill using rotenone or winter kill. The lake would be kept low over winter. A drawdown would continue over the spring and summer months to promote the establishment of desired vegetation before restoring the lake levels.

There was continued discussion on the vegetation: what type is expected and how to mitigate if plants are abundant or not desired; how far from shore would the vegetation extend and how would the vegetation impact recreation use. Further modeling can help answer these questions as the group works to develop a lake management plan for Freeborn Lake. There was a question about property values – studies in northern MN suggest that property values are higher on clear water lakes. There was some brief discussion about a lake wide vegetation management plan as well as strategies that may be used to limit plant growth.



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Alternatively, it was also noted that it is natural for shallow lakes to have vegetation and the current lack of vegetation is an indication that there are water quality issues.

The next meeting scheduled for 9/17/15 at 6:30 p.m. at the Freeborn City Hall to discuss the lake management plan. The outline from the August 20 meeting and a first draft of a Freeborn Lake plan will be posted on the Freeborn County website at the following link: <http://www.co.freeborn.mn.us/367/Future-of-Freeborn-Lake>