

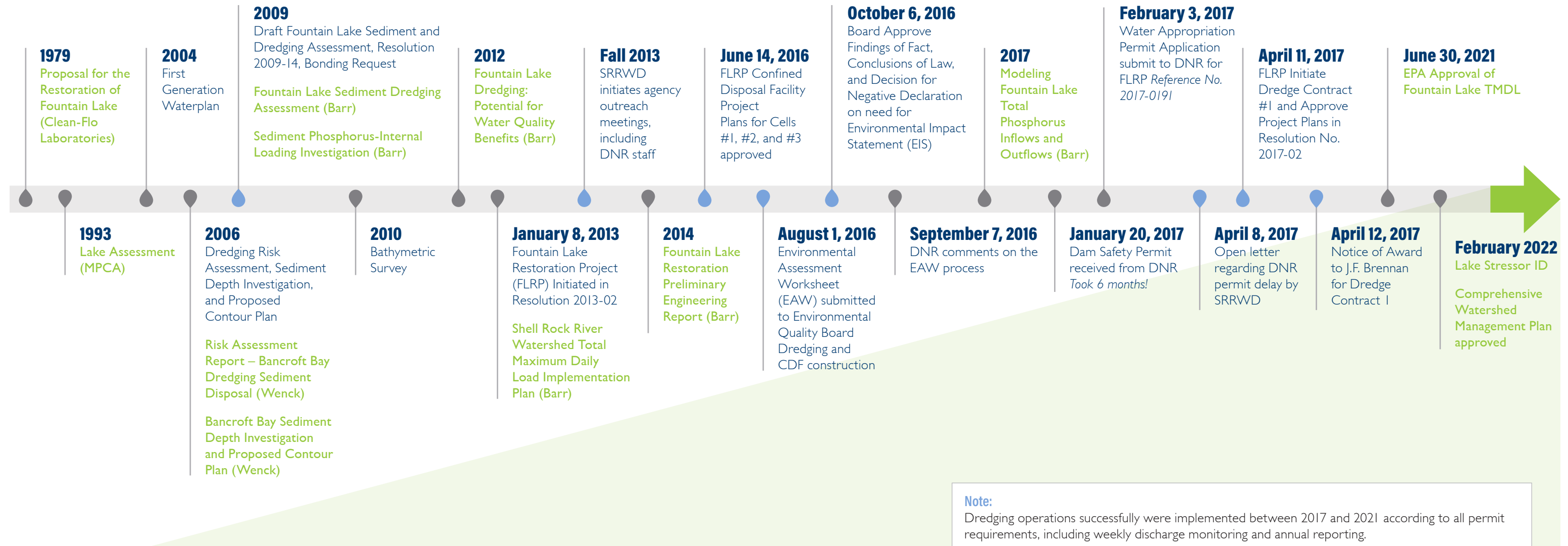
FOUNTAIN LAKE RESTORATION PROJECT | EAST MAIN BAY + NORTH BAY

January 7, 2025



PROJECT TIMELINE

TIMELINE KEY ● Standard Event ● SRRWD Decision ● Coordination with DNR ● Impactful Studies



Note: Dredging operations successfully were implemented between 2017 and 2021 according to all permit requirements, including weekly discharge monitoring and annual reporting.

RECENT 2024 EVENTS





Study Findings

1 Sediment accumulation (Wenck 2006, Barr 2012, Clean-Flo 1979)

- ▶ Sediment deposition has been highest in North Bay. Depositional sediment depth was 6.5 ft. on average based on 2006 sediment cores in North Bay compared to 4.9 ft. and 5.1 ft. in Edgewater and Main Bays, respectively.
- ▶ In North Bay, only 0.9 ft of sediment deposition over 33-year period from 1973–2006 compared to 1.55 ft of sediment deposited from 1959–1979. (65% decrease on a per-decade depositional rate)

2 Sediment phosphorus release (Wenck, 2006)

- ▶ North Bay sediment core mobile phosphorus concentrations are highest in localized areas relative to the rest of Fountain Lake. When averaged across the entire bay it has the third highest mobile + organic P in Fountain Lake but still placed in top third of MN lakes evaluated for internal P loading at time of report.

3 Internal phosphorus release must be reduced to address nutrient water quality impairment.

4 Improvements in water quality will enhance long-term quality of in-lake habitat and fishery.

Meeting Coordination

4/3/2024 – Early Coordination Meeting with DNR

Project team

- ▶ Shared premise for discretionary EAW.
- ▶ Offered environmental training and observer for Blanding's turtles.
- ▶ Outlined anticipated permit conditions based on precedence.

DNR

- ▶ Questioned discretionary designation for EAW.
- ▶ Disagreed with timing of early coordination.
- ▶ Stated concerns with Blanding's turtles and loss of remaining littoral area in fountain lake.
- ▶ Requested assessment of nutrient loading in Fountain Lake including ortho-phosphorus versus total phosphorus and internal versus external and need for MPCA to be involved.

5/7/2024 – SRRWD Board Workshop

5/14/2024 – EAW Decision for a negative declaration on need for EIS approved

6/12/2024 – DNR Coordination Meeting #1

Project Team

- ▶ Reviewed details of project justification and study outcomes detailing findings from numerous studies and water quality data and analysis that was all shared with DNR during previously completed permit review.
- ▶ Model outcomes from Bathtub, FLUX32, and Delft3D
- ▶ Presented timeline goals with November 2024 as permit target allowing five (5) months for review and coordination.
- ▶ Established schedule of topics to focus on each meeting.

DNR

- ▶ Asked for summary of risks if project did not result in outcomes as anticipated.
- ▶ Expressed concerns for Blanding's turtles and impacts to turtles from increased motorboat usage of bay.
- ▶ Stated vegetation does not re-establish in areas post dredging.
- ▶ Summarized concern by stating losing diverse littoral habitat area would be detrimental to function of the lake.

7/17/2024 – DNR Coordination Meeting #2

Project Team

- ▶ Reviewed details project justification and study outcomes.
- ▶ Presented details of approach to mitigate potential impacts to Blanding's turtles as stated in EAW response to comments.
- ▶ Presented DNR study results from FIBI showing North Bay did not enhance lakes overall habitat score and DNR states aquatic vegetation is not diverse and FIBI is impaired due to eutrophication.
- ▶ Offered development of adaptive management plan to address concerns communicated in Coordination Meeting #2.
- ▶ Made clear no-wake buoys would be installed throughout North Bay to ensure it is not used for heavy boating traffic.
- ▶ Presented existing land use and zoning around North Bay indicating increased development is not an option or concern.
- ▶ Made clear project team believes proposed project meets requirements to obtain permit.

DNR

- ▶ Shared outcomes of DNR FIBI study data.
- ▶ Restated viewpoint that vegetation will not re-establish.
- ▶ Requests more detail on water quality modeling and requests more water quality data with focus on Bathtub model for North Bay.

7/31/2024 – DNR Coordination Meeting #3

Project Team

- ▶ Reviewed details of project justification and study outcomes. Focused on various lake models and WQ models used to evaluate data. Intent to describe why a Bathtub model is insufficient for North Bay.
- ▶ Presented observed WQ data showing indicators of internal loading in North Bay.
- ▶ Provided additional detail of what would be included in an adaptive management plan to monitor and actively manage re-establishment of aquatic vegetation.

DNR

- ▶ Expressed interest in reviewing Bathtub Model.
- ▶ Restated belief that vegetation will not re-establish but acknowledged an adaptive management plan would be useful to provide guidance.
- ▶ Shared ideas for alternative designs to consider to scale back impacts.

8/9/2024 – Water Quality Memo submitted by Project Team to DNR

8/14/2024 – DNR Coordination Meeting #4

Project Team

- ▶ Reviewed details of project justification and study outcomes. Focused on various lake models and WQ models used to evaluate data. Intent to describe why a Bathtub model is insufficient for North Bay.
- ▶ Restated request to meet with MPCA to discuss water quality.
- ▶ Provided additional detail of what would be included in an adaptive management plan to monitor and actively manage re-establishment of aquatic vegetation.
- ▶ Brought forth precedent dredging examples that had similar or less water quality modeling data that have been approved. Asked DNR to share additional data not publicly available or projects that contradict this position.

DNR

- ▶ Stated MPCA does not have ability to review Delft3D and was not aware of MPCA's timeline to review information.
- ▶ Requested data pre and post dredging to for case studies shared to show vegetation re-establishment.
- ▶ Expressed that burden of proof lies with proposer not DNR for project examples.

9/4/2024 – DNR Coordination Meeting #5

Project Team

- ▶ Shared anticipated efforts to be included in Blanding's turtle avoidance plan based on precedent examples found.
- ▶ Reviewed specific statute and rule language to support position that requirements have been met to obtain a permit.
- ▶ Shared efforts to incorporate Blanding's turtle habitat into other SRRWD projects.

DNR

- ▶ Presentation on value and need for protection of Blanding's turtles.
- ▶ Shared ongoing status of federal endangered species candidate review for Blanding's turtles.
- ▶ State an incidental take permit will be needed.
- ▶ Continued discussion around acceptance of Delft3D model and update on coordination with MPCA to review materials but did not have MPCA contact yet.

MN Statute and Rules

✓ MN Statute 103G

DNR's comments stated burden of proof had not been met despite extensive studies being completed. Based on precedence the SRRWD believes the burden of proof has been met.

✓ MN Rules 6115.0200 Excavation of Public Waters

DNR's comments used general rule language as justification for requesting additional modeling and case study information that exceeds norms. Refer to the 9/27/2024 SRRWD memo responding to DNR requests for details.

✓ MN Rules 6115.0201 Specific Standards; Excavation

Subp. 3 Waterbasin excavations. Excavations for improvement or enhancement of hydrologic and biologic conditions in all, or large portions of waterbasins:

B. The proposed project is intended to achieve one or more of the following public purposes:

1. To improve navigation, swimming, and other recreational uses;
2. To reduce winter fish-kill potential;
3. Sediment removal to eliminate a source of nutrients and/or contaminants.

C. The proposed excavation is part of an overall improvement or enhancement project based upon adequate background and field test data for which a comprehensive plan is submitted at the time of application detailing all of the following:

1. Objectives to be accomplished, and an analysis of any alternative means considered to meet the objectives and the rationale for selecting excavation.
2. Sufficient soil boring and bottom sampling data to evaluate sediment quality and bottom "seal" conditions. Where excavation is proposed on a waterbasin that is perched on an impervious stratum, soil borings must show that the proposed excavation will not rupture the impervious stratum.
3. The methods, uses, and locations to be employed in excavating and disposing of excavated material consistent with the provisions of parts 6115.0190 to 6115.0192.
4. Existing water quality data and provision for future water quality monitoring including any water returned to the waterbasin during the removal of excavated materials.
5. A timetable which indicates anticipated yearly excavation areas and volumes of materials to be removed, plus the selected disposal methods, uses, and deposition locations for each excavation period.
6. A detailed description of proposed excavation and disposal equipment and facilities, including, where applicable, the length of discharge pipe purchased or available for the project and the pumping characteristics of the equipment.