

Chippewa Flowage Habitat Drawdown Recommendation Guide v4.0 Approved on 4-6-2023

Instructions: The Chippewa Flowage Partner Group may use this guide to develop the basis for a *habitat drawdown* recommendation for the Chippewa Flowage. This guide is not intended for making recommendations for other drawdown types (See appendix A for definitions of drawdown types). To determine the need for a habitat drawdown recommendation using this guide:

1. Complete each applicable question, using the most objective data, observations, and expert opinions provided by a single designated representative from the group(s) identified in italics. When multiple groups are identified, a consensus may need to be reached.
2. Add up the total number of points generated by responses to all questions.
3. Consult the recommendation key at the end of this document by applying the accrued points.
4. The resulting recommendation can then be delivered to Xcel Energy to be taken into consideration as they make decisions about fall/winter operations.

Please note that this is considered a “living document” that can be updated, with Partner Group approval, as conditions change through time or future studies improve our understanding of drawdown impacts on important resources. As such, questions may be added, dropped, modified, or point totals may be adjusted in future versions of this guide to give it more effectiveness.

Section A. Drawdown history

- 1. How many habitat drawdowns have been conducted in the last two years? – *consult records***

Zero = 2 points

One = 1 points

Two = 0 points

Section B. Aquatic plants

- 1. Is Eurasian watermilfoil having negative impacts on recreation or access? – *Resort Owners Association (ROA) and Property Owners Association, documentation (photos, maps, testimonials) may be requested to support position.***

Major impacts = 2 points (double points if data is not available for question B2)

Minor impacts = 1 point (double points if data is not available for question B2)

No reported impacts = 0 points

- 2. What percentage of points in the most recent complete, or subset, littoral area point intercept plant survey contained Eurasian milfoil? – *Consult available survey data from current year or previous year, if no data are available points for question B1 may be doubled.***

>15% = 6 points

10-15% = 4 points

5-10% = 2 points

0-5% = 0 points

3. **Discretionary points** can be assigned by professional aquatic plant specialists if no point intercept survey is conducted (1-4 points, based on abundance of Eurasian Milfoil and associated issues)

Section C. Fisheries

1. **How many walleye year classes larger than 30/mile young of year (measured with fall electrofishing surveys) have been produced the last three years (include current year if data is available)?** – *Consult WDNR/GLIFWC survey data*

Zero year classes >30/mile = 4 points

One year class >30/mile = 2 points

Two or three year classes >30/mile = 0 points

2. **Is abundance of crappie higher, lower, or within the target range established in the [2006 Fisheries Management Plan \(10-20 per net night\)](#)?** – *Consult most recent spring DNR survey data, if available. Skip question if no survey conducted for this species.*

Higher = 1 point

Within range = 0 points

Lower = -1 point

3. **Is abundances of bluegill higher, lower, or within the target range established in the [2006 Fisheries Management Plan \(50-100/mile electrofishing for bluegill\)](#)?** – *Consult most recent spring DNR survey data. Skip question if no survey conducted for this species.*

Higher = 1 point

Within range = 0 points

Lower = -1 point

Section D. Special Projects

1. Are there any infrastructure projects or shoreline erosion projects on public land or associated with public safety or critical maintenance of the dam that could benefit from a habitat management drawdown? – DNR, LCO Conservation Department, USFS, Xcel

Yes, high priority projects need to be completed as soon as possible = 4 points

Multiple (3 or more) medium to low priority projects could be completed = 2 points*

One or two medium to low priority projects could be completed = 1 point*

No projects have been identified at this time = 0 points

*Private projects could be considered in this category if there is demonstrable public benefit.

Section E. Tourism concerns

1. Is there reason to believe that tourism or planned special events would be negatively impacted by a habitat drawdown? ROA

No concerns or only minor concerns = 0 points

Major concerns = -2 points

Point totals

A1: ____

B1: ____

B2: ____

C1: ____

C2: ____

D1: ____

E1: ____

Recommendation Key – add up points from above

0-8 points – Based on factors considered, a habitat drawdown does not appear to be necessary at this time and/or there are reasons to believe it would be detrimental to important resources. No recommendation for habitat drawdown.

9+ points – Resource factors point towards a strong need for a habitat drawdown. The Chippewa Flowage Partners Group strongly recommends a habitat drawdown be completed.

APPENDIX A

Categories of Drawdowns Performed on the Chippewa Reservoir. Revised September 15, 2016

Water levels in the Chippewa Reservoir are dictated by an exemption order that was granted by the Federal Energy Regulatory Commission (FERC) on September 28, 1984. The exemption order requires Northern States Power Company – Wisconsin (d.b.a. Xcel Energy) to maintain reservoir elevations between a minimum elevation of 1297.0 ft. and 1315.0 ft. (emergency full). The reservoir level may be lowered during the winter season below elevation 1297.0 ft. to accommodate maintenance requirements at the dam and under unusual precipitation conditions under mutual agreement with appropriate regulatory agencies. The normal full elevation of the reservoir is 1313.0 ft.. The FERC exemption order also requires a minimum flow of 90 cfs be discharged from the dam at all times; although, a side agreement between the Wisconsin DNR, U.S. Fish and Wildlife Service and the Lac Courte Oreilles Band of Chippewa Indians increased the minimum flow to 250 cfs in 1987.

The Chippewa Reservoir dam was built to provide water for flow augmentation to downstream hydro plants and for flood control. The dam is operated such that it captures water during periods of excess river flow (typically spring and fall) and releases water during periods of low river flows (winter and summer months).

This information was developed in consultation with the Chippewa Reservoir Partners Group and will be used to help educate the public to the various drawdowns that may be utilized over the life of the dam.

Drawdowns throughout the history of the reservoir have been performed during the summer and winter months. Drawdowns of up to 22 ft. have been performed during the winter months whereas drawdowns of around 3.5 ft. have occurred during the summer months. Recently, conditions have allowed for coordination of drawdowns that have the potential to reduce invasive species prevalence and improve aquatic habitat, specifically for fish. The categories of drawdowns that are performed on the Chippewa Reservoir are summarized below:

Drawdown 1: Summer Drawdown (June 1 to September 30)

Summer drawdowns are performed during the summer months with the lowest elevations reached typically in late-September or early-October. A typical low elevation of 1310.0 ft is achieved by early-Fall, although summer drawdowns deeper than 1310.0 ft. have occurred during drought conditions.

Drawdown 2: Winter Drawdown (December 1 to March 31)

A normal winter drawdown generally occurs beginning in early December and ending in mid-March to early April depending on snowmelt runoff. The drawdowns can vary somewhat from year to year based on inflows into the reservoir, the need for downstream hydroelectric production (increased discharge), and the presence or lack of accumulating snowpack. Drawdowns performed during the winter season can reach the minimum elevation of 1297.0 ft., although the 10-year average drawdown is only 4.7 ft. (2006-2015) due to long-lasting drought conditions. Drawdown depths averaged 8.2 ft. from 1970 to 2015 and 13.0 ft. for the period of record (1923 to 2015). Refill of the reservoir in the springtime usually occurs by early May.

Drawdown 3: Habitat Manipulation Drawdown (October 1 through March 31)

Xcel Energy has been a member of the Chippewa Reservoir Partners Group since 2006 to evaluate environmental conditions in the reservoir. After several years of meetings and research, the committee agreed in the fall of 2013 to perform an earlier (pre-ice) drawdown to return to a more traditional depth of winter drawdown. The hypothesis was that the deeper drawdown would benefit the fishery as well as provide control for the exotic plant species Eurasian Water Milfoil.

The drawdown involves a continuation of the summer drawdown into the fall months until a 5-foot drawdown (elevation 1308.0 ft.) is achieved in mid-November. Lowering the water before ice formation is less harmful to reptiles, amphibians, and furbearing mammals and also aids control of invasive plants. These considerations should be balanced with the need for recreational access to the flowage throughout the fall. The reservoir elevation would then continue to decrease during the winter months until an 8 ft. drawdown is achieved in early-March. A drawdown of 8 feet in the winter has been shown to provide considerable benefits to the fish community as a whole and can reduce invasive Eurasian Water Milfoil populations. Deeper drawdowns carry considerably more risk of fish kills and poor spawning conditions for fish in the spring. Refill of the reservoir may take longer than a normal winter drawdown but it is anticipated that water levels would fill to a satisfactory level by mid-May. Changes to the depth and timing of habitat manipulation drawdowns may be considered as new data becomes available.

Drawdown 4: Construction Drawdown (variable dates)

At some point in the future, it may be necessary to conduct a drawdown to perform construction work. Work at the dam may need to be coordinated through FERC as well as local stakeholders. The drawdown might involve decreasing water levels below the 1297.0 ft. minimum with approval from the FERC depending on the type of work that needed to be completed.

Drawdown 5: Emergency Drawdown (variable dates)

An emergency drawdown may need to be performed if a condition at the dam develops that creates a potential dam safety problem that could lead to the failure of the dam. In order to reduce the likelihood of a dam failure situation, or to minimize the uncontrolled release of water from the dam, the lake would be drawn down in advance. This drawdown would be undertaken very quickly and would involve consultation with FERC and local entities.

For winter drawdowns where drawdown depth will exceed 4 feet, the general recommendation from resource managers is to draw water in the fall, prior to ice formation, to minimize the amount of draw after ice formation. This may provide benefits including 1) reduce amount of hazardous ice shift or cracking after ice formation; 2) reduce impacts to aquatic fur bearers, reptiles and amphibians that overwinter in the ice transition zone; and 3) expose aquatic plant beds to help control invasive plants.