2023-24 Central Cass River Watch

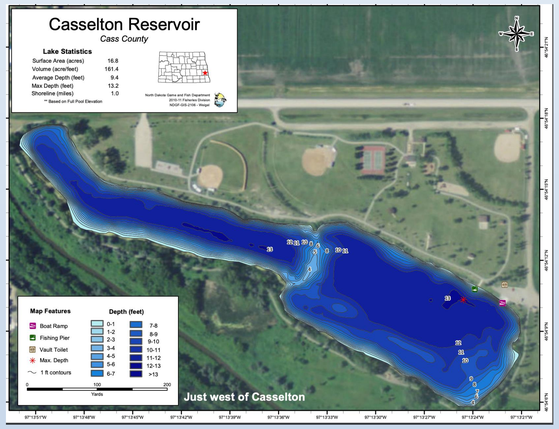
Swan Creek and Casselton Reservoir Complex, 10/2023

Above:
River Watch sites and GPS Location and elevation.
Swan Creek at bridge, and NW corner of the Casselton Reservoir.
Note: the two waterbodies are not naturally connected.
At Left: River Watch Team at the IWI Training event last fall.

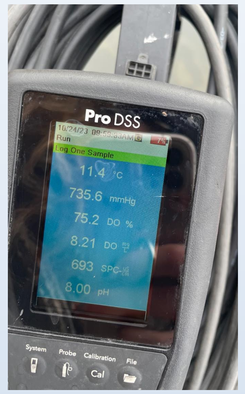
PROJECT PURPOSE: More Frequent and Severe Declines in Dissolved Oxygen Levels are Limiting Fish Viability in the Casselton Reservoir. Swan Creek is directed into reservoir each spring to maintain levels.

River Watch Calendar

Team created Calendar with Important water-related dates and photos of recreational opportunities and beauty in our watershed.



Location:46.9025960, -97.2207960



METHODS

1. Collected samples with a Van Dorn sampler at the 6/10th depth at the 2 deepest points of the reservoir
2. Colorimetric analysis using CHEMetrics for nitrates, phosphates and dissolved oxygen, Oakton ECO tester pH and TDS meters, and PRO DO YSI Professional Series sonde for Dissolved oxygen and temperature.

Sources for past data and historical context:
2008-2010 Lake Water Quality Assessment Project, ND DEQ
Sept. 14, 202 Data From ND Game and Fish Brandon Kratz
Special Thanks to IWI for facilitating the kayak shoreline survey.

Sampling Data

September 28, 2020 October 2023	CC Reser-voir 2020	Swan Creek 2023	CC Reser-voir 2023
Temperature Celsius	15.6	9.9	11.4
Dissolved Oxygen mg/L	8.91	7.2	8.2
Total Dissolved Solids, mS	610	3009	693
pH	8.67	8.09	8.00
Nitrates	0	0	0
Phosphates, ppm	0.1	0.3	0.2
Total coliforms /E. coli	+/-	+/-	+/-

A Watery Walk Back In Time Podcast By the Kool Kids

Tune in to the Kool Kids podcast as they discuss the history of Their local Casselton Reservoir and the recreational opportunities It provides. The team also discusses the challenges the Parks and Rec department has in maintaining a healthy environment for the fish that live there. The students share the water quality results the team has obtained by measuring the oxygen, nitrates and pH levels In the reservoir this past fall. They discuss the addition of the aerator added by previous River Watch teams and their hopes to encourage Casselton Parks and Rec to implement aeration throughout the year.

Plans for 2024

Pond aeration in the winter is essential for cleaning up debris, preventing fish kill, and disrupting ice formation. Aeration pumps infuse oxygen into the water by releasing small bubbles which move the water and allow for gas exchange. It is our hope that we can convince the Casselton Parks and Recreation Department to invest in our fish and our community by operating the aerator year around thus reducing the frequent fish kills and increase the average size and number of desirable game fish in the Reservoir.

During the next shoreline survey we would like to locate and mark a 2nd possible aerator site.

In future years, we would like to save and add to the water themed podcasts created so that other schools and interested water professionals can find out how our project is going.

Support and funding provided by:
Maple River Watershed District, Red River Watershed Management Board, Minnesota Clean Water Fund, Minnesota Pollution Control Agency, Red River Joint Water Resource District and North Dakota Department of Environmental Quality.
CC River Watch project supported by ND Game and Fish, Casselton Parks and Recreation, Prairie Waters Education Center and Valley City State University, International Water Institute, Red River Divers, Central Cass Public Schools and the Celia B. Godsil Foundation

Casselton Reservoir Restoration: Improving Fish Survivorship: Students-   you will have to...

1. Explain your parameter, how you tested for it and why its important

2. What did you get? Data? What does that mean- good /bad

3. What would we like to see in the reservoir?

4. What land use recommendations would your group make ?