

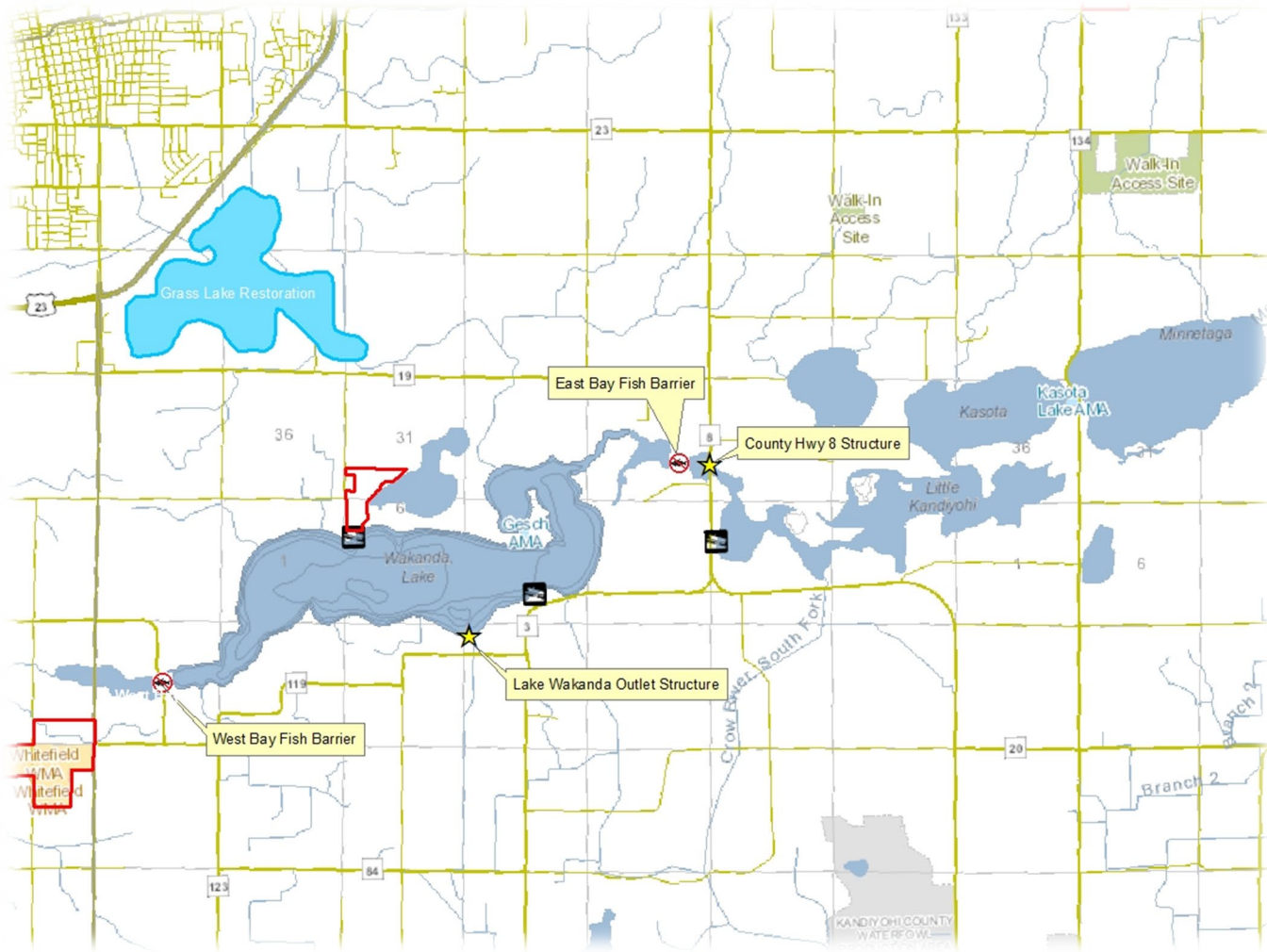


# Lake Wakanda Enhancement Project Kandiyohi County

Jeremy Pfeifer – Kandiyohi County Assistant Engineer

Josh Kavanagh – DNR Wildlife Lake Specialist

# Lake Wakanda Enhancement Project -GENERAL OVERVIEW-

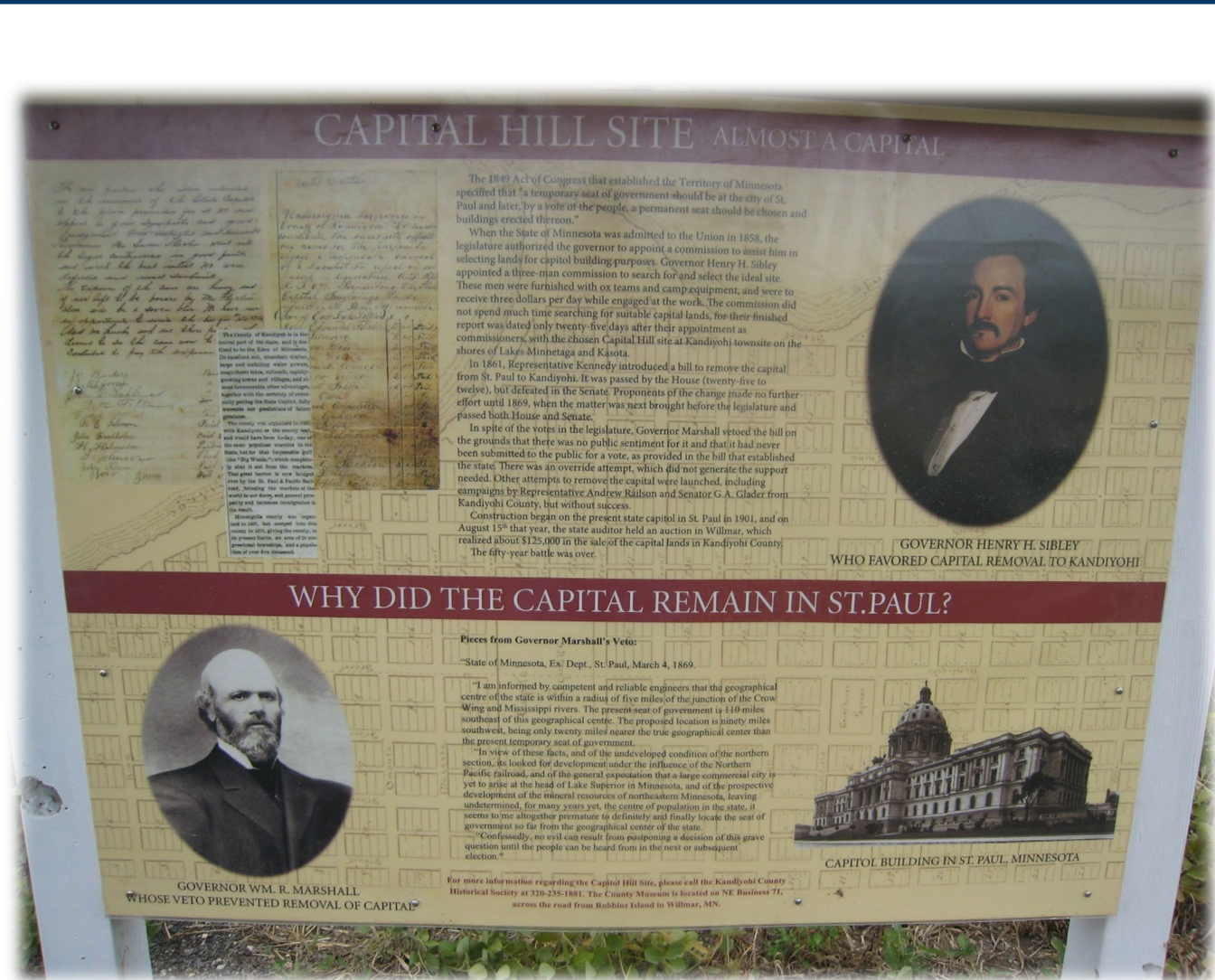


- Lake Wakanda is a 1,754-acre shallow lake located in southern Kandiyohi County
- Maximum depths on Lake Wakanda are around 14 feet, with average depths closer to 7 feet
- Lake Wakanda has a relatively large watershed of 39 square miles (14:1 watershed/lake ratio)
- There are two state public water access sites on Lake Wakanda
- Lake Wakanda is a migratory feeding and resting area (motors prohibited during waterfowl season)
- Lake Wakanda is also an actively managed fishery
- Grass Lake is a very large partially restored shallow lake basin upstream of Lake Wakanda made up of around 1,500 acres of perpetual easement secured by BWSR and Kandiyohi County



# Lake Wakanda Enhancement Project **-HISTORY-**

- In the Dakotah language, Wakanda means where the spirit dwells
- In 1861, Representative Kennedy introduced a bill to remove the capital from St. Paul to Kandiyohi County, very near Lake Wakanda, on the shores of Lake Minnetaga and Kasota. Can you imagine how different things might be?
- Lake Wakanda was formerly known as Lake Wagonga until a group of local citizens petitioned for a name change
- A management plan for Lake “Wagonga” was developed in 1991 which called for many of the improvements we’ve achieved now but were never fully implemented
- Countless public meetings have been held over the past decades to discuss habitat and water quality issues on Lake Wakanda
- Lake Wakanda is listed as an impaired waters by MPCA due to excessive nutrients





# Lake Wakanda Enhancement Project **-LSOHC PROPOSAL-**

## **Lessard-Sams Outdoor Heritage Council Fiscal Year 2018 / ML 2017 Request for Funding**

**Date:** May 26, 2016

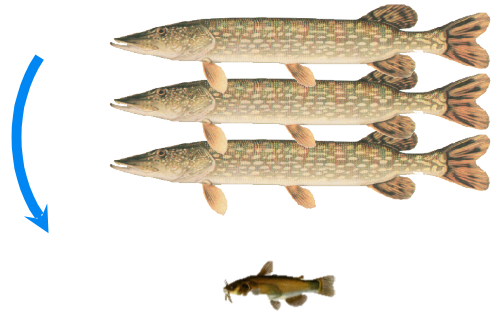
**Program or Project Title:** Lake Wakanda Enhancement Project

**Funds Requested:** \$921,100





## Clear-water State



Piscivores

Planktivores/Benthivores



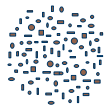
Zooplankton



Algae



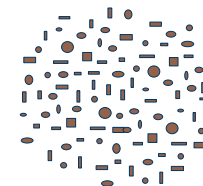
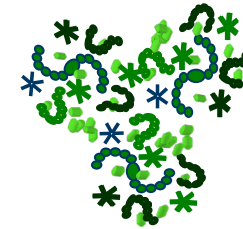
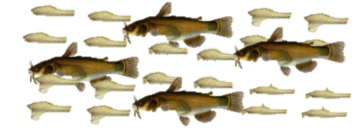
Plants



Sediment  
resuspension



## Turbid-water State



# Lake Wakanda Enhancement Project

## **-TIMELINE-**

- Numerous public meetings were held to discuss Lake Wakanda and a plan to address habitat and water quality issues. Several local partners and stakeholders formed a committee who eventually developed a draft comprehensive management plan for the lake
- On June 9, 2015 a public hearing was held to pursue temporary water level management on Lake Wakanda (M.S. 103G.408)
- A Cooperative Enhancement Plan for Lake Wakanda was formally adopted in June 2015
- In March 2016 a Memorandum of Understanding was secured between Kandiyohi County and the Minnesota DNR for joint operation of the control structures
- In July 2017 a \$921,000 LSOHC Grant was secured by Kandiyohi County
- In May 2019 Kandiyohi County awarded a construction contract
- Construction began in October 2019
- Construction ended in June 2020, which included final clean up
- In October 2020 a Public Notice was issued for drawdown
- Drawdown began on November 20, 2020 and is ongoing...

Cooperative Enhancement Plan for  
**Lake Wakanda (#34016900), Kandiyohi County**



Blomkest Sportsmen's Club  
Board of Water and Soil Resources  
CROW- Crow River Organization of Water  
Ducks Unlimited  
Kandiyohi County  
Kandiyohi County SWCD  
Lake Wakanda Association  
Minnesota Department of Natural Resources  
Minnesota Pollution Control Agency

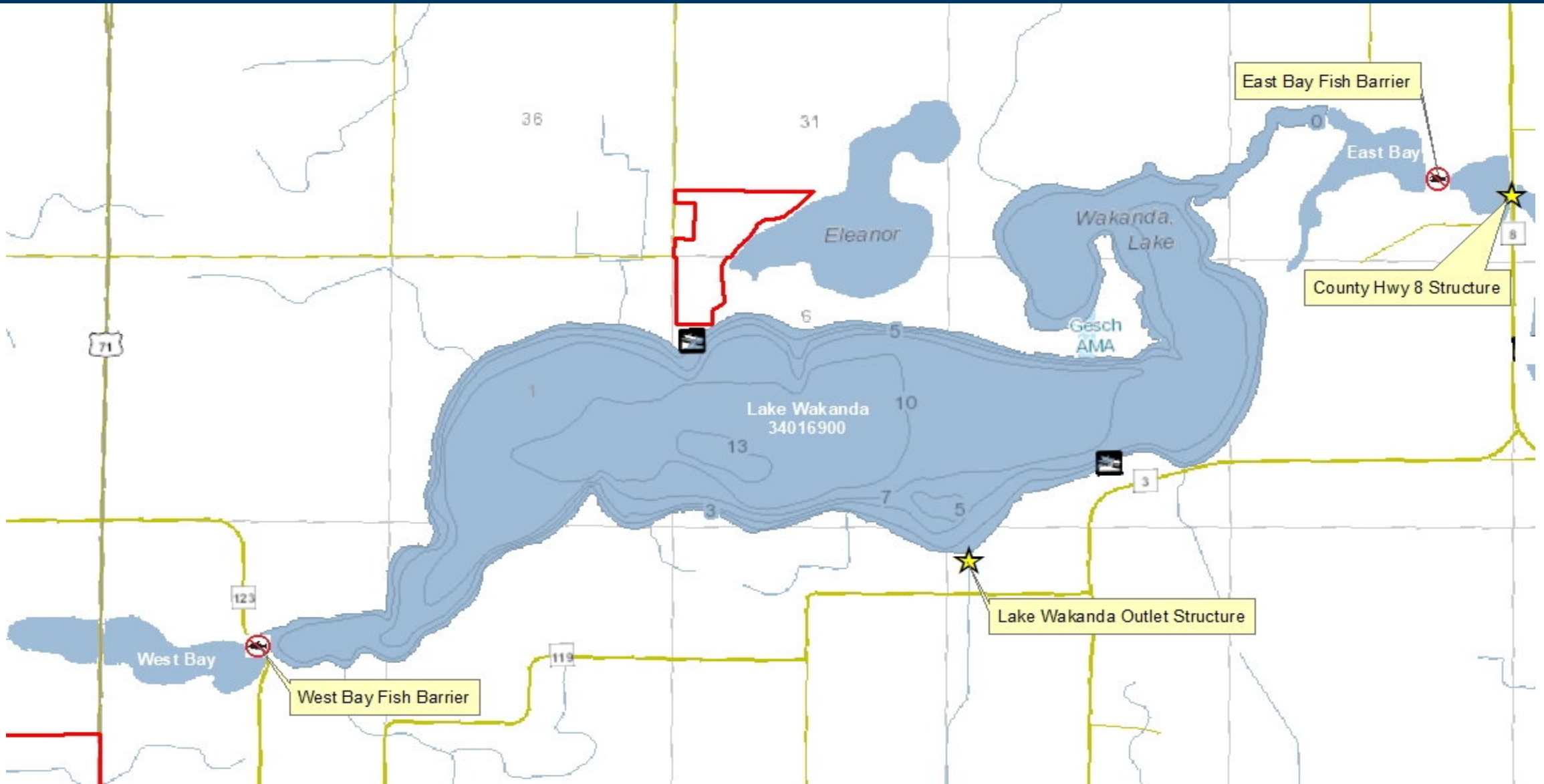
June 2015





# Lake Wakanda Enhancement Project

## Kandiyohi County





# Site 1 – West Bay Fish Barrier



Replaced a large CMP culvert with a 4x6 concrete box and 2 removable screens.  
Located on County Road 123



# Site 2 – Lake Wakanda Outlet Structure



\* Also known as Overland Ditch Structure



Replaced a fixed crest sheetpile weir/swinging fingers with a variable crest water control and 4 fish screens.  
Located on State Ditch #1 – outlets to Big Kandiyohi Lake



# Site 3 – East Bay Fish Barrier



Replaced a failing concrete box culvert with a 5x12 concrete box culvert and 4 removable screens.  
Located on a private access (Kandiyohi County holds easement)



# Site 4 – County Hwy#8 Structure



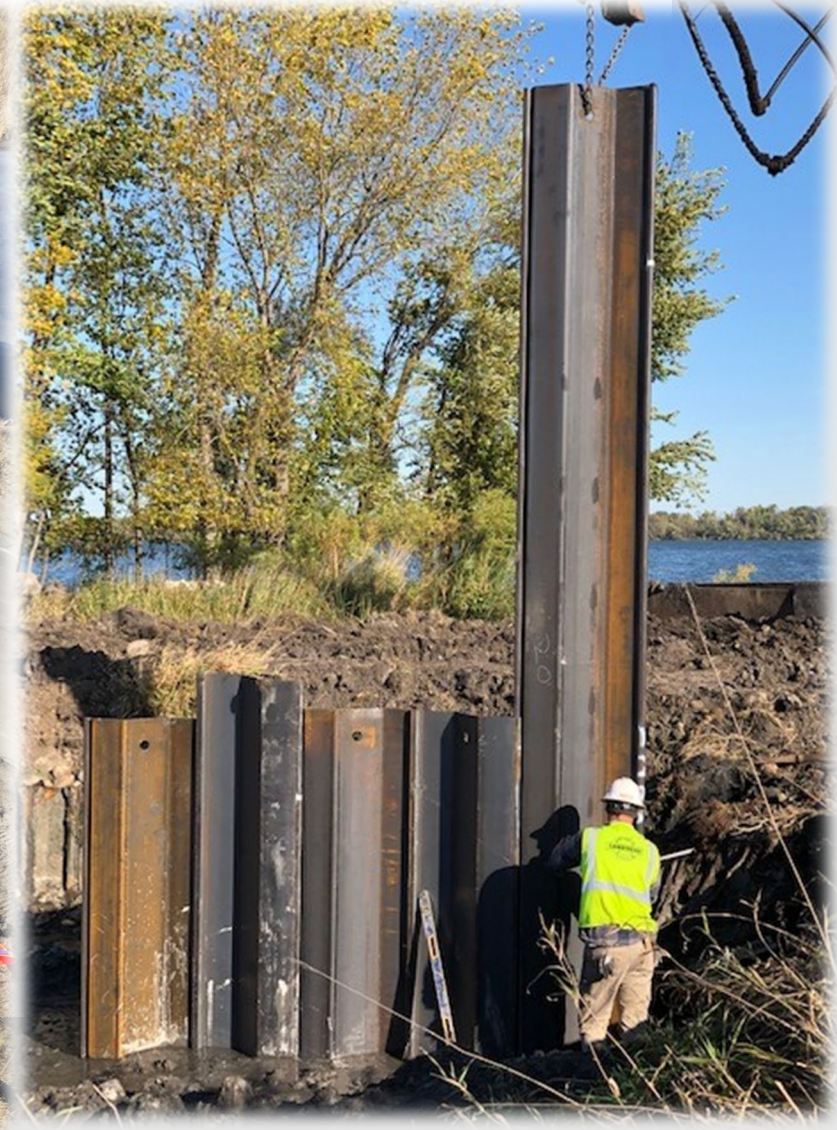
FSL 1105.0

Replaced a failing sheetpile weir/swinging fingers with a new control pad and winch system fish barrier.  
Located on County Hwy#8



# -CONSTRUCTION-

Ducks Unlimited provided construction management oversight





# Lake Wakanda Enhancement Project

11/4/19 to 12/2/19  
Low Bid \$306,750  
Final Cost \$309,471 (+0.9%)

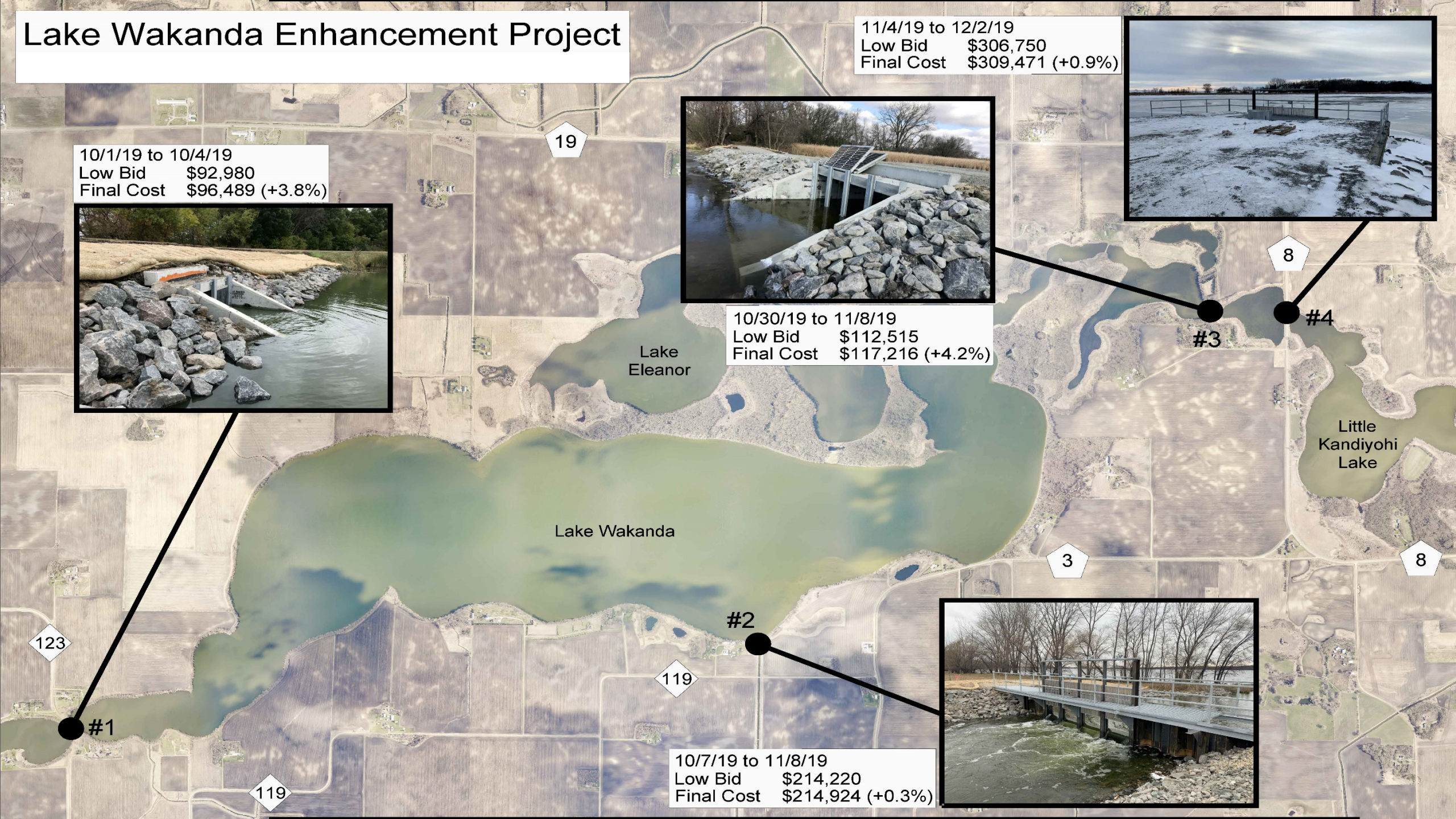
10/1/19 to 10/4/19  
Low Bid \$92,980  
Final Cost \$96,489 (+3.8%)



10/30/19 to 11/8/19  
Low Bid \$112,515  
Final Cost \$117,216 (+4.2%)



10/7/19 to 11/8/19  
Low Bid \$214,220  
Final Cost \$214,924 (+0.3%)





# -FISH SCREENS-





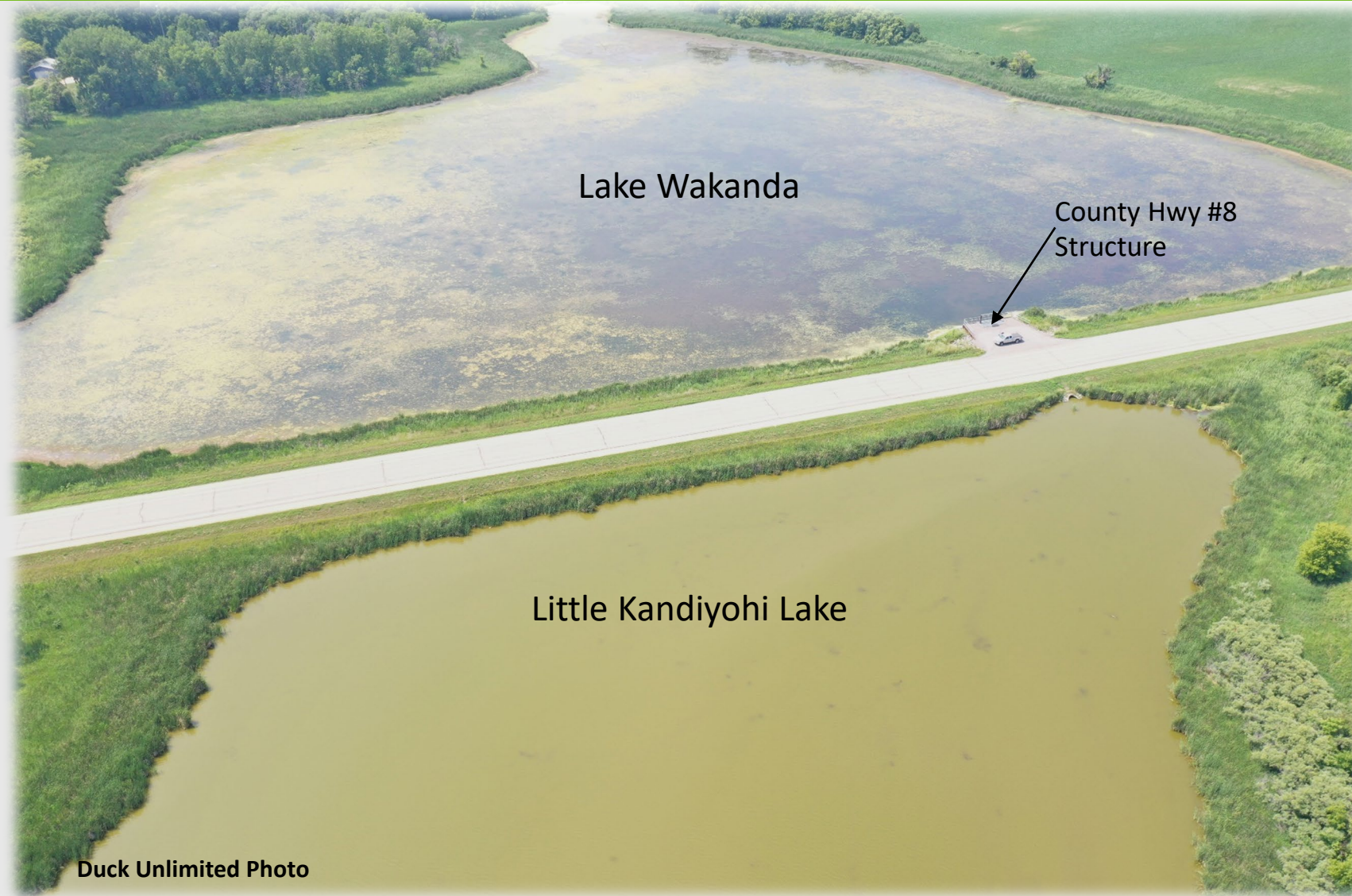
# Lake Wakanda Enhancement Project





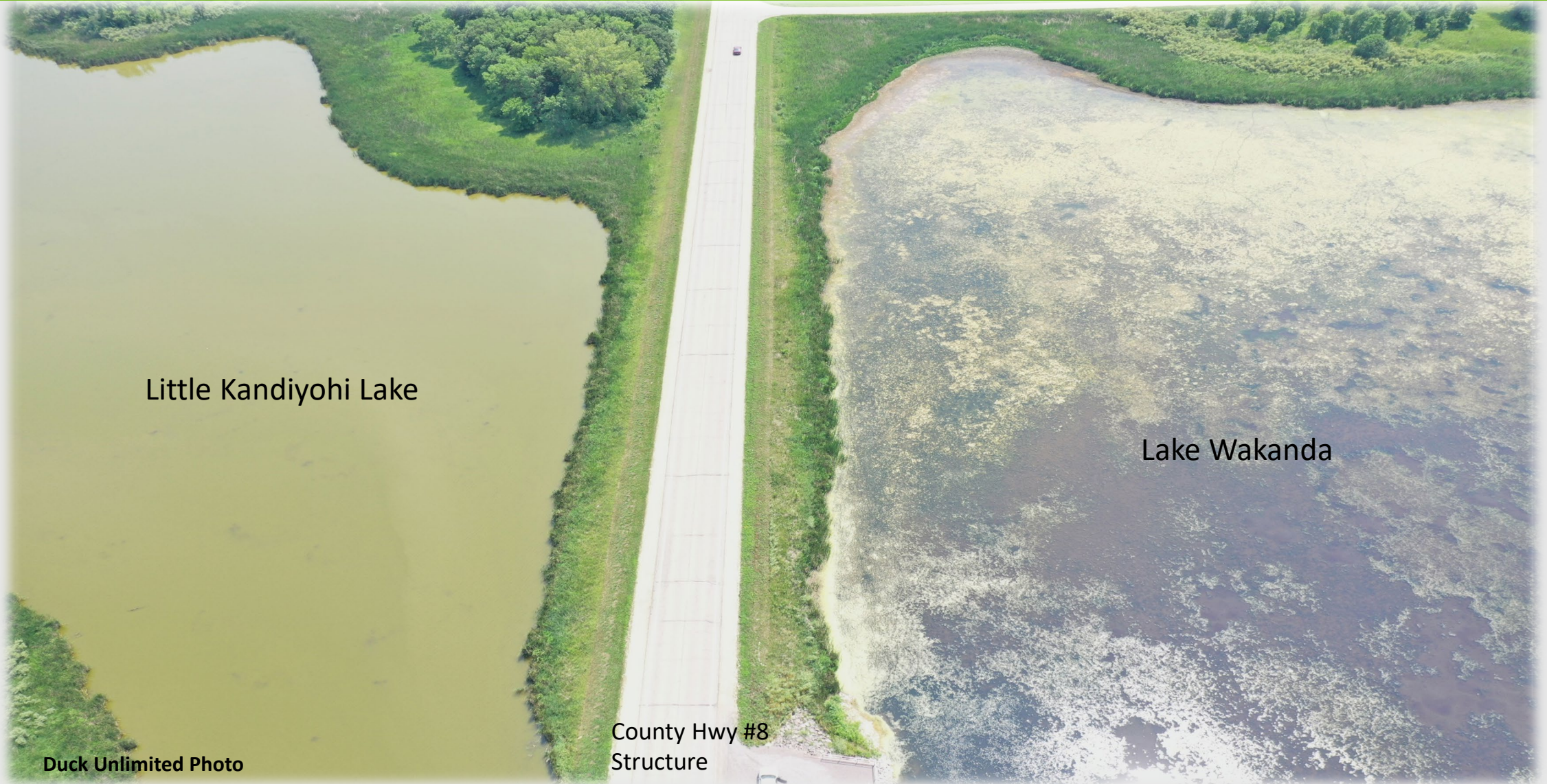
# Lake Wakanda Enhancement Project

A pictures worth 1,000 words!





# Lake Wakanda Enhancement Project





# Lake Wakanda Enhancement Project

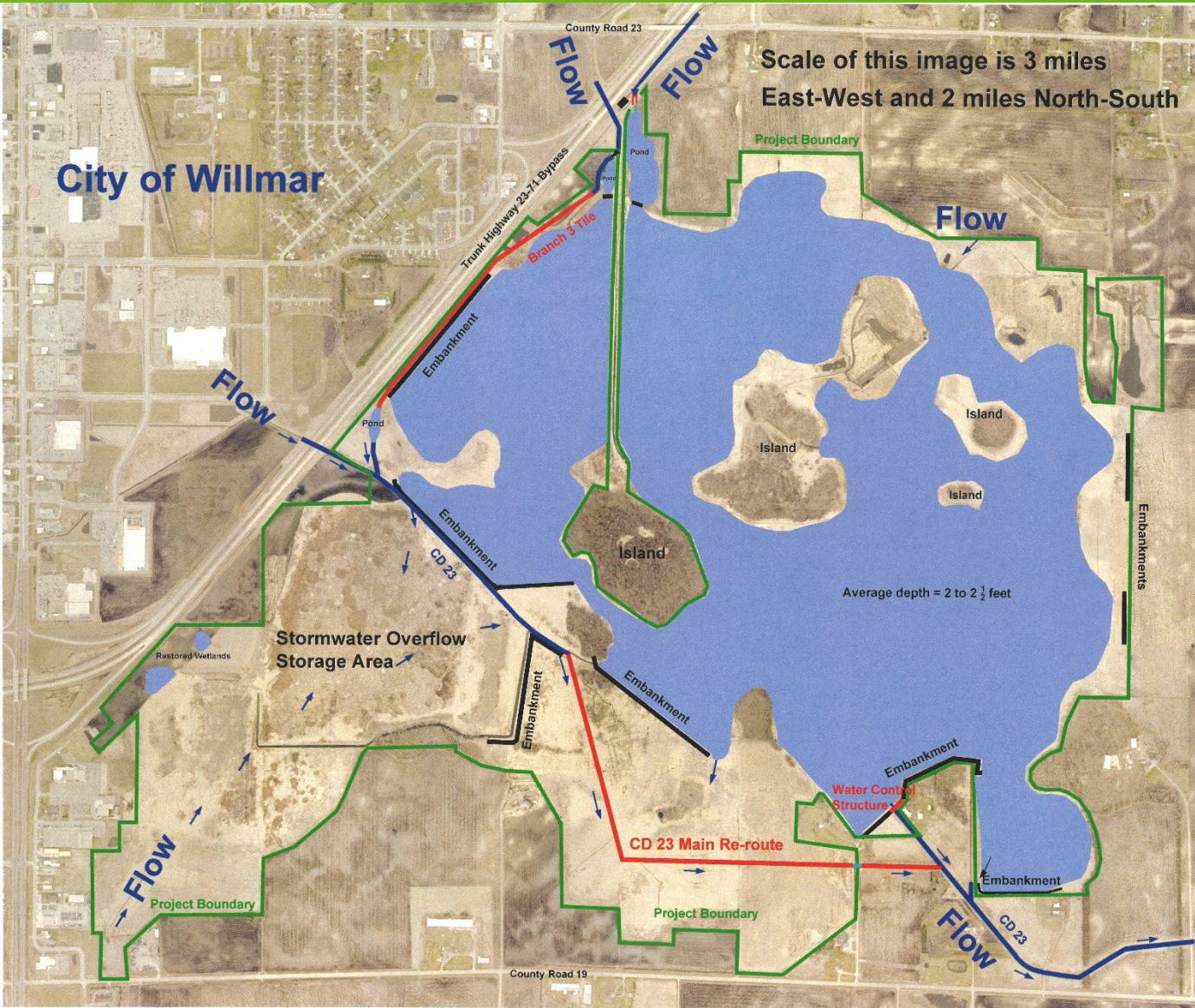


Duck Unlimited Photo



# Lake Wakanda Enhancement Project


## -Grass Lake-



- Grass Lake is a very large shallow lake restoration consisting of nearly 1,500 acres of perpetual easement secured by BWSR and Kandiyohi County
- The restoration of Grass Lake will significantly reduce bounce in Lake Wakanda (0.5 feet from a 100-year storm event)
- Restoring Grass Lake should reduce the amount of phosphorous draining into Lake Wakanda from CD 23A by approximately 50%
- The Grass Lake project makes water level management possible on Lake Wakanda by reducing bounce and buffering nutrients
- Kandiyohi County will begin pooling water in Grass Lake this summer/fall when conditions allow



# Moving Forward

- 
- Maintain drawdown through Spring 2022
  - Work with DNR Fisheries on a lake stocking plan
  - Continue to monitor water clarity, veg abundance/diversity, fish assemblages
  - Continue to work with partners to promote BMP's in the watershed
  - Continue to collaborate with partners and stakeholders to implement the Lake Wakanda Enhancement Plan



# Questions?

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320-354-5530



# THANK YOU!