Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2017 Final Report

General Information

Date: 10/08/2020

Project Title: Lake Wakanda Enhancement Project

Funds Recommended: $921,000

Legislative Citation: ML 2017, Ch. 91, Art. 1, Sec. 2, subd. 5(h)

Appropriation Language: $921,000 in the first year is to the commissioner of natural resources for an agreement with Kandiyohi County to enhance aquatic habitat within and adjacent to Lake Wakanda in Kandiyohi County. A list of proposed land enhancements must be provided as part of the required accomplishment plan.

Manager Information

Manager's Name: Jeremy Pfeifer
Title:
Organization: Kandiyohi County
Address: 1801 E Highway 12
City: Willmar, MN 56201
Email: Jeremy.Pfeifer@kcmn.us
Office Number: 320.235.3266
Mobile Number: 320.212.1056
Fax Number:
Website: http://www.co.kandiyohi.mn.us/departments/drainage/lake_wakanda_info.php

Location Information

County Location(s): Kandiyohi.

Eco regions in which work will take place:

- Prairie

Activity types:

- Enhance

Priority resources addressed by activity:

- Habitat

Narrative

Summary of Accomplishments

Kandiyohi County with Lessard-Sams Outdoor Heritage Council's grant was used to address the ecosystem and critical lake habitat on Lake Wakanda. This shallow lake is part of a prairie chain of lakes located south of Willmar at the headwaters of the South Fork of the Crow River, which flows into the Mississippi River. The (4) new water control structures with fish barriers will enhance fish and wildlife habitat through active management, resulting in improved aquatic plant growth and distribution, wetland wildlife habitat, and a more diverse and balanced fishery with greater recreational opportunities for the public.

Process & Methods

Kandiyohi County entered into contract with Landwehr Construction of St. Cloud to construct the four water control structures. The completed Enhancement Project moves forward The Cooperative Enhancement Plan for Lake Wakanda, which was developed by bringing multiple partners together including Kandiyohi County, the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, the Minnesota Board of Water and Soil Resources, Kandiyohi County Soil and Water Conservation District, Crow River Organization of Water, the Wakanda and Big Kandiyohi Lake Association, Blomkest Sportsmen's Club and Ducks Unlimited.

The completed project included:

- Variable crest water control structures (2) with fish barriers on the south side of Lake Wakanda, connecting it to Big Kandiyohi Lake and the other replaced a sheet-pile structure on County Road #8 to assist with fish movement from downstream lakes and streams entering Lake Wakanda.

- Concrete box culverts (2) with one along County Road 123 to isolate fish from the west bay, improving wildlife habitat and the other was a replacement of a former cart-way crossing that connects the east bay of the lake to Little Kandiyohi Lake.

How did the program address habitats of significant value for wildlife species of greatest conservation need, threatened or endangered species, and/or list targeted species?

This project is located in Bird Conservation Region 11 (BCR) Prairie Pothole Region and will enhance shallow lake habitat conditions, benefiting wetland wildlife and help address priority waterfowl species and other species of State concern:

- Waterfowl: High Priority Species (5): Mallard, Blue-winged Teal, Lesser Scaup, Greater Scaup, Northern Pintail

- Other Priority Species (5): Wood Duck, Redhead, Canvasback, Ring-necked Duck, American Wigeon

- Non-game and Other Wetland Associated Migratory Birds: American Bittern*, Northern Harrier*, Yellow Rail, both Hudsonian and Marbled Godwit, and Wilson's Phalarope*, which use it as a breeding habitat and populate Minnesota during spring and fall migration.

- Emergent plants and shallow water habitat for wading birds and increase aquatic invertebrates for Wilson's Phalarope

- Two Bald Eagle nests are documented

- High Priority Shorebirds: Several high priority shorebird species will directly benefit from this project during shallow lake draw-downs that expose mudflats and shallow water conditions for foraging habitat during spring and fall: Piping Plover, American G olden Plover, Solitary Sandpiper, Hudsonian, Marbled Godwit and Wilson's Phalarope

- Endangered Species: There are no federally threatened, endangered or proposed candidate species in the immediate area. However, the proposal area does include documented records for eight state-listed species as follows: 5 birds: Trumpeter Swan, Loggerhead Shrike, Horned Grebe, Common Tern, Peregrine Falcon

- Old-Growth Hardwood Forest: Basswood, Kentucky Coffee Tree, Oak and Elm

- All native fish and wildlife species that utilize shallow lake habitats

How did the program use science-based targeting that leveraged or expanded corridors and complexes, reduced fragmentation, or protected areas in the MN County Biological Survey.

Agricultural Best Management Practices (BMPs) as well as municipal stormwater and wastewater upgrades are contributing to the attainment of enhancing habitat and water quality conditions on Lake Wakanda. The completed four water control structures will enable water level drawdown to promote vegetation growth and fish control measures using fish barriers will limit the mobility of Common Carp throughout Lake Wakanda basin after winterkill. Common Carp have proven to produce massive year-classes in Lake Wakanda after winterkill, ultimately impacting the entire chain and downstream lakes. Lake Wakanda, as the headwaters of the South Fork of the Crow River, will benefit by retention of nutrients and floodwater at the landscape level.

Temporary water level drawdown will increase sunlight penetration and promote submersed aquatic plant growth as well as consolidate shoreline sediments and allow for germination of emergent plants. Aquatic plants will help stabilize bottom sediments, manage internal nutrient cycling, reduce wave action, control shoreline erosion, provide direct food resources for waterfowl, and provide critical habitat for all shallow lake species. The outcomes projected through drawdown and fish control were experienced when Lake Wakanda had a significant winter fish kill in 2012-13. Habitat and water quality conditions following that event improved dramatically, but were only temporary . This event allowed us to see the potential of Lake Wakanda. In-lake tools will provide the means to meet continued enhancement objectives.

Given the average depth of three to four feet in its shallow bays and reaching 14 feet in the main basin, Lake Wakanda is a unique body of water with two public accesses. It can support a diverse and healthy ecosystem along with a predator fish community. Keeping Common Carp and Black Bullhead populations limited along with decreased nutrient levels will expand recreational opportunities. The (4) new structures with fish barriers will enhance the complex ecosystem. In addition, the project will positively affect Lake Wakanda's chain of prairie lakes and corridors that are surrounded by public land and privately-owned conservation program lands.

Explain Partners, Supporters, & Opposition

The entire Lake Wakanda Enhancement Project has been a cooperative effort by multiple organizations ranging from city and county government, the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, the Minnesota Board of Water and Soil Resources, Kandiyohi County Soil and Water Conservation District, Crow River Organization of Water, the Wakanda and Big Kandiyohi Lake Association, Blomkest Sportsmen's Club, Ducks Unlimited and local residents and wildlife enthusiasts. The project did not experience any opposition.

Exceptional challenges, expectations, failures, opportunities, or unique aspects of program

NA - The project went very well with no challenges.

What other funds contributed to this program?

- Other : N/A - Per call with LSOHC on May 19, 2016

How were the funds used to advance the program?

- Construction contracts: $769,601
- Easement acquisition: $1,132
- Professional services: $177,800

  Kandiyohi County Personnel: $40,600
- Supplies/Materials: $748

What is the plan to sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

Kandiyohi County owns and will provide all capital maintenance for the water control structures and fish barriers. The County will work with the Minnesota Department of Natural Resources for all active water level drawdown, fish management, and routine maintenance. Fish barrier maintenance and management actions will be dictated by the comprehensive lake management plan, Cooperative Enhancement Plan for Lake Wakanda that was created collaboratively with Kandiyohi County, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency, the Minnesota Board of Water and Soil Resources, the local Soil and Water Conservation District, Crow River Organization of Water, the Wakanda and Big Kandiyohi Lake Associations, Blomkest Sportsmen's Club and Ducks Unlimited.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
Per Cooperative Plan	Kandiyohi County with DNR	Periodic, partial drawdown	Considered up to once every 6 years	-
Per Cooperative Plan	Kandiyohi County with DNR	Predator fish management	Considered 2/3	-
Per Cooperative Plan	Kandiyohi County with DNR	Full refill to start of next partial drawdown	Expected to be 8-10+ years	-

Budget

Totals

Item	Request	Spent	Antic. Leverage	Received Leverage	Leverage Source	Original Total	Final Total
Personnel	-	-	$37,800	$40,700	Kandiyohi County, Kandiyohi County, Kandiyohi County, Kandiyohi County	$37,800	$40,700
Contracts	$730,900	$750,200	$64,400	$19,400	Kandiyohi County	$795,300	$769,600
Fee Acquisition w/ PILT	-	-	-	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-	-	-	-
Easement Acquisition	-	-	$5,000	$1,100	Kandiyohi County	$5,000	$1,100
Easement Stewardship	-	-	-	-	-	-	-
Travel	$300	-	-	-	-	$300	-
Professional Services	$177,800	$170,800	-	-	-	$177,800	$170,800
Direct Support Services	-	-	-	-	-	-	-
DNR Land Acquisition Costs	-	-	-	-	-	-	-
Capital Equipment	-	-	-	-	-	-	-
Other Equipment/Tools	-	-	-	-	-	-	-
Supplies/Materials	$12,000	-	-	$800	Kandiyohi County	$12,000	$12,800
DNR IDP	-	-	-	-	-	-	-
Grand Total	**$921,000**	**$921,000**	**$107,200**	**$62,000**	**-**	**$1,028,200**	**$995,000**

Personnel

Position	Annual FTE	Years Working	Funding Request	Antic. Leverage	Leverage Source	Total
Kandiyohi County Public Drainage Manager	0.06	3.0	-	$24,300	Kandiyohi County	$24,300
County Commissioners-Elected Officials (2)	0.015	3.0	-	$1,700	Kandiyohi County	$1,700
County Administrator	0.015	3.0	-	$5,900	Kandiyohi County	$5,900
County Engineer	0.01	3.0	-	$8,800	Kandiyohi County	$8,800

Explain any budget challenges or successes:

Project was $11,636 over on the construction side. This was offset by lower than anticipated personnel and easement acquisition expenses.

Total Revenue: $921,000

Revenue Spent: $921,000

Revenue Balance: $0

Of the money disclosed above, what are the appropriate uses of the money:

- E. This is not applicable as there was no revenue generated.

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Acres (AP)	Total Acres (Final)
Restore	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0
Enhance	0	0	0	0	0	0	1,754	1,754	1,754	1,754
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1,754**	**1,754**	**1,754**	**1,754**

Total Requested Funding by Resource Type (Table 2)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)	Total Funding (AP)	Total Funding (Final)
Restore	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	$921,000	$921,000	$921,000	$921,000
Total	**-**	**-**	**-**	**-**	**-**	**-**	**$921,000**	**$921,000**	**$921,000**	**$921,000**

Acres within each Ecological Section (Table 3)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee w/o State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0

Enhance	0	0	0	0	0	0	1,754	0	0	0	1,754	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1,754**	**0**	**0**	**0**	**1,754**	**0**

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)	Total (AP)	Total (Final)
Restore	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	$921,000	$921,000	-	-	$921,000	$921,000
Total	**-**	**-**	**-**	**-**	**-**	**-**	**$921,000**	**$921,000**	**-**	**-**	**$921,000**	**$921,000**

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland (AP)	Wetland (Final)	Prairie (AP)	Prairie (Final)	Forest (AP)	Forest (Final)	Habitat (AP)	Habitat (Final)
Restore	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	$525	$525

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro / Urban (AP)	Metro / Urban (Final)	Forest / Prairie (AP)	Forest / Prairie (Final)	SE Forest (AP)	SE Forest (Final)	Prairie (AP)	Prairie (Final)	N. Forest (AP)	N. Forest (Final)
Restore	-	-	-	-	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-	-	-	-	-

Protect in Easement	-	-	-	-	-	-	-	-	-	-
Enhance	-	-	-	-	-	-	$525	-	-	-

Target Lake/Stream/River Feet or Miles

1,754 acres

Outcomes

Programs in prairie region:

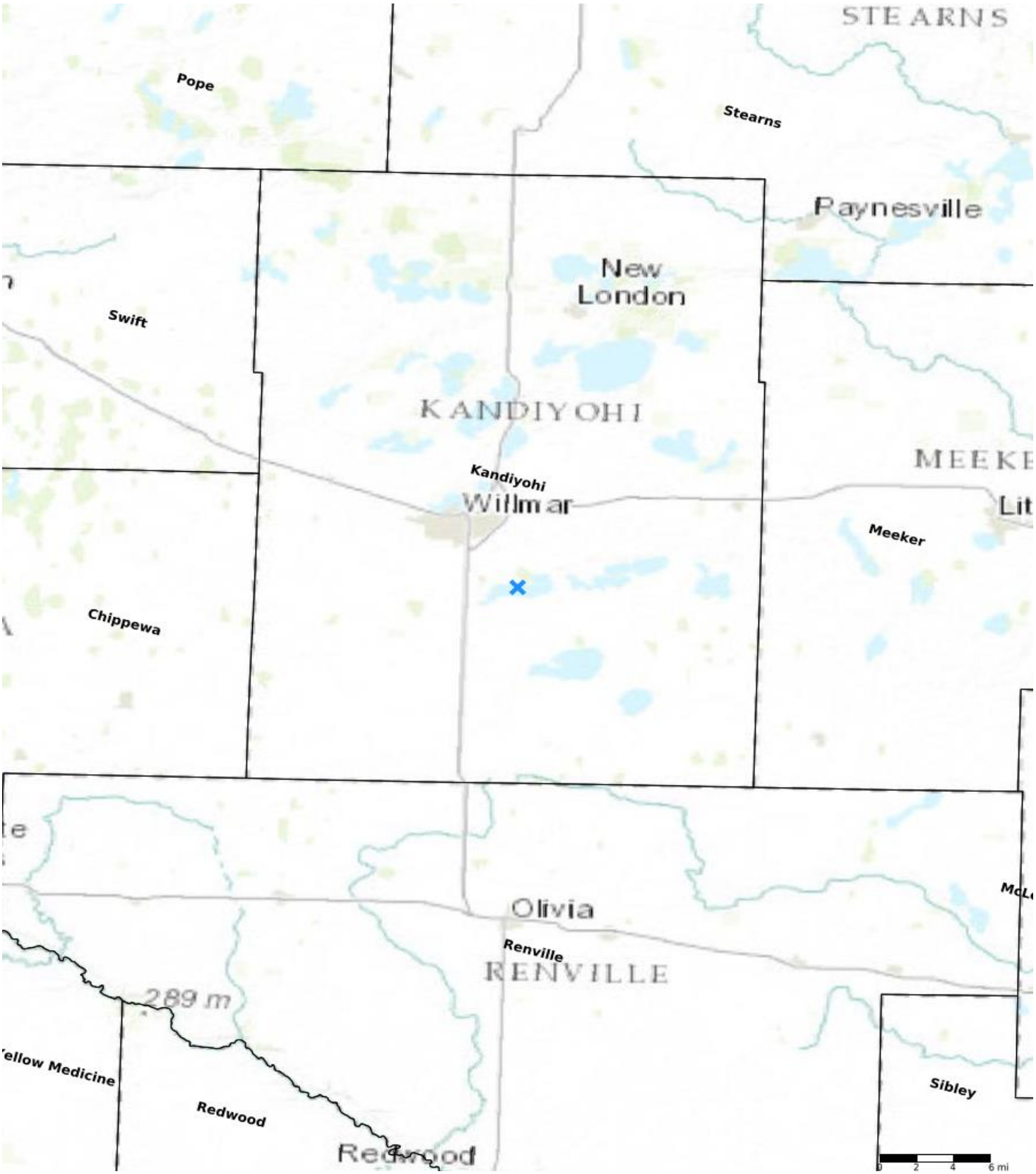
- Protected, restored, and enhanced shallow lakes and wetlands ~ *Feedback from the multiple partners involved in the Lake Wakanda Enhancement Project and The Cooperative Enhancement Plan along with residents and wildlife enthusiasts. Outcomes will be also be measured by increased recreational opportunities and the quality of experiences and by evaluating aquatic plant growth and distribution, wetland wildlife habitat and overall, a more diverse and balanced fishery.*

Parcels

Sign-up Criteria?
No

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
Lake Wakanda	Kandiyohi	11834206	1,754	$0	Yes



Protect in Easement
Protect in Fee with PILT
Protect in Fee W/O PILT
Restore
Enhance
Other

Parcel Map
Lake Wakanda Enhancement Project
(Data Generated From Parcel List)