

Project Work Plan

Diamond Lake Area Recreation Association

Diamond Lake Aquatic Plant Management Project

(Project Number CIP 14-02)

06/08/2021

Fiscal Administration Support: Middle Fork Crow River Watershed District

Section 1: Project Summary

Project Title: Diamond Lake Aquatic Plant Management Project (Project Number CIP 14-02)

Project Sponsor: Diamond Lake Area Recreation Association

Project Fiscal Administration Support: Middle Fork Crow River Watershed District

Project Funding Type: MS 103D.701 Project – MS 103D.745

Start date: September 1, 2015

Support Contact Name: Margaret Johnson, District

Administrator

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Watershed Basin: Upper Mississippi

Major Watershed: North Fork Crow River Watershed

Sub-watershed: Middle Fork Crow River Watershed

Water body: Diamond Lake

Section 2: Project Information

The Middle Fork Crow River Watershed District (MFCRWD) and the Diamond Lake Area Recreational Association (DLARA) desire an aquatic plant management plan for Diamond Lake that addresses effective long-term management of aquatic invasive plant species. MFCRWD and the DLARA have recently managed invasive aquatic plants through the use of harvesters and herbicide application. However, MFCRWD and the DLARA believe a plan that focuses on long-term management will better address improving water quality, lake navigation, and native vegetation health. These goals will be addressed through:

- Identifying the current status of aquatic plants in Diamond Lake.
- Specifying quantifiable management goals.
- Recommending specific management action items to improve lake conditions.
- Developing an annual budget for program implementation.

Section 3: Budget

Diamond Lake Area Recreation Association Aquatic Plant Management Operation Budget:

2012 Operation Budget: \$6,000

2013 Operation Budget: \$6,000

2014 Operation Budget: \$9,000

2015 Operation Budget: \$-

2016 CIP Assessment: \$28,869.18

Initial: _____

2017 CIP Assessment: \$20,000.00

2018 CIP Assessment: \$20,000.00

2019 CIP Assessment: \$20,000.00

2020 CIP Assessment: \$80,000.00

2021 CIP Assessment: \$55,000 (Project costs) + \$8,500 (Administration Costs – Middle Fork Crow River Watershed District) = \$63,500

2022 CIP Assessment: \$60,000

2022 Uses

\$60,000 Application Cost (assuming a 20% increase in chemical cost)

\$6,000 Point-Intercept survey

\$2,500 Admin fee to MFCRWD for administration

\$2,500 Fee to Kandiyohi County for assessment costs

\$71,000 Total Expenses

2022 Sources

\$60,000 Proceeds from County assessment of lakeshore owners

\$10,000 Proceeds from the Kandiyohi County Water Task Force grant*

\$1,000 DLARA checking account*

\$71,000 Total Revenues

*Alternative revenue source would be to use a portion DLARA's funds on account at the MFCRWD

Section 4: Body of the Work Plan

Objective: Manage Curley-leaf Pondweed over a permitted surface area of Diamond Lake at a prudent cost.

2022 Statements:

- Diamond Lake has 635 acres of littoral water. Based on the 15% limitation established by the Minnesota Department of Natural Resources, the AIS treatment permitting is capped at 95.25 acres without obtaining a limitation exception. The amount of treatment permits to be obtained by lakeshore owners in 2022 is unknown, however past calculations for The Diamond Lake Association Area Recreation Association (DLARA) permit allowed for ten acres of private permits. This assumption will be in place when the 2022 application is permitted. This leaves a maximum 85 acre permitting level available to DLARA.
- Once the ice goes out in 2022 a lake-wide survey will be performed by Limnopro to determine locations with the existence of Curly-leaf Pondweed. Past surveys have shown significant CLP infestation in areas that exceed the DNR's 85 acre restriction. The second restriction will be the \$60,000 2022 budgetary expense. To maximize the impact of dollars spent, the focus in 2022 will be on shallow areas of the lake within the littoral zone with high infestation rates. Because the amount of chemical applied as treatment is based on volume of water, an acre of shallow water is less expensive to treat than deeper water. The exact location of treatment is unknown at this time and will be dependent upon the results of the survey taken in the second quarter of 2022. That said, the Association anticipates treating areas totaling between 50-75 acres in 2022.
- The vendor to apply the chemical (assumed to be Aquathol K) will be Limnopro and they will proceed with the application after obtaining the necessary permit from the DNR.

Initial: _____

Section 5: Actual Past Outcomes

Actual Outcomes:

2021:

During the summer of 2020 a sonar survey over all of the littoral waters of Diamond Lake was performed to measure the biomass of lake vegetation. It was not specie specific. Two abridged point-intercept surveys, based on the biomass data, were later conducted on Diamond in the spring of 2021 by Limnopro and the DNR. Their findings ultimately drove the final June 2021 application areas in June. The existence of native plants, even in very small amounts, eliminated several areas from treatment consideration in the 80+ acres included in the 2021 plan. Limnopro ultimately treated 40.4 acres at a rate of 2.0 ppm primarily in the northern portion of the lake. The treatment cost for the application of Aquathol K (active ingredient Endothall) was \$50,188.09 because the areas treated were in waters deeper than those areas in the original plan. The Aquatic Pesticide Application Record is attached for further details. The Kandiyohi County Water Task Force approved an \$9,000 grant in 2020 and submission of the report to comply with the terms of the grant will be submitted to the county in August 2021.

2020:

- Limnopro treated 84.2 acres at a rate of 1.5 ppm primarily in the southern portion of the lake and excluding Dogfish Bay. A .3 acre area near the east county boat ramp was also treated at a more concentrated rate of 5.0 ppm. The treatment cost for the application of Aquathol K was \$78,038.59. The Aquatic Pesticide Application Record is attached for further details. The Kandiyohi County Water Task Force approved an \$8,000 grant and submission of the report to comply with the terms of the grant will be submitted to the county in August 2020.

2019:

- The Diamond Lake Association Area Recreation Association will hire a lake service provider to survey in lake vegetation and invasive curly-leaf. The cost will be between \$5,073.65. The cash balance for the CIP is \$6,628.69

2018: PLM treated 20 acres at \$575.84/acre. Totaling \$11,516.80

- The Kandiyohi County Water Task Force paid 50% of the total project cost.
- The CIP paid 50% of the project cost, \$5,758.40.

2017: PLM treated 20 acres at \$435.78/acre. Totaling \$8,715.60.

- The Kandiyohi County Water Task Force paid 50% of the total project cost.
- The CIP paid 50% of the project cost, \$4,357.80.

2016: The CIP paid \$7,016.22

Signed: _____

President, Representative, Diamond Lake Area Recreation Association

Dated: _____

Initial: _____