

Project Work Plan

Diamond Lake Area Recreation Association
Diamond Lake Aquatic Plant Management Project
(Project Number CIP 14-02)

07/27/2020

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

189 County Road 8 NE Spicer, MN 56288

Phone: 320-796-0888

Email: Margaret@mfcrow.org

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

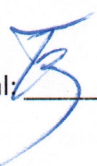
Section 4: Body of the Work Plan

Objective:

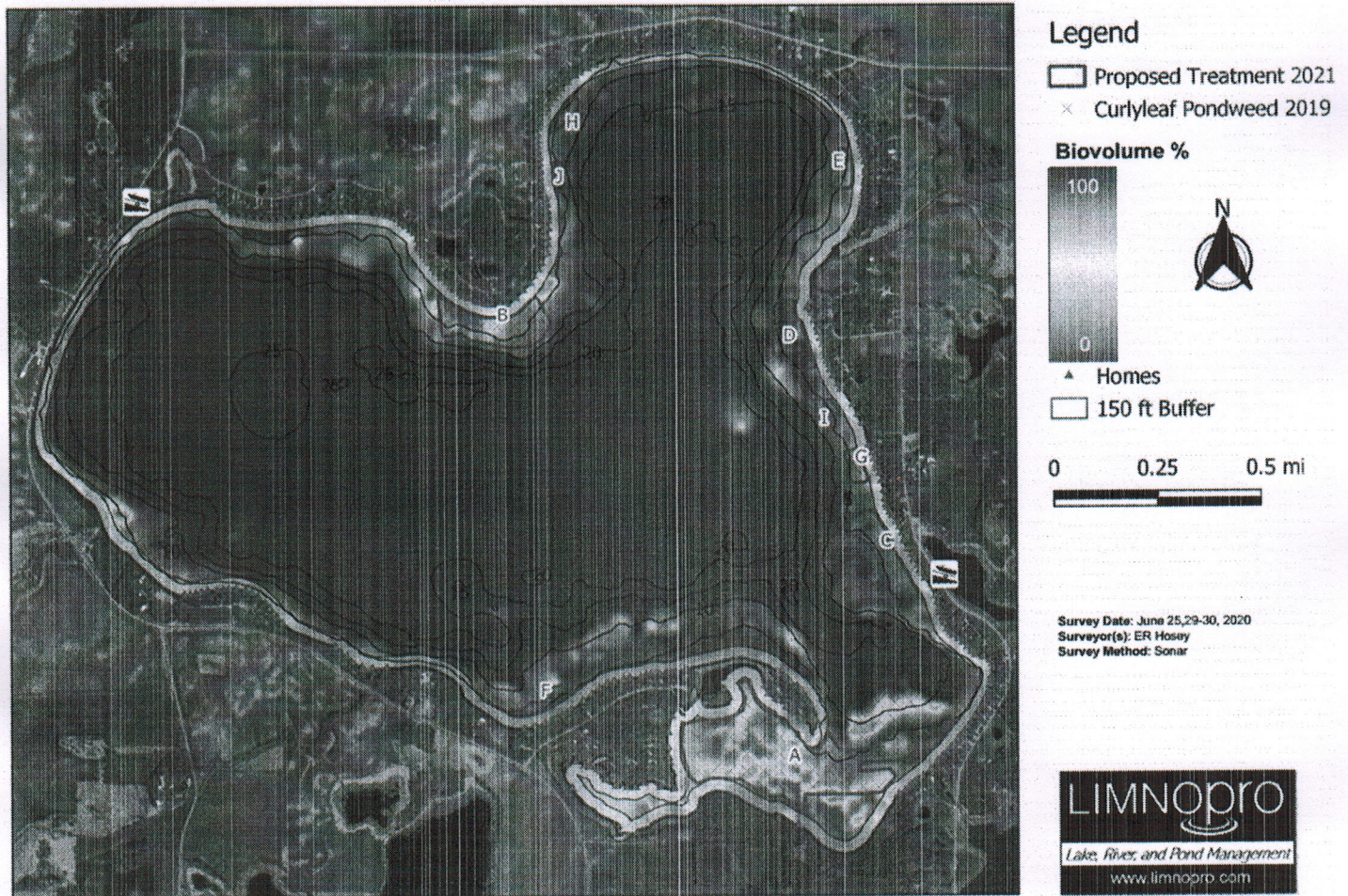
2021:

- Statement: 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 2021 is unknown, however past calculations for The Diamond Lake Association Area Recreation Association (DLARA) permit allowed for ten acres of private permits. This leaves a 85 acre permitting level available to DLARA. A sonar lake survey was performed by Limnopro in June 2020 and the findings indicated significant CLP infestation in areas that exceed 85 acres. To maximize the impact of dollars spent, a focus this year is on shallow areas of the lake 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 association desires to treat the same acreage as last year, however the cost this year will drop from a \$78,038.59 actual cost in 2020 (\$923/a), to an estimated cost of \$50,135.07 (\$534/a). The costs for either year did not include surveying expenses. In 2020 DLARA hired Limnopro to survey they lake using sonar to map the entire littoral area of the lake and a second survey will be performed in March 2021 to refine the treatment area (which is affected by snow depth and other factors). The cost of the surveys is estimated to be \$5215.49, bringing the total budget for 2021 treatment to \$55,350.56.

Plot	Acres	Depth	Vol	Conc	Cost
A	52.6	3.2	168.3	1.5	\$16,355.39
B	12.5	4.6	57.5	1.5	\$5,587.85
C	8.8	4.1	36.1	2.0	\$4,560.51
D	7.6	4.0	30.4	2.0	\$3,840.43
E	2.5	5.2	13.0	3.0	\$2,526.55
F	2.4	5.5	13.2	3.0	\$2,565.42
G	2.0	4.0	8.0	4.0	\$2,021.28
H	1.5	5.5	8.3	4.0	\$2,097.08
I	1.0	5.0	5.0	5.0	\$1,554.80
J	1.0	5.7	5.7	5.0	\$1,772.47
Channel	2.0	4.0	8.0	4.0	\$2,021.28
Subtotals	93.9	4.6	353.5	NA	\$44,903.07
Mobilization (\$108 per day x 4 days)					\$432.00
Labor (\$1200 per day x 4 days)					\$4,800.00
Grand Total					\$50,135.07

Initial: 

Diamond Lake, Kandiyohi County, MN - BIOVOLUME %



Section 5: Actual Past Outcomes

Actual Outcomes:

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

Initial: *EG*

- 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: 7-29-2020

Initial: 