

Engineer's Report: Bass Lake AIS Management



Prepared for:
Clearwater River Watershed District



93 Oak Ave S, Suite 5
PO Box 481
Annandale, MN 55302



Prepared by:

Resilience Resources, LLC
3235 Fernbrook Lake N.
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Engineer's Report

For

Bass Lake AIS Project

June 2019

Prepared for:

Clearwater River Watershed District
95 Oak Avenue South, Suite 5
PO Box 481
Annandale, Minnesota 55302

Board of Managers:

Robert Schiefelbein, President
Chris Uecker, Vice-President
Kathy Jonsrud, Treasurer
Paul DeGree, Secretary
Dale Homuth

Prepared by:

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Minneapolis, MN 55447

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly registered Professional Engineer under the laws of the State of Minnesota.

Date: 19 June 2019

Rebecca Carlson, P.E. (MN) Registration no. 42013

Project Location

The project is detection, control and management of Aquatic Invasive Species (AIS) in Bass Lake (ID 86023400) located in Wright County in Minnesota. The lake is north of the City of Annandale in MN T121, R27 S5 and 32 (Figure 1.1).

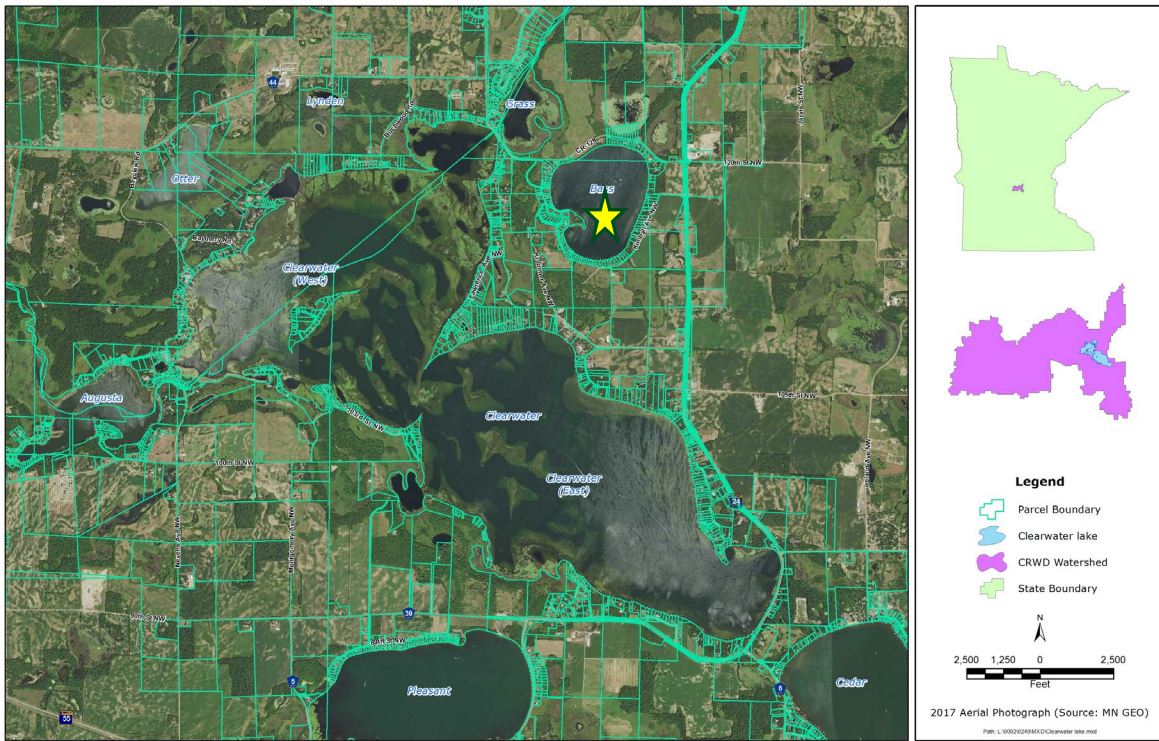


Figure 1.1: Project Location

Bass Lake is a 222.47 acre lake located in the Clearwater River Watershed District. The parcels riparian to the lake and adjacent areas are shown in Figure 1.2.

Project Need

The Bass Lake Association of Wright County (BLAWC) is an association of dues-paying members consisting of riparian property owners and those with deeded access to Bass Lake. This group petitioned the CRWD in October 2018 under MN 103D.705 to establish a project for the detection, control and management of aquatic invasive species (Appendix A contains a sample petition).

The BLAWC petition requests that the new project incorporate the work currently done by their group to manage Curly Leaf Pondweed in the Lake. The BLAWC currently conducts this work under the supervision and direction of the MN Department of Natural Resources (MNDNR).

Currently the group treats the lake for curly leaf pondweed with AquatholK. Their reported expenses for this work range from \$5,000 to \$8,000 between 2015 and 2017.

One public boat launch on the lake currently has no planned or funded inspection.

The MNDNR defines invasive species as species that are not native to Minnesota *and* cause economic or environmental harm or harm to human health. Management of invasive species covered under this proposed project are limited to aquatic invasive species as defined by the MNDNR and curly leaf pondweed (*p. crispus*). The management of AIS proposed here-in is not confined to the current list, but will allow for detection, management and control of new species as threats are identified.

According to the MNDNR, less than 7% of Minnesota's more than 11,000 lakes are on the infested waters list. Less than 3% of Minnesota lakes are listed as infested with zebra mussels.

As of January 2018, Minnesota has confirmed zebra mussels in 150 lakes and wetlands. Nearby Clearwater Lake was placed on the infested waters list for zebra mussels in 2015, and for Eurasian Water Milfoil in 1989. Because the lake is a large, high-value recreational lake within an hour of two major metropolitan areas (Twin Cities and St. Cloud), it tends to be on the front edge of infestations of new AIS. And lakes nearby, like Bass Lake, are also at greater risk of infestation due to the higher amount of traffic and visitors in the area. As such Bass Lake requires greater resources for detection, management and control of AIS.

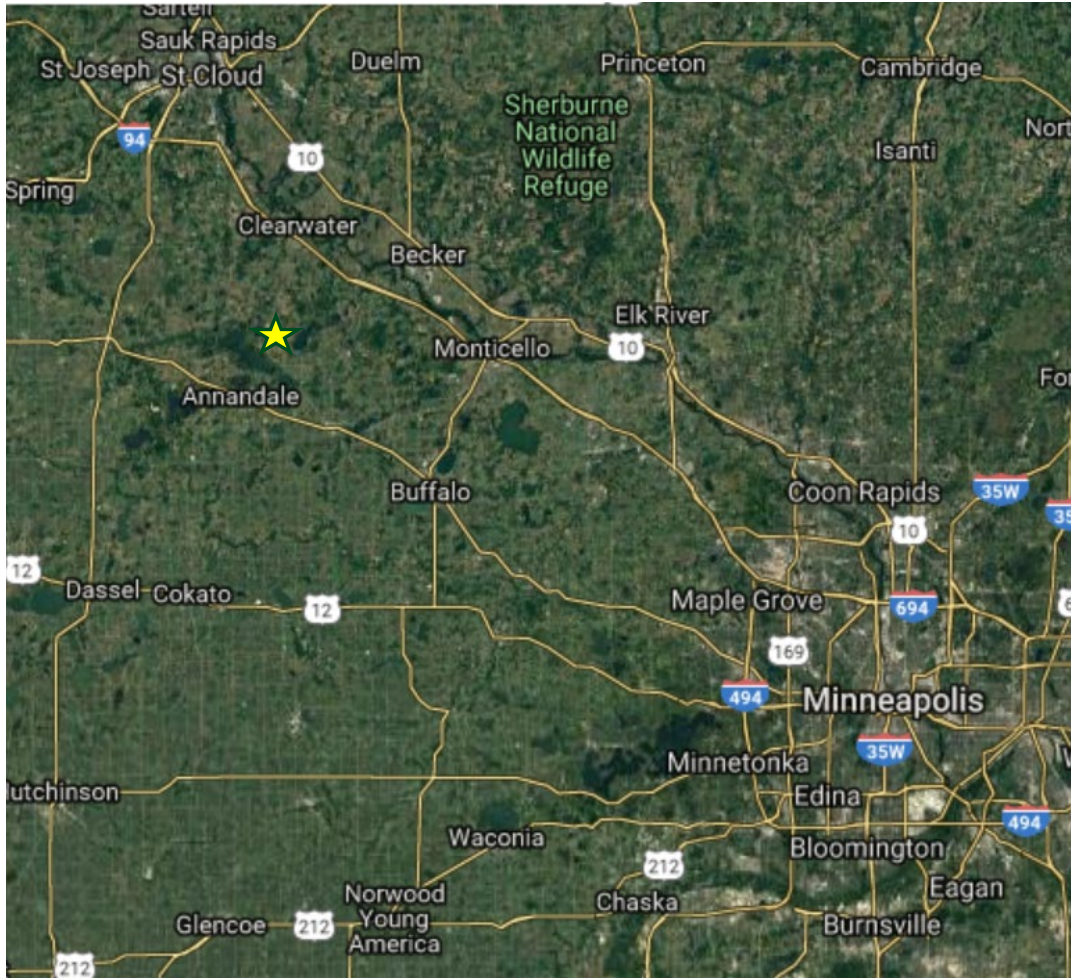


Figure 2.1: Regional Significance

DNR Lake Assessment; Source DNR Like Finder

Bass Lake is a 218 acre lake located five miles north of Annandale in Wright County. The lake has one public access located on the west side of the lake. The water quality of Bass Lake is good with a 10 year average water clarity reading of 14 feet; and adequate dissolved oxygen down to 26 feet during the last week of June 2017. Bass Lake has a small watershed (951 acres) with land use consisting of 35% agriculture, 32% marsh/open water, 12% forest, 10% residential, 6% pasture, and 5% grassland. Emergent and floating-leaf vegetation mapping was also completed to evaluate the physical habitat of Bass Lake. Emergent plants were found to cover 3% of the lake and was limited mostly to the channel area on the west side of the lake north of the public access. Species found included: cattail spp., yellow water lily, and bulrush spp. A standard survey was conducted in 2017 to monitor changes in the fishery since the last survey conducted in 2005.

Anglers can expect good bass angling for fish of all sizes. Largemouth Bass were sampled by daytime electrofishing in May 2017 at nearly twice the average rate for Sauk Rapids area lakes with fish up to 18.5 inches sampled. Of catchable size fish (>8 inches), 69% were longer than 12 inches and 22% were longer than 15 inches.

Bass Lake has a history of high catch rates of Northern Pike with the population being dominated by small fish. Northern Pike numbers were lower than 2008 but remained well above the expected range of values for similar lakes. Lengths ranged from 9 to 37 inches with an average length and weight of 22 inches and 2.8 pounds. Northern Pike were larger compared to the last survey; 32% were 24 inches or longer in 2017, compared to only 4% in 2005.

No Walleye were sampled in 2017, which is not surprising since Walleye were last stocked in 1993. Prior stocking efforts were unsuccessful most likely due to the high Northern Pike abundance and low Yellow Perch abundance.

The Bluegill catch in 2017 was similar to that observed in 2005 and good fishing for smaller sized Bluegill can be expected. Of catchable size fish (>3 inches), only 38% were longer than six inches and no Bluegill over eight inches were sampled.

Historically, Black Crappie abundance has been low and the catch in 2017 was no exception. While most of the crappie sampled were between eight and nine inches, crappie up to 12 inches were sampled during the survey.

Other fish species sampled included: Black Bullhead, Bowfin (dogfish), Brown Bullhead, Green Sunfish, Hybrid Sunfish, Pumpkinseed, Rock Bass, Smallmouth Bass, and Yellow Bullhead.

Failing to detect, manage and control AIS infestations may impact the lake's fisheries, water quality, and vegetative community. In addition to these impacts on the lake ecosystem, new infestations may impact recreational opportunities including fishing and swimming which in turn may impact the local economy as well as other lakes in the area. An aggressive AIS management program is needed to detect, manage and control AIS and the landowners have expressed a willingness to fund the project.

Figure 2.2 shows the MNDNR boat launch, considered primary vectors for AIS infestation. The lake has one public access:

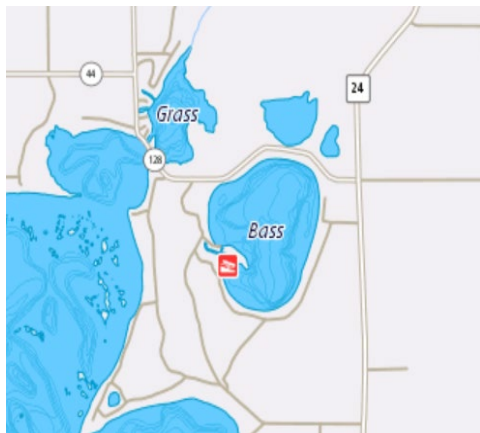


Figure 2.2: Existing Recreational Lake Access (MNDNR)- Vectors

2.1 OTHER RESOURCES, EXISTING FRAMEWORK

Combatting AIS requires collaborative efforts at multiple levels of federal, state and local government, as well as the involvement of private citizens. The community partners engaged in the management of AIS for Bass Lake include, but are not limited to:

- Bass Lake Association of Wright County (BLAWC)
- Clearwater River Watershed District (CRWD)
- State of Minnesota – funding provided to counties annually (See: www.dnr.state.mn.us/invasives/ais/prevention)
 - Wright County was certified ~\$230,000 in 2016 and ~\$228,000 in 2017
- Wright County via the Wright County Soil & Water Conservation District (SWCD) & the County Water Task Force
 - See: www.wrightswcd.org/Water_Management/aquatic_invasive_species.html
- Wright County Coalition of Lake Associations
- Minnesota DNR
- Private NGOs
- University of Minnesota
- Consulting groups providing survey, treatment, and technical consultation

Alternatives Considered

The alternatives considered are described in this section including no additional action, as well as consideration of three elements of an AIS program: detection, control and management.

Alternatives 2-6 each incorporate additional coordination with the significant number of state and local partners.

3.1 ALTERNATIVE 1: DO NOTHING/ CONTINUE WITH EXISTING MANAGEMENT

The BLAWC currently manages curly leaf pondweed through herbicide treatment (Most recent point interceptor survey included in Appendix B).

The BLAWC also aggressively seeks county and state funding for AIS management. For 2019, the BLAWC requested to be a part of the now offline Wright County Regional Inspection Program.

The efforts of BLAWC will support ongoing management of curly leaf pondweed, however, these efforts are not sufficient for early detection or management of new AIS.

3.2 ALTERNATIVE 2: DETECTION

The BLAWC's existing management of curly leaf pondweed includes point intercept vegetative surveys every three years. While the timeframe and methodology of these vegetation surveys allow for management of curly leaf pondweed, they are not sufficient for the early detection of a new exotic species.

According to the MNDNR's 2015 *Guidance for Conducting Aquatic Invasive Species Early Detection and Baseline Monitoring in Lakes*,

High sampling intensity targeted in areas most vulnerable to invasion is recommended. These areas may include but are not limited to 1) public water accesses, 2) other areas of high boat traffic (e.g. privately-owned water accesses), 3) near-shore/littoral zone (< 15 feet water depth), 4) areas of high human activity (e.g. beaches), 5) docks/boat lifts, and 6) areas connected to other waterbodies (vulnerable to dispersal).

Sampling is recommended at least once per year between June and September. Intensity and frequency of sampling may vary. If possible, monitor each lake twice per year to account for early season (e.g. curly leaf pondweed) and late season.

To facilitate an adequate detection program, it is recommended an annual technical memo be prepared in January of each year to identify potential species of concern, review data from previous years, evaluate the regional AIS status and recommend a detection strategy for the coming year.

The County, CRWD, MNDNR and BLAWC existing communication strategy will also continue to support early detection as awareness increases about AIS. A small amount of additional project budget was incorporated into this alternative to maintain or supplement communication as needed.

Resources:

<https://www.maisrc.umn.edu/ais-detector>

http://files.dnr.state.mn.us/natural_resources/invasives/prevention/ais_detection-baseline-monitoring.pdf

3.3 ALTERNATIVE 3: PREVENTION

Multiple efforts to halt or slow the spread of AIS are in play around Minnesota. The MNDNR, Wright County, and Wright SWCD are key partners for the CRWD and the BLAWC. Given the existing funds for each county and the existing MNDNR grant paradigm, the costs for this element of the project are currently low. However, it is recognized the existing funding paradigm will likely shift; therefore, this project seeks to capture the funds necessary for prevention activities.

Prevention activities that may be funded include but are not limited to:

1. Education and outreach
2. Signage
3. Inspections
4. Decontamination

3.4 ALTERNATIVE 4: CONTROL/ RAPID RESPONSE

Aggressive control of new AIS infestations detected in a lake can dramatically reduce future costs associated with an infestation. This project element includes preliminary planning for AIS identified as a threat and resources to respond to a new infestation. The costs may cover quarantine, intensive mapping of the extent of the infestation, planning, treatment, permitting, coordination with regulatory partners at the state and local levels, as well as monitoring to track effectiveness of treatment.

Treatments may be chemical, physical, biological, and/or other means as indicated. The costs for this project element will vary depending on the species detected, the extent of the infestation and the other funding available and efforts underway.

3.5 ALTERNATIVE 5: MANAGEMENT

Management entails treatment and monitoring of existing infestations, much like what is currently being employed to manage curly leaf pondweed. The annual costs for this task include treatment, as well as monitoring vegetative communities following treatment with a point intercept survey.

Current treatment for curly leaf pondweed is herbicide application. Treatments are not limited to application and may include physical, chemical, biological or other treatment as emerging technologies for control gain acceptance among the community of natural resource managers.

3.6 ALTERNATIVE 6: INTEGRATED DETECTION, CONTROL AND MANAGEMENT

Implement a step-wise process and criteria-based approach in which AIS will be managed that integrates options 2 through 5 (Figure 3-1). A step-wise process assists CRWD and BLAWC with making management decisions pertaining to AIS within or concerning to Bass Lake with relative ease and clarity. The framework is not limited to any species, sampling method, or treatment option; rather, its generality allows any AIS to be reviewed. The framework is adaptive and agile to accommodate species with limited

information, yet supports species-specific indices as they become available or are developed to update management decisions. The framework is intended to be data driven from monitoring efforts; however, some subjective assignment was inevitable in developing this framework due to limited knowledge of current and future AIS.

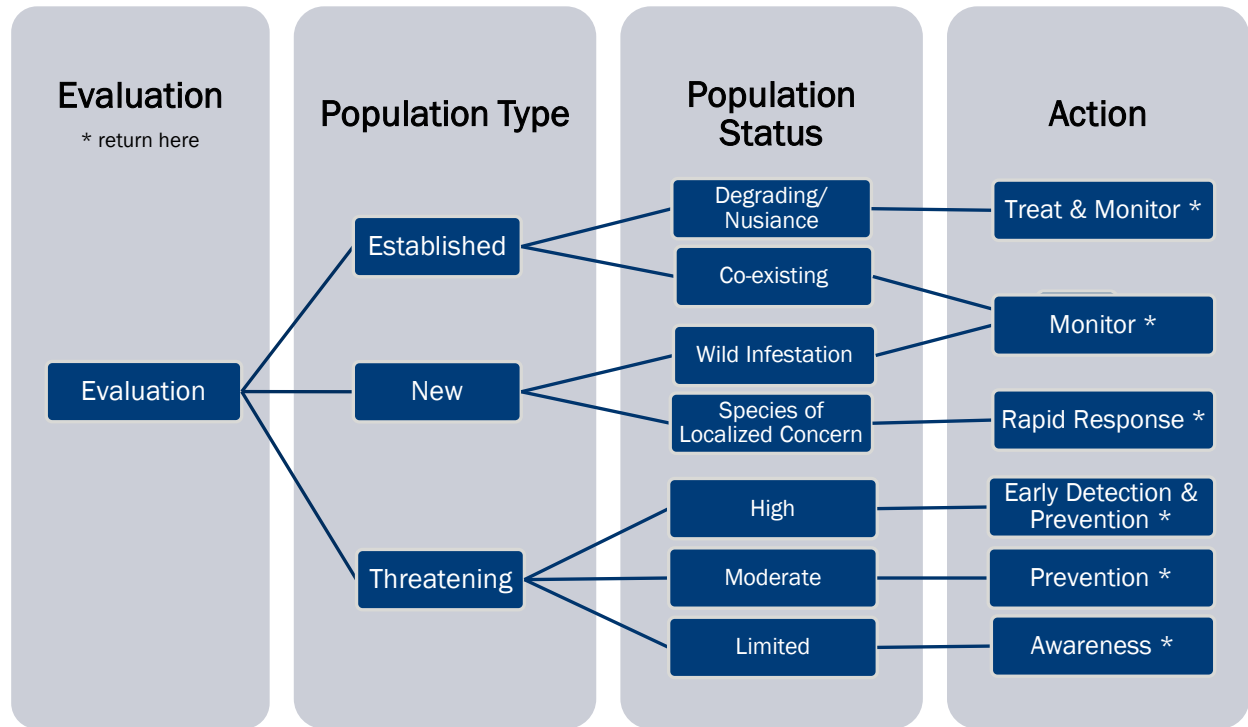


Figure 3.1: AIS management framework

The framework starts with an initial evaluation of the community and assignment of an AIS population to one of three population types: Established, New, or Threatening. If an AIS is present in the lake the use of historic monitoring efforts or date of infestation information can be useful to determine whether the population is a New or Established. AIS not present or documented in the lake are considered a Threatening population. Threatening is not used to imply harm; rather, to acknowledge that further review and assessment is needed to determine the level of threat posed by the AIS. Following the evaluation and assignment of a population type, each AIS population is subject to a population status review. The review uses criteria to assign a population status which dictates the ensuing action appropriate to managing the AIS population.

The project duration is 10 years, with operations and maintenance phase commencing thereafter. Total costs for the integrated management over the 10-year period which includes the project establishment costs and a rapid response fund is summarized below.

Table 3.1: Estimated Project Costs

DRAFT Project Plan & Costs						
Project Establishment (update with final costs)						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
Engineer's Report	\$10,000	LS	1	\$10,000		
Legal	\$2,300	LS	1	\$2,300		
Admin	\$2,300	LS	1	\$2,300		
Review/ Coordination	\$2,300	LS	1	\$2,300		
Total:				\$16,900	ONE TIME COST	
Alternative 2: Detection						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
Early Detection Surveys	\$2,000	EA	1	\$2,000	Vulnerable areas	
Reporting	\$150	Hrs	1	\$150		
Planning (Tech Memo)	\$150	Hrs	1	\$150		
Admin/ Coordination	\$150	Hrs	1	\$150	DNR, County AIS	
Total:				\$24,500	10 years	
Alternative 3: Prevention						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
Inspections/ Surveys	\$1,000	Per Ramp	1	\$1,000		
Data Collection	\$150	Hrs	2	\$300		
Reporting	\$150	Hrs	1	\$150		
Planning	\$150	Hrs	1	\$150		
Outreach/ Education	\$500	LS	1	\$500		
Mailings	\$250	EA	1	\$250		
Signage & Notification	\$1,000	LS		\$0		
Admin/ Coordination	\$150	Hrs	1	\$150	DNR, County AIS	
Total:				\$25,000	10 years	
Alternative 4: Control/ Rapid Response						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
Quarantine	\$12,000	LS	1	\$12,000		
Planning	\$12,000	LS	1	\$12,000		
Permitting	\$3,000	LS	1	\$3,000		
Admin/ Coordination	\$3,000	LS	1	\$3,000	DNR, County AIS	
Monitoring/ Reporting	\$15,000	LS	1	\$15,000		
Treatment	\$45,000	LS	1	\$45,000	Chemical, biological, mechanical, etc.	
Total:				\$90,000	ONE TIME COST	
Alternative 5: Existing AIS Management (CLP)						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
CLP Delineation	\$1,300	1	1	\$1,300		
Pt. Intercept Surveys	\$2,600	1	0.33	\$858	(Every 3 years)	
Annual Treatments	\$8,000	1	1	\$8,000		
Education & Outreach	\$500	1	1	\$500		
Planning	\$1,000	1	1	\$1,000		
Reporting	\$500	1	1	\$500		
Total:				\$121,580	10 years	
Alternative 6: Integrated						
	<u>Unit Cost</u>	<u>Unit</u>	<u>Qty</u>	<u>Ext. Cost</u>	<u>Note</u>	
Alt 2	\$24,500	1	1	\$24,500		
Alt 3	\$25,000	1	1	\$25,000		
Alt 4	\$90,000	1	1	\$90,000		
Alt 5	\$121,580	1	1	\$121,580		
Project Establishment	\$16,900	1	1	\$16,900		
Total:				\$277,980	<-- 10 year costs	
Cost per year (10 year term):				\$27,798	Annually	
Annual Cost per 106 Parcels:				\$262.25	(No financing)	
Up to- Maintenance Cost per 106 Parcels:				\$262.25	(No financing)	
Annual Cost per 97 unique residents:				\$286.58	(No financing)	

Project Compatibility with State and Federal Law

4.1 WATERSHED DISTRICT AUTHORITY

The Clearwater River Watershed District's authority to take action on the implementation of this project is found in the Minnesota Watershed Act as taken from Minnesota Statutes Chapter 103D.

4.2 CONTENT OF THE ENGINEER'S REPORT

This Engineer's Report is prepared in accordance with Minnesota Statute 103D.711 under the Minnesota Watershed Act.

4.3 CONFORMANCE WITH OVERALL PLAN

The Clearwater River Watershed District requires projects undertaken under its jurisdiction to be consistent with its overall plan. This project is consistent with the CRWD's overall plan as specifically addressed in Section 7, Policies (specifically policy 7.8) and Section 9, Goals and Objectives (specifically subsection 9.2).

4.4 OTHER REQUIREMENTS

The Minnesota Department of Natural Resources will review the plan and weigh in on any AIS management strategies employed.

Economic Consideration and Benefits

5.1 EXISTING AND ANTICIPATED BENEFITS

Under 103D.721 managers may determine benefits and damages with the assistance of the engineer. This section is a compilation of information the managers may use to set benefits.

MNDNR data shows that Bass Lake currently supports a healthy fishery. Due to its excellent water quality which allows for good lake clarity, it offers a broad range of recreational uses like swimming, fishing, boating, water skiing and other water based recreational activities. The positive correlation of good water clarity and higher property values is well documented (*Lakeshore Property Values and Water Quality: Evidence from Property Sales in the Mississippi Headwaters Region* Krysel, Boyer, Parson, Welle, 2003). A study in Wisconsin shows that a healthy fishery adds 8% to property values ([Effects of Aquatic Invasive Species on Home Prices – Evidence from Wisconsin \(Johnson and Meder 2013\)](#)).

Reduction of water clarity and/or harm to the fisheries resulting from an AIS infestation, could impact property values. The current taxable value of properties riparian to Bass Lake is \$34,895,200; 8% of that is \$2,791,616.

In addition, the costs of managing an AIS infestation increase as the infestation spreads and becomes well established, as shown in Figure 5.1. Therefore, the proposed early detection and rapid response in this project allows for avoided costs.

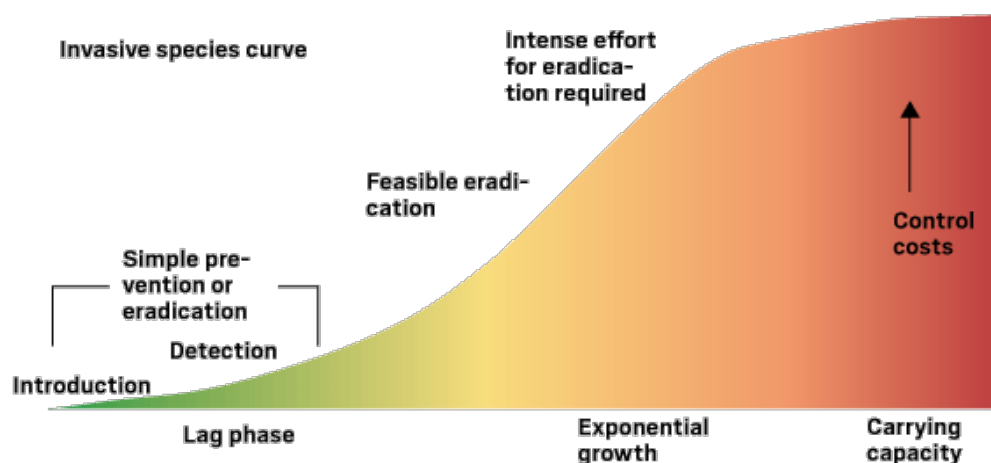


Figure 5.1: Invasive Species Curve

5.2 SUPPORT FOR DETERMINATION OF BENEFITS

The avoided costs of a negative impact on the lake's existing healthy fishery and its associated potential decline in property values was determined to be a conservatively low quantification of potential benefits. The associated economic impact on the surrounding economy due to loss of business from lake users (ex. anglers, recreationalists) was not included, nor was an increased management costs to maintain use and

navigation (i.e. the avoided cost of harvesting programs, or intensive decontamination programs that may be needed in the event of a well-established infestation). These costs are estimated in the following sections and would be considered additive to the benefits determined but are simply provided for documentation. The resulting values are summarized in Table 5.1 and described in the following sections for use by the managers to establish benefits.

Table 5.1: Summary of Engineer’s Assistance for Board Use in Determining Benefits

Description	Estimate
Property Value Decrease due to fisheries impacts (8% reduction)	\$2,790,000

5.2.1 Property Values

The relationship between water clarity and property values has been documented in several studies, referenced below. Given the lake’s just over 3 miles of shoreland, a \$50 drop in the price of a home per lineal foot of lake front translates into nearly \$795,000. Even small changes in water clarity can have large changes in property values. That study was published in the early 2000, and the impact may be even greater now. A study in Wisconsin shows that a healthy fishery adds 8% to property values.

Sources:

- [Effects of Aquatic Invasive Species on Home Prices – Evidence from Wisconsin \(Johnson and Meder 2013\)](https://mn.gov/law-library-stat/archive/urlarchive/a061371-4.pdf)
- <https://www.inforum.com/news/2719927-study-links-property-values-water-clarity>

5.2.2 Impact on Local Economy Due to Fisheries:

MNDNR boat launch surveys from surrounding lakes in 2017 show that fisheries drive a significant amount of recreational use of the lake. Residents traveling from other areas for fishing trips fuel the local economy in terms of bait purchase, meals, gas, rentals, etc. The 2017 survey data indicates there may be 3,800 trips per year per boat launch.

Minnesota tourism values daily fishing trips at \$75 to \$117 (2011 costs) per day in added income for the local economy.

$$3,800 \text{ day trips/yr} * 5 \text{ boat launches} * \$75/\text{day} = \$1,425,000/\text{yr}$$

Source:

- <https://www.census.gov/library/publications/2014/demo/fhw-11-nat.html> As summarized by the American Sportfishing Associations January 2013 report on the economic impact of angling on the US economy with data broken out by state.

These impacts are in addition to the impact on property values of a poor-quality fishery.

5.2.3 Avoided Navigation Maintenance:

Several lake associations have undertaken harvesting to manage navigability as the result of uncontrolled or poorly controlled AIS infestations. For example, Lake Minnetonka operated an annual harvesting program for the 14,000 acre lake to maintain navigability in the channels connecting the lake. Harvesting equipment is expensive to purchase, operate, store and maintain. Even a limited harvesting program can mean significant costs to property owners. Source: <http://lmcd.org/>

Table 5.2: Maintenance Costs Avoided

Item	Unit	Unit Cost	Qty	Ext. Cost
Weed Harvester	EA	\$ 60,000	1	\$ 60,000
Operator	Hrs	\$ 30	300	\$ 9,000
Disposal	Truckloads	\$ 600	5	\$ 3,000
Storage	LS	\$ 3,600	1	\$ 3,600
Maintenance	LS	\$ 2,500	1	\$ 2,500
			Sub-Total	\$ 78,100
			Permitting	\$ 3,500
			Administration	\$ 3,500
			Year 1 Cost	\$ 85,100
			Annual Costs	\$ 25,100

The 30-year cost of management is \$838,100.

5.3 ESTIMATED PROJECT COSTS

In accordance with Minnesota Statutes §103D.711, project cost is a combination of land acquisition, planning, supervision, administrative and operational costs for AIS detection, control and management for the Project. The total project cost is summarized in table 3.1.

Easements, Right-of-Way, Property Ownership

There are no expected easements, right-of-way or property ownership changes anticipated for this project.

Environmental Assessment

Active detection, prevention, control and management of AIS, with MNDNR review and coordination, should protect the overall ecological services of Bass Lake. Further, these activities can also be beneficial in terms of reducing the spread of AIS to other area lakes, thus extending the ecological services benefits to a broader area.

Funding

The project and any subsequent maintenance will be funded by assessing benefited property owners. The District Board of Managers will determine the allocation of the assessment. Riparian properties and properties with deeded access as listed in Appendix C.

Findings

The engineer finds that implementation of an AIS detection, prevention, control and management program for Bass Lake is feasible.

Sample Petition

Bass Lake Association of Wright County
P. O. Box 491
Annandale, MN 55302

Board of Managers
Clearwater River Watershed District
75 Elm Street East
Box 481
Annandale, MN 55302

October 30, 2018

Dear Managers Schiefelbein, Uecker, Jonsrud, DeGree and Homuth,

Bass Lake Association of Wright County would like to establish an AIS Project for Bass Lake through Clearwater River Watershed District. Our goal is to maintain the high quality of our lake water for recreational and economic purposes by increasing our AIS prevention efforts, treating invasive species (currently Curly-leaf Pondweed) and establishing a rapid response fund given the increasing types of invasive species present in our area.

Enclosed you will find thirty-seven signed petitions, representing 40 of the approximately 98 Bass Lake properties, requesting establishment of an AIS Project.

Thank you for your consideration,



Connie Crane,
Board member, BLAWC
connie.crane@gmail.com
mobile 612-298-0864

PETITION TO CLEARWATER RIVER WATERSHED DISTRICT FOR BASS LAKE AQUATIC INVASIVE SPECIES PROJECT

The undersigned, being at least 25 percent of the property owners or the owners of more than 25 percent of the property within the limits of the area proposed to be improved (the "Petitioners") hereby petition the Clearwater River Watershed District (the "Watershed District") pursuant to Minn. Statutes Section 103D.705, to undertake a project described as follows:

1. Description of the Proposed Project and Purpose to be Accomplished:

The Bass Lake Association of Wright County (BLA), a non-profit association made up of dues paying members of approximately 60% of the approximately 98 riparian property owners of Bass Lake, South Haven/Annandale, Minnesota petitions the Watershed District to act as fiscal agent for the control and prevention of invasive species on Bass Lake. BLA intends to manage all aspects of the actual invasive species control including payments to contractors. The role of the Watershed District would be to collect reimbursements through property assessments of riparian property owners and then reimburse BLA for expenses incurred. The role of the Watershed District is necessary to assure that all benefited properties are paying for the benefit received from invasive species control.

2. Description of the Property Where the Proposed Project is Located:

The project would include all riparian property owners on Bass Lake of Wright County. Riparian defined for these purposes as any property that has direct access to Bass Lake.

3. General Description of the Portion of the Watershed District Affected:

Approximately 222 acres of Bass Lake within a 796 acre subwatershed area of Clearwater River Watershed District.

4. Necessity of the Project:

The control of current invasive species and prevention of additional invasive species in Bass Lake is vital to the ecological and economic environment of Bass Lake.

The proposed project will be conducive to the public health, convenience and welfare of the Watershed District. The petitioners hereby agree that it will pay all costs and expenses that may be incurred by the Watershed District if the proceedings are dismissed for the proposed project.

29% direct riparian
5% outer ring
a few non-PIDs

Benefited Parcels

Bass Lake AIS Project #18-3 Assessment Roll

PARCEL	Address	City	State	Zip	Units of Benefit	Total Assessment per Parcel	Annual Assessment per parcel
206014000020	11504 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000080	11492 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000090	11492 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000060	11728 KNOWLES AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052101	10615 120TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000040	11810 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000190	11430 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000200	11430 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000210	11416 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000020	11609 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000054202	11261 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000050	11602 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000140	11270 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051200	10505 120TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000080	11477 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000030	11283 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000010	10583 116TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000090	11457 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000120	11278 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000040	11561 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001060	10129 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206000051300	10507 117TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000090	11290 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000080	11294 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001070	10151 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206000054201	11255 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000050	11533 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000110	11379 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000011	11625 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000120	11339 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000140	11307 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65

206016000130	11321 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052102	10561 120TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052103	10591 120TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204035001010					1	\$2,316.50	\$231.65
204035001020					1	\$2,316.50	\$231.65
204035001030					1	\$2,316.50	\$231.65
204100324301					1	\$2,316.50	\$231.65
204112001110					1	\$2,316.50	\$231.65
204112001120					1	\$2,316.50	\$231.65
206000042202	11887 JESKE AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000042204	11865 JESKE AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000130	11272 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052100					1	\$2,316.50	\$231.65
206016000010	11258 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000030	11842 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204134001030	9971 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206014000030	11651 KNOWLES AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000040	11651 KNOWLES AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052107	11894 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000040	11310 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001090	10183 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206015000070	11296 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000100	11286 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000010	11295 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204134001020	10005 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206014000090	11556 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000100	11556 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000060	9919 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206000052108	11862 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001080	10167 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206000052106	11920 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001100	10205 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206087000120	11454 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000160	11454 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65

206014000070	11588 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000080	11588 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204100324400	10071 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
204112001020	10071 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
204112002010	10071 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
204112002020	10071 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206015000050	11304 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204112001040	10099 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206013000020	11326 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000030	11326 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000100	11411 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000070	9889 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
204112001010	10055 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
204112001050	10115 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206013000080	11698 KNOWLES AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051404	11655 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206136001020	10646 117TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000040	11267 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000170	11442 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000180	11442 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000060	11513 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000042200	11775 JESKE AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051400	11741 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051401	11715 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000110	11282 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000042201	11817 JESKE AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000042203	11817 JESKE AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051402	11699 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000051403	11679 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000030	11587 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000100	11466 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206087000110	11466 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000090	10628 117TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052104	11972 KNOW AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65

206014000130	500 LAFAYETTE RD N	SAINT PAUL	MN	55155	1	\$2,316.50	\$231.65
206014000160	500 LAFAYETTE RD N	SAINT PAUL	MN	55155	1	\$2,316.50	\$231.65
206014000180	500 LAFAYETTE RD N	SAINT PAUL	MN	55155	1	\$2,316.50	\$231.65
206014000190	500 LAFAYETTE RD N	SAINT PAUL	MN	55155	1	\$2,316.50	\$231.65
204112001030	10087 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206000054204	11352 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000050	11762 KNOWLES AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000150	11266 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000010	11382 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000052105	11954 KNOX AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206016000070	11491 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206000054203	11263 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204153001010	9933 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65
206087000050	11561 KIMBALL AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206015000060	11300 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000110	10572 116TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206014000120	10572 116TH ST NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
206013000092	11368 KLEVER AVE NW	ANNANDALE	MN	55302	1	\$2,316.50	\$231.65
204134001010	10023 120TH ST NW	SOUTH HAVEN	MN	55382	1	\$2,316.50	\$231.65



Resilience
RESOURCES LLC