

**Hennepin County Aquatic Invasive Species Prevention Grant  
Final Report  
for  
*Watercraft Inspection Program*  
2023**



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## **I Introduction**

Hennepin County awarded Three Rivers Park District (TRPD) an Aquatic Invasive Species Prevention Grant for \$50,000 to:

1. Supplement the watercraft inspection efforts at Bryant Lake where zebra mussels were found in the fall of 2015.
2. Supplement the hours for watercraft inspection as well as provide level II decontamination services for incoming and outgoing watercraft at Medicine Lake (Plymouth). Medicine Lake has become a primary vector for spread of zebra mussels (discovered in 2017) and starry stonewort (discovered in 2018).
3. Supplement the watercraft inspection efforts at Fish Lake (Maple Grove) where zebra mussels were found in the fall of 2022.
4. Supplement the watercraft inspection efforts at the public accesses on Twin Lakes (Robbinsdale) and Little Long Lake (Minnetrista).
5. Supporting watercraft inspection effort and providing Level II decontamination services at Lake Minnetonka Regional Park access.

The project included two main activities: (1). The hiring and training of additional watercraft inspectors to extend coverage beyond an overall “baseline” effort and (2). Scheduling/providing supervisory oversight for the additional inspectors in the execution of their duties at the specific sites to which they were assigned.

Hennepin County has generously awarded \$50,000 to supplement Three Rivers Park District existing watercraft inspection program for Medicine, Fish, Bryant, Lake Minnetonka Regional Park, Little Long and Twin as the targeted lakes identified in the grant contract agreement. In 2018, Hennepin County also generously awarded Three Rivers Park District \$20,000 for the purchase of a decontamination unit to be used at Lake Minnetonka Regional Park; and awarded Bassett Creek Watershed Management Commission \$20,000 for the purchase of a decontamination unit to be used at French Regional Park – Medicine Lake. A portion of the grant dollars awarded in 2023 was used for the continual operation and maintenance of both decontamination units. The decontamination units were operated and maintained by Three Rivers Park District Level II staff during incoming and exiting watercraft inspections. Bassett Creek Watershed Management Commission provided \$5000 to assist with the Level II staffing and operation for the decontamination unit at French Regional Park-Medicine Lake. The awarded grant dollars and financial assistance from Hennepin County and Bassett Creek Watershed Management Commission has been critical to supplement and improve the Three Rivers Park District watercraft inspection program.

## **II Results**

Following is a summary of highlights for the 2023 watercraft inspection program as it pertains to this grant:

- Watercraft Inspection Certification used a hybrid training approach that provided both on-line and in-person training opportunities in 2023.
  - Level 1 Watercraft Inspection Certification
    - Level 1 watercraft inspectors not authorized in 2022 were required to complete online and in-person training prior to being authorized.
    - Level 1 watercraft inspectors authorized in 2022 were required to complete online training and can start inspecting once authorized. An in-person training was also required within 30 days of completing the online training or by June 1<sup>st</sup> for those hired at the start of the season.
    - Level 1 watercraft inspectors authorized in 2020, 2021, and 2022 were required to complete online training only.
    - Level 1 watercraft inspectors authorized in 2021 and 2022 were required to complete online training only.
  - Level 2 Watercraft Inspection Certification
    - Level 2 watercraft inspectors not authorized in 2022 were required to complete online and in-person training to be authorized (in addition to completing Level 1 training requirements).
    - Level 2 watercraft inspectors authorized in 2022 are required to complete online training only (in addition to completing Level 1 requirements).
    - Level 2 watercraft inspectors authorized in 2021 and 2022 are required to complete online training only (in addition to completing Level 1 requirements).
    - Level 2 watercraft inspectors authorized in 2020, 2021, and 2022 are required to complete online training only (in addition to completing Level 1 requirements).
- Watercraft Inspection Training on-line became available on April 11, 2023. Three Rivers Park District hosted ten Level 1 and two Level 2 in-person training workshops in 2023. The workshop sessions were led by the MnDNR with TRPD water resources and facility operations staff assisting with the training.
  - Level 1 In-person Training Workshops
    - April 20 – French Regional Park
    - April 27 – Lake Minnetonka Regional Park
    - May 5 – French Regional Park
    - May 12 – French Regional Park

- May 13 – French Regional Park
    - June 3 – French Regional Park
    - June 7 – French Regional Park
    - June 9 – Lake Minnetonka Regional Park
    - June 12 – Lake Minnetonka Regional Park
    - July 19 – French Regional Park
  - Level 2 In-person Training Workshops
    - May 25 – Baker Park Reserve
    - June 7 – French Regional Park
- A total of 90 TRPD staff were authorized as Level I inspectors for the 2023 season. There were 18 more individuals hired in 2023 in comparison to 72 Level I inspectors hired in 2022. Despite there being more watercraft inspectors hired in 2023, Three Rivers Park District had a difficult time recruiting and hiring seasonal staff to conduct watercraft inspections. It was speculated that the seasonal staff shortages are related to wage rates due to budgetary constraints. The Park District increased wage rates for seasonal employees in 2023, which may account for the increase in watercraft inspectors hired in 2023. However, seasonal staff shortages continued throughout the entire park district and has been a problem since the Covid Pandemic.
- A total of 23 of the 90 TRPD staff were also authorized as Level II inspectors for the 2023 season to operate decontamination units at 2 accesses covered by this grant (French Regional Park-Medicine Lake and Lake Minnetonka Regional Park) and 1 access that is not covered by this grant (Baker Park Reserve-Lake Independence).
- Staff typically conduct watercraft inspections at a total of 10 accesses within the Three Rivers Park District metro area. Six of these access locations receive grant funding to supplement our watercraft inspection program (Medicine Lake, Fish Lake, Bryant Lake, Twin Lakes, Little Long Lake, and Lake Minnetonka). Certified Level I and Level II seasonal staff dedicate 90% to 100% of their time toward watercraft inspection surveys.
- TRPD provided all Level I and Level II inspection staff with tablets that had the watercraft inspection application provided by MnDNR. Data recorded by the inspectors using the tablet and application were uploaded to the MnDNR data base.

Table 1 shows the percent of total inspection hours that were funded by the Hennepin County AIS prevention grant for each of the accesses.

**Table 1 – Percent of Total Watercraft Inspection Hours Funded by Hennepin County AIS Prevention Grant by Lake Access (2023)**

<i>Access</i>	<i>Total Inspection Hours</i>	<i>Inspection Hours Assigned to AIS Prevention Grant</i>	<i>% of Inspection Hours Funded by AIS Prevention Grant</i>
Medicine Lake	1532	876	57%
Fish Lake	1444	588	41%
Bryant Lake	992	639	64%
Twin Lakes	156	112	72%
Little Long Lake	198	144	73%
Lake Minnetonka <sup>1</sup>	1230	859	70%
Total	5551	3023	55%

<sup>1</sup> Access at Three Rivers Park District - Lake Minnetonka Regional Park

The Hennepin County AIS Prevention Grant supplements the Three Rivers Park District watercraft inspection program. Table 2 shows the Three Rivers Park District total expenditures for staff wages to conduct the watercraft inspection program for 2023. The Hennepin County AIS Prevention Grant supplements approximately 51% of the Three Rivers Park District total staffing costs for the accesses covered by the grant program. It should be noted that the Three Rivers Park District total costs are conservative because they only take into consideration staff service hours during inspections and does not take into consideration the costs associated with Level I and II training.

**Table 2 – Cost Distribution Funded by Hennepin County AIS Prevention Grant by Lake Access 2023.**

<i>Access</i>	<i>TRPD Total Inspection Costs</i>	<i>Assigned Hennepin County AIS Prevention Grant Costs</i>	<i>% of Inspection Hours Funded by AIS Prevention Grant</i>
Medicine Lake	\$23,616	\$13,252	56%
Fish Lake	\$34,314	\$9,795	29%
Bryant Lake	\$16,122	\$10,381	64%
Twin Lakes	\$2,270	\$1,633	72%
Little Long Lake	\$2,850	\$2,072	73%
Lake Minnetonka <sup>1</sup>	\$18,547	\$12,867	69%
Total	\$97,719	\$50,000	51%

<sup>1</sup> Access at Three Rivers Park District - Lake Minnetonka Regional Park

Table 3 shows the percentage of the total inspection hours and the number of decontaminations that were completed by a level II certified watercraft inspector.

**Table 3 – Decontamination Watercraft Inspection Hours and Hours of Operation 2023**

<i>Access</i>	<i>Decontamination Inspection Hours</i>	<i>% of Total Inspection Hours</i>	<i>Total Number of Decontaminations</i>
Medicine Lake	266	17%	39
Lake Minnetonka	236	19%	39

Table 4 summarizes the watercraft inspection results by access for the five lakes covered under this grant other than Lake Minnetonka.

**Table 4 – Watercraft Inspection Results for 2023 by Lake Access**

<i>Parameter</i>	<i>Lake Access</i>					<i>TOTALS</i>
	<i>Medicine</i>	<i>Fish</i>	<i>Bryant</i>	<i>Twin</i>	<i>Little Long</i>	
<i>Total # of inspections</i>	4740	2926	886	140	134	8,826
<i>Inspection Hours</i>	1532	1444	992	156	198	4,322
<i>Inspections/hr.</i>	3.74	2.03	0.89	0.90	0.68	2.04
<i># in-bound inspections</i>	4069	2920	798	99	76	7,962
<i># outbound inspections</i>	660	0	86	40	58	844
<i># Contaminated watercraft</i>	129	50	7	3	1	190
<i># Zebra Mussel Contaminations</i>	15	5	5	0	0	25
<i>Entering</i>	8	5	1	0	0	14
<i>Exiting</i>	7	0	4	0	0	11
<i>%Contaminated Watercraft</i>	2.7%	1.7%	0.8%	2.1%	0.7%	2.2%
<i># Drain Plug Violations</i>	91	32	4	6	1	134
<i>% Drain Plug Violations</i>	2.2%	1.1%	0.5%	6.1%	1.3%	1.5%

Note: This table does not include Lake Minnetonka Regional Park data.

Table 5 summarizes the watercraft inspection results for the Lake Minnetonka Regional Park access covered under this grant.

**Table 5 – Lake Minnetonka Regional Park Inspection Results for 2023**

<i>Parameter</i>	<i>Lake Minnetonka Regional Park</i>
<i>Total # of inspections</i>	3648
<i>Inspection Hours</i>	1230
<i>Inspections/hr.</i>	2.97
<i># in-bound inspections</i>	2242
<i># outbound inspections</i>	1401
<i># Contaminated watercraft</i>	950
<i># Zebra Mussel Contaminations</i>	152
<i>Entering</i>	5
<i>Exiting</i>	147
<i>% Contaminated Watercraft</i>	26.0%
<i># Drain Plug Violations</i>	35
<i>% Drain Plug Violations</i>	1.56%

The following is a summary and conclusion from the above information with supporting observations from operations staff:

- The Hennepin County AIS grant funds were used to support supplemental watercraft inspections at Medicine Lake, Fish Lake, Bryant Lake, Twin Lake, Little Long Lake, and Lake Minnetonka Regional Park. Little Long Lake did not have any watercraft inspection service hours in 2020 due to staffing and budgetary constraints from the Covid pandemic (Table 6). Watercraft inspections resumed for Little Long Lake in 2021 through 2023.
- There were 90 certified watercraft inspectors in 2023 for TRPD, which is an additional 18 watercraft inspectors trained for certification in comparison to 2022. The number of certified watercraft inspectors in 2023 is still lower in comparison to pre-covid pandemic numbers where TRPD would typically have 120 certified watercraft inspectors. The shortage and difficulty in hiring/recruiting seasonal staff has been noticeable post-covid throughout the park district for both maintenance and facilities. It was suspected that staff shortages were related to wage rates for these positions. A decrease in staff has resulted in 2,437 fewer watercraft inspection service hours for 2023 in comparison to 2021 (Table 6). The park district did increase staff wage rates in 2023 through approved tax levy increases as well as re-evaluating the daily operations and service fees provided to the public.

**Table 6 - Comparison of watercraft inspection service hours provided for 2020-2023.**

<i>Access</i>	<i>Inspection Hours 2020</i>	<i>Inspection Hours 2021</i>	<i>Inspection Hours 2022</i>	<i>Inspection Hours 2023</i>
Medicine Lake	2178	2442	1460	1532
Fish Lake	1900	2178	2180	1444
Bryant Lake	801	1491	1114	992
Twin Lake	96	184	198	156
Little Long Lake	0	206	95	198
Lake Minnetonka	1279	1487	413	1230
Total	6254	7988	5459	5551

- There was a total of 12,474 watercraft inspections conducted at the 6 boat accesses that the Hennepin County AIS Prevention grant supplements cost for providing inspection services. The watercraft inspections at these 6 lakes represents approximately 69% of the total watercraft inspections (17,998 in 2023) conducted by TRPD staff at all accesses it provides services. This grant does not supplement watercraft inspection services at Lake Independence in Hennepin County for Baker Park Reserve and the Carver County Lakes in Carver Park Reserve (Zumbra, Auburn, and Steiger).
- The total number of watercraft inspections in 2023 (12,474) was similar to 2022 (11,084). The number of inspections in 2022 & 2023 was considerably lower in comparison to previous the previous years of 2020 and 2021 (Table 7). Despite the fewer watercraft inspected the past

couple of years, the number of watercraft inspected per hour has been significant and was similar to previous years following the Covid pandemic (Table 8). Three Rivers Park District has observed a significant increase in water-based recreation activities since the Covid pandemic in 2020.

**Table 7 - Comparison of watercraft inspections provided for 2020-2023.**

<i>Access</i>	<i>Watercraft Inspections 2020</i>	<i>Watercraft Inspections 2021</i>	<i>Watercraft Inspections 2022</i>	<i>Watercraft Inspections 2023</i>
Medicine Lake	10413	8585	4980	4740
Fish Lake	3393	3159	3050	2926
Bryant Lake	954	1538	1139	886
Twin Lake	433	404	300	140
Little Long Lake	0	36	70	134
Lake Minnetonka	4540	4115	1545	3648
Total	19733	17837	11084	12474

**Table 8 - Comparison of watercraft inspections per hour for 2020-2023.**

<i>Access</i>	<i>Watercraft Inspections/hour 2020</i>	<i>Watercraft Inspections/hour 2021</i>	<i>Watercraft Inspections/hour 2022</i>	<i>Watercraft Inspections/hour 2023</i>
Medicine Lake	4.78	3.52	3.41	3.74
Fish Lake	1.79	1.45	1.40	2.03
Bryant Lake	1.19	1.03	1.02	0.89
Twin Lake	4.51	2.20	1.52	0.90
Little Long Lake	0	0.17	0.74	0.68
Lake Minnetonka	3.55	2.77	3.74	2.97
Total	3.16	2.23	2.03	2.25

- There was a decrease in the Fish Lake watercraft inspections service hours in 2023 (1444 hours) compared to watercraft inspections hours from 2020 through 2022 (Table 6). The Fish Lake access receives funding assistance (typically \$5000 to \$8000/year) from the Fish Lake Area Residents Association (FLARA) to supplement the watercraft inspections hours. In 2023, FLARA contributed \$8000 to supplement the Fish Lake watercraft inspection program. The decrease in watercraft inspection hours was primarily due to staffing shortages. Despite a decrease in inspection hours, the number of watercraft inspected was similar to previous years. Majority of the watercraft inspected for Fish Lake have been considered incoming inspections at the regional park gate entrance. Every year boats have been denied access into Fish Lake due to having attached zebra mussels (5 boats in 2023) (Table 4); and these boats are required to be decontaminated before they are allowed to launch their boat in Fish Lake. It was noted in last year’s annual report that a zebra mussel was discovered on a sampling plate September 22<sup>nd</sup> of 2022 at the Fish Lake boat access. A Three Rivers Park District survey conducted in 2023 suggested that the zebra mussel population has increased considerably throughout the entire



lake making the lake high risk for spread to other lakes in the metro area. Consequently, Fish Lake will need to consider more outgoing/exiting inspections in the future.

- Medicine Lake had the largest number of watercraft inspections (4740) representing approximately 38% of the total inspections covered by the grant in 2023 (Table 7). This access receives a significant amount of boat traffic (3.74 inspections/hour) and is considered high risk for spreading AIS to other lakes as well as new infestations (Table 8). The watercraft inspection services hours in 2023 were similar to the number of hours provided in 2022. It has become critical to schedule staff inspections service hours during critical high-use times at Medicine Lake-French Regional Park since the lake is considered high risk due to the discovery of zebra mussels in 2017 and starry stonewort in 2018.
  - Zebra mussels were discovered on several docks throughout the lake in November of 2017. Recent shoreline and snorkeling surveys conducted in 2020 through 2023 indicated that zebra mussels have significantly spread to other parts of the lake.
  - A watercraft inspector discovered starry stonewort on a boat exiting Medicine Lake in July of 2018. This was the first discovery of starry stonewort within the metro area. The discovery of starry stonewort by a trained watercraft inspector supports the significant importance for the watercraft inspection program. This recent discovery of starry stonewort initiated a rapid response plan for treatment/control measures by TRPD and MnDNR staff to minimize spread to other areas of the lake as well as reduce the risk of spread to other lakes. There has been a minimum of 4 treatments conducted each year from 2019 through 2023 to contain the Starry Stonewort within an area (14-acres) adjacent to the boat access. It appears that the growth of starry stonewort has become suppressed due to continuous treatment efforts over the past several years. However, aquatic vegetation surveys have unfortunately indicated that starry stonewort has been found (relatively small abundance) in other areas of the lake outside of the treatment area.
- Bassett Creek Watershed Management Commission used Hennepin County AIS prevention grant dollars to purchase a decontamination unit to be operated by TRPD staff at French Regional Park in 2018. Bassett Creek Watershed Management Commission has financially contributed \$5000 towards the staffing operation of the decontamination unit from 2018-2023. This lake is considered high risk for spread of zebra mussels and starry stonewort to other lakes in the area. There was a total of 39 watercraft that were decontaminated at French Regional Park-Medicine Lake in 2023.
- Three Rivers Park District used Hennepin County AIS prevention grant dollars to purchase a decontamination unit for the Lake Minnetonka Regional Park in 2018. The Lake Minnetonka Regional Park access receives a significant amount of use (2.97 inspections/hour in 2023) with a considerable number of boats entering and exiting the lake that are considered contaminated (26%). This estimate was high because of the large number of the boats/trailers exiting the water had vegetation and/or zebra mussels attached to the boat and/or trailer; and does not

take into consideration boaters taking the initiative of removing the vegetation after exiting the water. There was a total of 39 watercraft that were decontaminated at the Lake Regional Park access in 2023, which is an increase in the number of decontaminations from previous years.

- A common violation that is reported by Three Rivers Park District watercraft inspectors are boats arriving with their drain plug ready for launch. The percentage of boats inspected with drain plug violations in 2023 were approximately 2.2% for Medicine Lake, 1.1% for Fish Lake, 0.5% for Bryant Lake, and 1.6% for Lake Minnetonka Regional Park (Tables 4 & 5). Typically, the highest use accesses have had the highest percentage of boats with drain plug violations in the past. However, the lower used accesses of Twin Lake and Little Long Lake had a high percentage of boats arriving with drain plug violations (6.1% & 1.3%) in 2023.
- CD3 stations were available for boaters to use at Bryant Lake, Medicine Lake, Fish Lake, Little Long, and Twin Lake accesses in 2022 (Table 9).
  - Bryant Lake – The Bryant Lake CD3 station was the first unit installed in Minnesota. The Bryant Lake station has had a total of 12,535 tool uses since being installed in 2017. This is a conservative estimate since the station was partially closed in 2021 due to reconstruction of the boat launch and pavement overlay project; and the unit had problems with downloading of data the entire season for 2023. Based on tool use data in 2022, the air and grabber are the primary tools consistently being used.
  - Medicine Lake – Hennepin County has provided a Wayside Mobile Trailer CD3 unit at the access since 2020. The station had 1,742 tools used in 2023 with the air tool being the primary tool used.
  - Fish Lake – A CD3 outpost was installed in July of 2020. The unit seems to receive a significant amount of use with a total of 4,920 total tools uses with 1,851 tools used in 2023. All the tools on the Fish Lake outpost unit are being used equally so there really hasn't been a preferred tool used among the boaters.
  - Little Long Lake – The CD3 outpost was installed in July of 2020. This access doesn't have a significant amount of boat traffic because of the remote location and restricted horsepower motor use. There were 101 total tool uses in 2023 with the plug wrench being the primary tool used at the access.
  - Twin Lake – The CD3 outpost was recently installed in May of 2021. The station has 1,653 total tool uses despite the access not having a significant amount of activity. In 2023, there was 374 tool uses with the drain plug wrench being the primary tool used followed by the brush/weed hook.

**Table 9 - CD3 Station Tool Use at each boat access.**

Access	CD3 Type	Installation Date	Tool Uses	
			2022	2023
<b>Bryant Lake</b>	Station	6/21/2017	2,368	**
<b>Medicine Lake</b>	Wayside Mobile Trailer	7/2/2020	2,185	1,742
<b>Fish Lake</b>	Outpost	7/18/2020	1,008*	1,851
<b>Little Long Lake</b>	Outpost	7/8/2020	**	101
<b>Twin Lake</b>	Outpost	5/6/2021	545	374

\*Fish Lake battery was dead so no readings in April, May, June of 2022. Battery was replaced in July of 2022.

\*\*Little Long & Bryant Lakes were having difficulty downloading data.

- The Hennepin County AIS grant funds were extremely important with providing financial support to supplement TRPD watercraft inspection program in 2023. The Hennepin County AIS grant funds accounted for approximately 41% to 73% of the watercraft inspection budget for lakes covered by the grant in 2023 (Table 2). Hennepin County grant funds have also been used for purchasing of decontamination units at Medicine Lake and Lake Minnetonka; and used for purchasing/installation of CD3 stations at Bryant Lake, Medicine Lake, Fish Lake, Little Long Lake, and Twin Lake. The Hennepin County Aquatic Invasive Species Prevention grant funds has been critical for the implementation of the Three Rivers Park District AIS prevention program.