

2021 Becker County Aquatic Invasive Species Program Report

This document outlines Becker SWCD’s efforts to prevent the introduction and spread of aquatic invasive species using county AIS prevention funds per MN Statute 477A. 19. The Becker Soil and Water Conservation District implemented the plan elements below using 2020 and 2021 funds, combined with contributions from lake associations and Becker County.

Element	Activities	2021 Expense
1. Outreach and Education	Printed Materials, Display Booth Materials, Television Ads, Bar Coasters	\$3,470.00
2. Inspections	Watercraft Inspectors, Field Supplies, Unemployment, Work Comp	\$221,836.00
3. Decontamination	Equipment, Fuel, Maintenance, Storage	\$16,573.00
4. Monitoring, Treatment, Response	Management Grants, SCUBA Monitoring	\$11,840.00
5. Professional and Technical	Office Space, Cell Data, Vehicle Maintenance, Fuel, Training	\$73,453.00*
6. Operations and Liability	Insurance, Office Supplies	\$7,028.00
Total		\$334,200.00

**Based on estimates of Dec 2021 expenses*



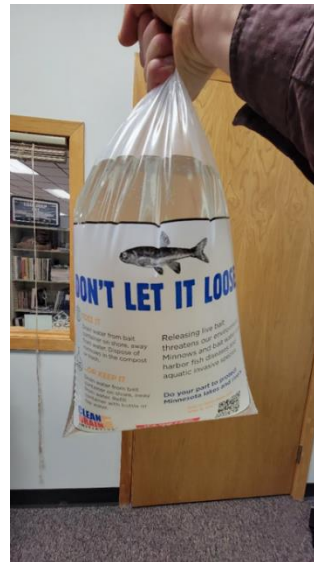
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1. Outreach and Education

Becker SWCD works to raise awareness of laws and best practices related to aquatic invasive species by offering presentations, age-appropriate youth activities, volunteer opportunities and professional media content. In 2021, presentations were provided at 4 lake association meetings and at the August COLA meeting. AIS prevention messages were also promoted via social media posts, bar coasters, bait bags and various websites. Other activities completed in 2021:

- An interactive map showing Zebra Mussel, Curly-leaf Pondweed and Flowering Rush infestations was updated on the Becker County website
- A ½ page ad was purchased in the Detroit Lakes Chamber of Commerce visitor’s guide.
- A 30 second television commercial was updated and aired on the “Linder’s Angling Buzz” program on Fox Sports North. (May –August) 16 counties shared the cost of this sponsorship.
- Reimbursement funds for dock and lift storage/removal were promoted on Facebook and through printed materials.
- 2,000 bait bags were distributed to local bait dealers in May 2021. St. Louis County worked with Wildlife Forever, an environmental nonprofit, and a group of around a dozen counties, to design a message that promotes proper disposal of live bait.
- Becker County also joined Le Sueur County and 18 other LGUs to produce a video that demonstrates best management practices related to dock and lift equipment.



2. Watercraft Inspection

Becker SWCD hired 29 watercraft inspectors in 2021. Six of the inspectors were hired and trained as Level 2 inspectors. DNR worked to modify training materials to accommodate new Level 2 inspectors in 2021 and delivered an improved online training. Level 2 inspectors are trained to operate mobile decontamination equipment in addition to their watercraft inspection duties. Two of the inspectors worked on alternating weekends at South Twin Lake in Mahnomen County. Becker County has been reimbursed for all associated costs by Mahnomen County. Watercraft inspections in Becker County began on May 15 and were finished on October 31, 2021. Watercraft inspectors assisted boaters with cleaning and draining 1,658 watercraft that were found with water, plants, mud, or invasive species when exiting lakes.

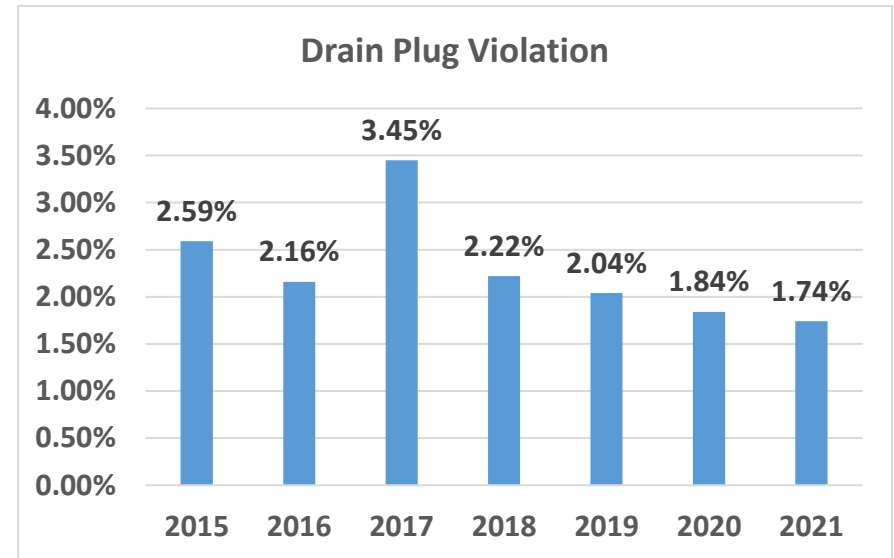
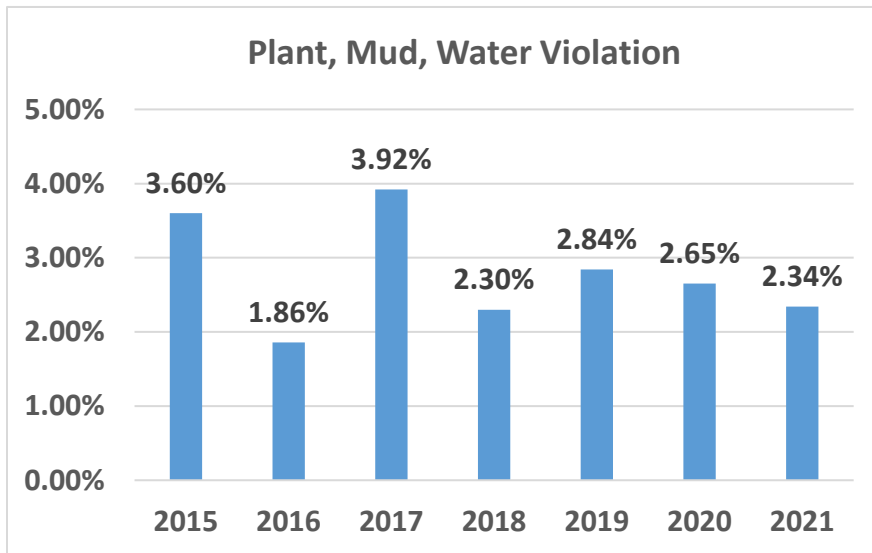
There were 4 zebra mussel violations reported to law enforcement in 2021. In 3 cases, these were pontoons and dock/lift equipment that was being re-installed at the same lake.

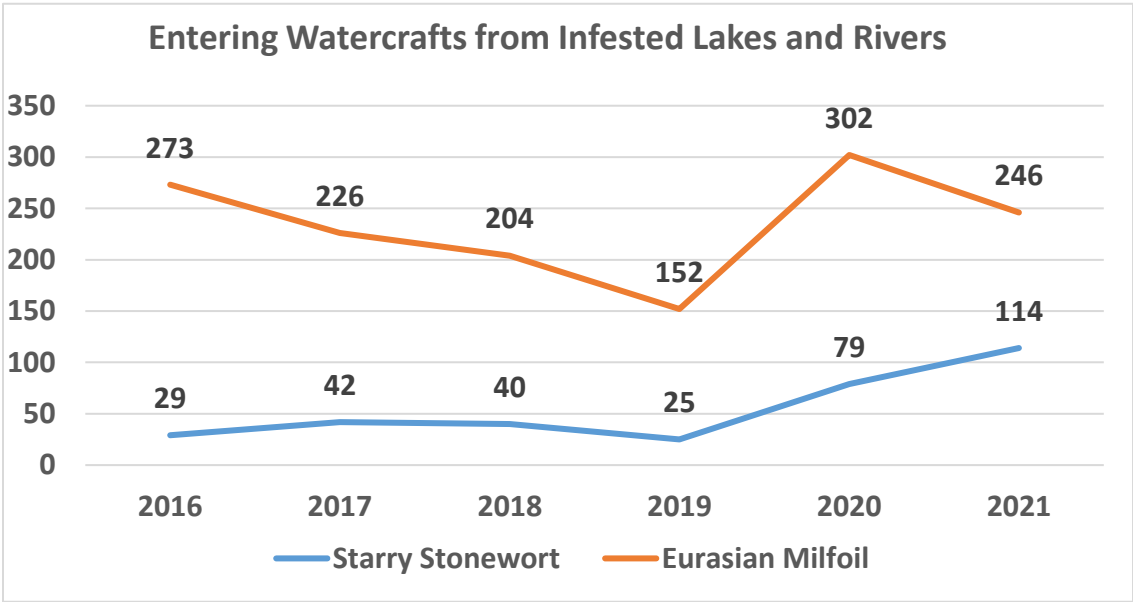
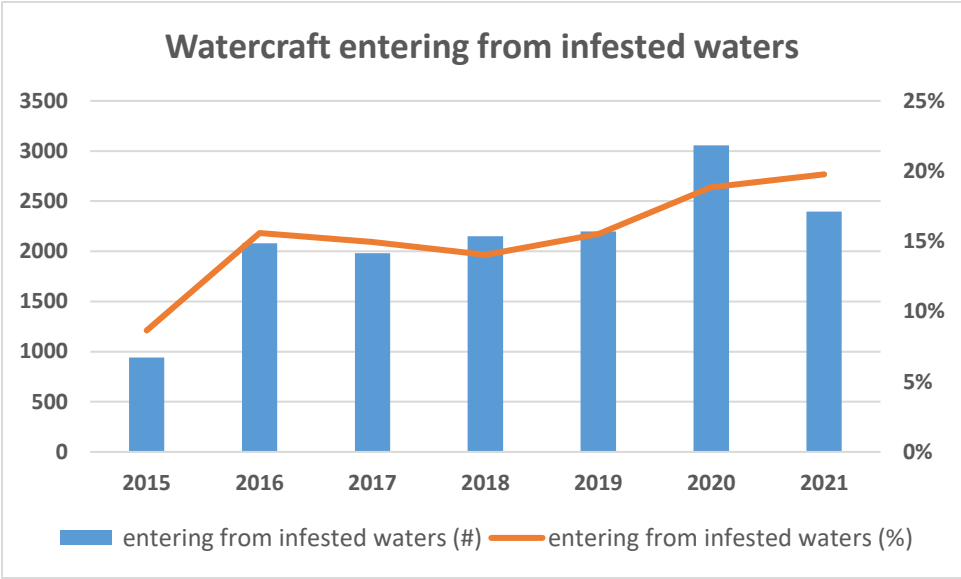
Inspection hours were allocated to individual lakes using a risk score based on the number of access ramps, resorts and the number of inspections per hour completed in 2020. Contributions from lake associations allowed for over 600 additional inspection hours at 3 lakes. See page 13 for proposed 2022 inspection hour allocations. The total number of inspections, inspection hours completed and the results of entering watercraft inspections are displayed on the spreadsheets found on pages 13-15. These include an analysis of the responses provided to inspectors when boaters were asked where they last used their watercraft, just prior to the lake where the inspection is taking place.



Watercraft Inspection continued

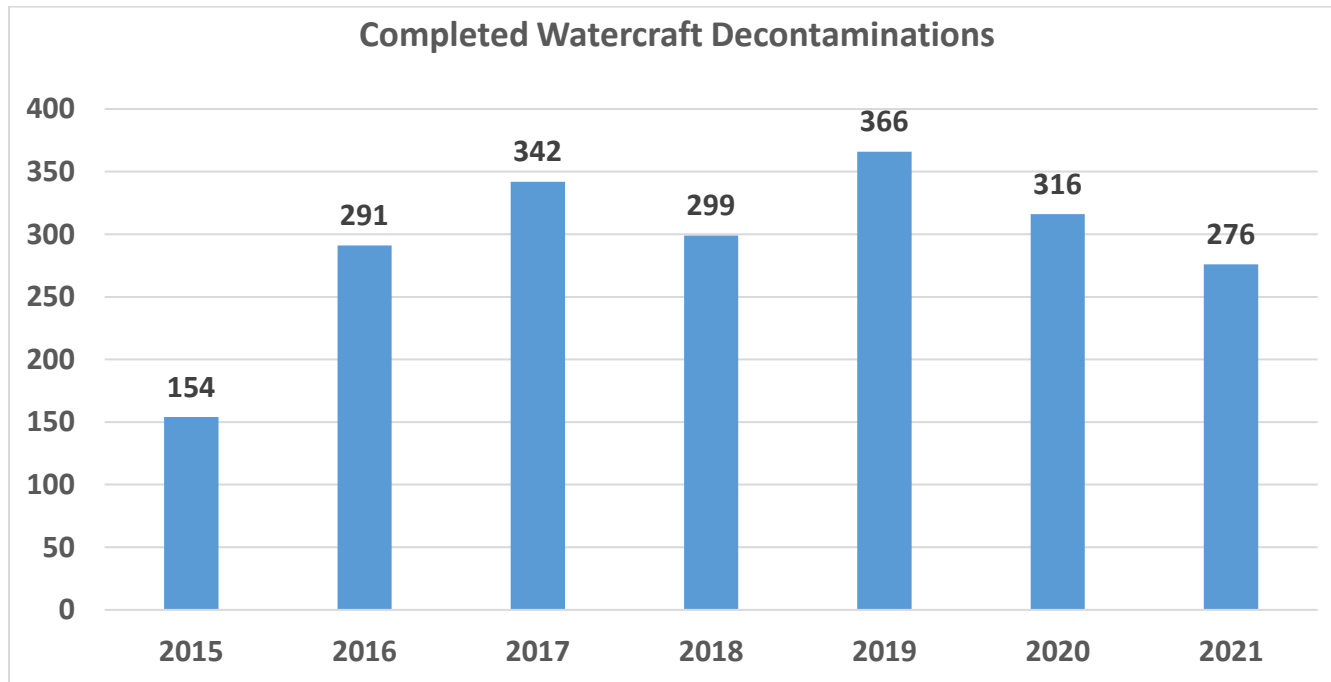
- 12,526.75 inspection hours were completed in 2021 at 25 public accesses in Becker County.
- 20,733 inspections were completed.
- Inspectors reported 283 watercraft arriving with plants, water or mud. (2.34% of entering watercraft)
- Inspectors reported 177 watercraft arriving with drain plugs installed. (1.74% of watercraft equipped with plugs)
- In 2021, 2396 boaters reported that they had last used their watercraft at a lake or river on MN's list of AIS-infested waters. (19.77% of entering watercraft)





3. Watercraft Decontamination

Becker County completed 276 hot-water decontaminations in 2021. Watercraft decontamination services were offered at Detroit South, Melissa, and Big Cormorant West public access sites from mid-May to September. Decontamination services were available through mid-October at Detroit South as weather allows. In 2022, decontamination services will again be provided at the Becker SWCD shop location and these high-use access sites.



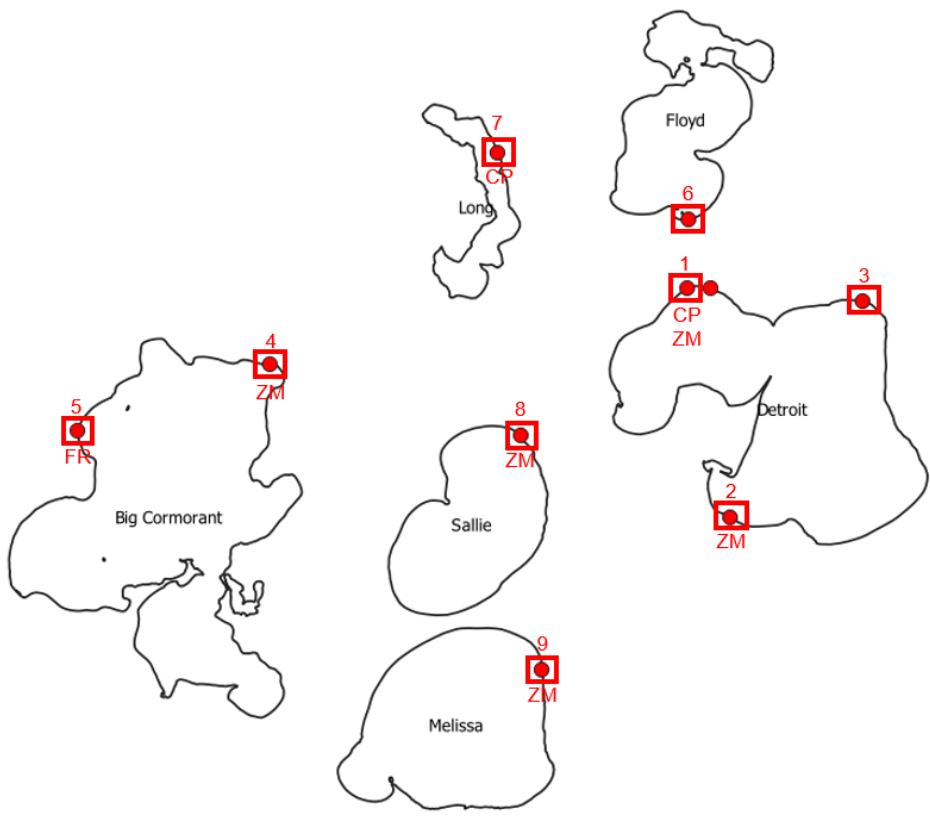
4. Monitoring and Management

Monitoring efforts were completed with assistance from volunteers and LimnoPro llc., a private company that specializes in lake management and consultation. 25 Public access sites were surveyed by tossing a rake head from a small boat and examining retrieved plants. Monitoring sites were selected using a risk model developed at The Minnesota AIS Research Center (MAISRC). This model estimates the risk of Zebra Mussel and Starry Stonewort invasion of all 25,000 waterbodies in Minnesota. In Becker County, the top 25 public-access lakes predicted for Starry Stonewort invasion were selected for monitoring. No Starry Stonewort or other invasive plants were observed in 2021 following approximately 65 combined hours of sampling.

Access sites listed in Table 1 were checked by this method in August and September 2021.

August and September Monitoring	Little Cormorant	Shell
Big Sugarbush	Little Floyd	Straight
Buffalo	Little Toad	Tamarack
Cotton	Long	Toad
Floyd	Melissa	Two Inlets
Height of Land	Middle Cormorant	Upper Cormorant
Ida	Pickerel	White Earth
Island	Rock	Wolf
Leif	Round	





MAISRC’s risk model ranks Big Detroit and Big Cormorant lakes as the seventh and second highest (respectively) risk lakes in the county for Starry Stonewort infestation. A more in-depth monitoring effort began at public access sites on these lakes in 2019, and additional high-risk lakes were added in 2020. On September 9 and 10 2021, Dr. Dan McEwen from Limnopro Aquatic Sciences completed SCUBA transect surveys over 200’X100’ areas around the 5 primary public access sites at Detroit and Big Cormorant lakes, as well as access sites at Sallie, Melissa, Long and Big Floyd.

Docks can be inspected in late fall as they are removed from lakes to identify zebra mussel infestations. Dock equipment was inspected at the public accesses of the lakes listed in Table 2 in October and November.

Fall Dock Inspection	Height of Land (South)	Marshall	Straight
Acorn	Island	Meadow	Strawberry
Bad Medicine	Little Bemidji	Pearl	Toad
Boot	Little Cormorant	Rock	Town
Boyer	Little Sugarbush	Round	Turtle
Buffalo	Little Toad	Sauer	Two Inlets
Cotton	Many Point	Sieverson	Wolf

On 8/21/21, 8 volunteers participated in the 4th annual “Starry Trek” monitoring event. In Becker County, these volunteers searched 11 public access sites at Cotton, Tamarac, Big Cormorant, Leif, Detroit, Melissa, Sallie, and Long Lakes. This event is hosted by The University of Minnesota’s AIS research center, and it was attended by 206 volunteers across the state. These volunteers searched for starry stonewort and other AIS at 281 public access sites on 222 water bodies. While no new starry stonewort discoveries were made during Starry Trek 2021, volunteers did find a new population of Eurasian milfoil at Thompson Lake in Dakota County.

Flowering rush sites at Pickerel Lake were surveyed again in 2021, along with adjacent shorelines. There does not appear to be any plants outside the original site. The small patch near the public access was not visible following treatment in July and August. Shoreline surveys and herbicide treatment will continue in 2022.

In 2021, AIS management grants were offered to fund invasive plant management projects. These grants were offered to support herbicide management of invasive aquatic plants near public access sites. Two applications were received in 2021, and each applicant received \$4,000 to assist with their management projects. The Toad Lake Association continued their work to treat curly-leaf pondweed. The Pelican River Watershed District used their funds to continue a successful flowering rush treatment at Lake Sallie. Two grants will be offered in 2022, with priority given to permitted sites near public access areas.



These Flowering Rush plants, photographed in 2018 at the Pickerel Lake access, were not visible in late summer 2021 following 3 seasons of herbicide treatment

Proposed inspection hour allocations for 2022

Actual hours completed are subject to change based on boater movement, weather, and staff availability. Contributions will be applied at a rate of 14.00 per hour. Hours will be applied as directed by the sponsor, and any unspent funds will be carried over to 2023.

Lake	PWA's (max 2)	# of resorts (max 3)**	2021 Insp. per Hour	2021 Risk Score***	Level	Base Hours 2021	Decon Hours	Adjustments/Carry over*	Total 2022	Notes	
Big Cormorant	2	2	2.57	6.57	5	1000	500	659 carry over	2159	High use, ZM infested, 2 accesses	
Detroit	2	3	3.37	8.37	5	1000	1000	40.25 carry over	2040.25	High use, ZM infested, 3 accesses, 2 Level 2 Inspectors	
Melissa	1	1	2.66	4.66	3	250	1000		1250	High use, ZM infested, 2 Level 2 Inspectors	
Bad Medicine	1	3	2.12	6.12	4	500		6.25 carry over	506.25		
Cotton	1	0	1.35	2.35	2	150		add 350	500		
Sallie	1	0	1.42	2.42	2	150		549.25 carry over	699.25	ZM infested	
Floyd	1	0	1.96	2.96	2	150		add 350	500	ZM infested, high use	
Ida	1	1	2.22	4.22	3	250		add 100	350	ZM infested, high use	
Long	1	2	0.98	3.98	3	250		add 100	350	moderate use	
Little Floyd	1	0	0.78	1.78	1	200			200	ZM infested	
Island	1	3	1.35	5.35	4	500		40 carry over/add 50 for fall	590	High fall traffic	
Straight	1	3	1.82	5.82	4	500			400	low fall traffic	
Height of Land	2	0	1.46	3.46	3	250			250		
Two Inlets	1	3	1.48	5.48	4	500			500	top of watershed priority	
Middle Cormorant	1	1	1.47	3.47	3	250		add 150	400		
Upper Cormorant	1	1	2.03	4.03	3	250		add 150	400		
Tamarac	2	0	1.04	3.04	3	250			250	may add hours for north access	
Lief	1	2	1.27	4.27	3	250			250		
Many Point	1	1	1.05	3.05	3	250			250	high fall traffic, may add hours	
Toad	1	2	2	5	4	500			500		
Boot	1	2	1.04	4.04	3	250		subtract 100	150	Saturday resort traffic is priority	
Total			1.97			7,650	2,500		12,395		
*Unused inspection hours are carried over from 2021							Level 1 (0-2.2) Lake shares a pool of dedicated inspection hours				
** Based on data from Becker Co. Assessor's office							Level 2 (2.2-2.99) 150 dedicated inspection hours				
# of Public Accesses (max 2) + # of Resorts (max 3) + 2021 Inspections per hour = RISK SCORE							Level 3 (3-4.99) 250 dedicated inspection hours				
							Level 4 (5+) 500 dedicated inspection hours (1 access point)				
							Level 5 (5+) 1000 dedicated inspection hours (Must have 2 access points or more)				

2021 Inspection Results

Lake	Billed Hours**	Inspections Per Hour**	Total Inspections	Entering	Exiting	Courtesy	Plug In %*	Plug In #	Plants/Mud/Water on Arrival %	Plants/Mud/Water on Arrival #	Entering from Infested waters
Big Cormorant	1676	2.57	2820	1857	963	0	0.13%	2	1.57%	29	393
Detroit	2164.75	3.37	4820	2914	1880	26	1.54%	35	3.33%	97	522
Melissa	1338.75	2.66	1784	879	878	27	6.22%	45	7.62%	67	168
Bad Medicine	693.75	2.12	1475	835	640	0	0.81%	6	1.56%	13	175
Cotton	479	1.35	649	449	200	0	0.55%	2	0.00%	0	55
Sallie	719.75	1.42	1021	543	478	0	3.52%	17	2.76%	15	180
Floyd	526.5	1.96	1032	582	449	1	0.21%	1	0.52%	3	104
Ida	226.5	2.22	502	349	153	0	0.35%	1	0.00%	0	77
Long	501.5	0.98	490	306	184	0	0.82%	2	0.33%	1	77
Little Floyd	252	0.78	201	122	79	0	0%	0	0.00%	0	23
Island	718.75	1.35	973	517	456	0	0.41%	2	0.00%	0	107
Straight	345.5	1.82	629	382	247	0	1.33%	4	6.81%	26	43
Height of Land	143	1.46	209	111	98	0	0.00%	0	0.00%	0	21
Two Inlets	475	1.48	702	399	303	0	1.72%	6	0.25%	1	82
Middle Cormorant	287	1.47	423	270	153	0	5.24%	12	1.11%	3	64
Upper Cormorant											
Tamarac	135.75	1.04	141	76	65	0	0.00%	1	0.00%	0	16
Lief	264.25	1.27	335	180	155	0	0.00%	0	0.55%	1	57
Many Point	585	1.05	612	308	304	0	1.36%	4	2.27%	7	47
Toad	517.75	2	1039	550	489	0	7.27%	36	2.55%	14	69
Boot	94.5	1.04	98	83	15	0	0.00%	0	0.00%	6	18
Totals	12,526.75	1.97	20,733	12,117	8,562	54	1.74%	177	2.34%	283	2,396
Corrected Hours**	10,542										
*1.74% of entering watercraft equipped with drain plugs arrived with the plug installed (1,960 lifts, docks, pontoons, and canoes/kayaks excluded)											
** To calculate the number of inspections per hour, total hours are corrected for occasions when 2 inspectors are working together.											

2021 Entering Inspection Results- Continued

	ZM	ZM, SWF	ZM, EWM	ZM, EWM, SWF	EWM	SWF	SSW	ZM, SSW	ZM, EWM, SSW	ZM, EWM, Bighead and Silver Carp	
Big Cormorant	355	16	6	2	4	2	0	2	6	0	
Detroit	442	9	18	6	17	6	1	7	15	1	
Melissa	150	4	6	0	2	1	1	0	3	1	
Bad Medicine	136	5	2	3	6	6	2	10	5	0	
Cotton	51	2	0	0	0	2	0	0	0	0	
Sallie	166	3	0	1	3	1	0	0	4	2	
Floyd	95	3	3	0	0	0	0	1	2	0	
Ida	70	3	1	1	0	1	0	1	0	0	
Long	69	1	2	0	0	1	0	1	3	0	
Little Floyd	22	0	1	0	0	0	0	0	0	0	
Island	76	6	7	2	5	3	0	3	2	3	
Straight	35	0	0	1	3	0	0	1	3	0	
Height of Land	15	0	0	0	1	0	1	3	1	0	
Two Inlets	27	2	17	2	21	1	1	3	6	2	
Middle Cormorant	60	1	0	0	0	0	0	1	2	0	
Upper Cormorant	91	4	2	1	0	0	0	0	0	0	
Tamarac	10	0	2	0	1	0	1	2	0	0	
Lief	51	3	1	0	0	0	0	1	0	1	
Many Point	28	1	4	2	1	1	1	2	7	0	
Toad	48	2	3	1	3	2	0	3	6	1	
Boot	12	0	4	1	1	0	0	0	0	0	
Totals	2,009	65	79	23	68	27	8	41	65	11	
ZM = Zebra Mussels			EWM = Eurasian Milfoil			SWF = Spiny Water Flea			SSW = Starry Stonewort		

2021 Entering Inspection Results- Continued

	Out of State	Same Lake	Not on Survey List	Lake Service Provider	Not on infested waters list	Dock/Lift	Unknown	Storage	Prefers not to answer
Big Cormorant	45	959	21	2	148	5	154	130	0
Detroit	78	1374	36	32	261	23	236	352	0
Melissa	10	351	7	23	58	6	70	186	0
Bad Medicine	16	184	23	2	256	2	54	123	0
Cotton	2	152	0	0	60	4	43	133	0
Sallie	8	168	8	0	48	4	9	118	0
Floyd	9	174	0	0	49	0	9	237	0
Ida	10	197	0	0	28	0	37	0	0
Long	16	158	2	0	27	1	16	9	0
Little Floyd	0	34	0	0	10	1	1	53	0
Island	24	164	14	1	130	0	13	64	0
Straight	15	194	0	5	50	2	51	22	0
Height of Land	0	35	0	0	29	0	1	25	0
Two Inlets	32	68	0	15	107	0	16	79	0
Middle Cormorant	8	96	0	3	23	2	19	55	0
Upper Cormorant	0	214	0	0	41	0	52	0	0
Tamarac	0	18	0	0	37	0	5	0	0
Lief	6	86	0	1	19	1	10	0	0
Many Point	4	87	0	0	139	0	8	23	0
Toad	2	180	0	0	173	0	30	96	0
Boot	0	34	0	0	28	0	3	0	0
Totals	285	4,927	111	84	1,721	51	837	1,705	0

Element	Activities	2021 Budget	2021 Actual and Notes
1. Outreach and Education	Newspaper Ads, Print Materials, Tax Insert, Media Projects, Indoor Ads,	\$3,700.00	\$3,470.00
2. Inspections	Watercraft Inspectors, Field Supplies	\$250,889.00	\$221,836.00 (Planned to work up to 13,813 hours, 12,526.75 hours worked in 2021)
3. Decontamination	Equipment, Fuel, Truck, Maintenance, Field Supplies, Storage	\$13,600.00	\$16,573.00 (Increased shop rental space)
4. Monitoring/Treatment/Response	Contracted AIS Monitoring, Management Grants, Flowering Rush Pickerel Lake	\$14,200.00	\$11,840.00 (Received 2 grant applications in 2021)
5. Professional and Technical Services	Coordinator, Office Space, Cell Data, Vehicle Maintenance, Fuel, Trainings	\$79,968.00	\$73,489.00
6. Operations, Liability, Administration	Insurance, Office Supplies, Program Administration	\$8,650.00	\$7,028.00
Total		\$371,007.00	\$334,200.00

Income	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov	1-Dec	Total
AIS Prevention Aid							171,293				171,293		342,585
Lake Association Match*					2,716	6,400			2,925				
AIS Coordinator			8,712										
DNR Inspection Grant													
DNR Public Awareness Grant													
Fund Balance	102,714												
Misc. Income			2,350	7,800	2,950				4,880				
Total Income	102,714	0	11,062	7,800	5,666	6,400	171,293	0	7,805	0	171,293	0	484,032
Expense													Total
Education/Outreach**	99	99	99	7,175	7,175	374	1,450				99		16,570
Inspections and Supplies				367	177	669	145		4,880		600	214,998	221,836
Decontamination/Shop Storage	800	800	800	1,602	800	2,658	1,064	1,256	2,490	2,421	1,083	800	16,574
Monitoring/Treatment							8,048	48			3,744		11,840
Professional and Technical	6,078	6,078	6,078	6,078	6,078	6,202	6,378	6,114	6,109	6,140	6,078	6,078	73,489
Administration	4,400										2,628		7,028
Total Expense	11,377	6,977	6,977	15,222	14,230	9,903	17,085	7,418	13,479	8,561	14,232	221,876	347,337

136,695

*\$2,716 received in May for reimbursement of extra 2020 inspection hours at Bad Medicine Lake.

** \$13, 100 in 2021 Education/Outreach expenses represents funds from 16 counties that passed through for the Linder’s Angling Buzz Media Project.

\$3,470 of Becker County’s AIS Prevention funds were used for Education/Outreach in 2021.

*DEC 2021 expenses estimated

Proposed 2022 Budget

Revenue	2022 Proposed	2022 Totals	DECONTAMINATION		
MN State AIS Prevention Aid	\$341,851.00		Field Supplies	\$1,000.00	
MN DNR Inspection Grant			Fuel (Gas/Oil)	\$2,000.00	
MN DNR Public Awareness			Maintenance	\$2,500.00	
From fund balance	\$16,182.00		Shop / Storage Fees	\$9,600.00	
Total Revenue		\$358,033.00	Unit Purchase		
Expense			Utilities	\$1500.00	
OUTREACH			Vehicle Purchase		
Education & Training	\$1000.00		Sub Total		\$16,600.00
Indoor Advertising			MONITORING & RAPID RESPONSE		
Media Collaboration	\$1,500.00		Management Grants	\$8,000.00	
Newspaper / Radio			Technical Services	\$6,500.00	
Printed Materials	\$500.00		Sub Total		\$14,500.00
Signage / Updates			PROFESSIONAL & TECHNICAL		
Tax Insert			AIS Coordinator	\$68,000.00	
Sub Total		\$3,000.00	Fuel (Gas/Oil)	\$500.00	
INSPECTIONS			Furnishings/Signage		
Field Supplies	\$2,000.00		Office Space	\$5040.00	
Level 1&2 Inspectors	\$225,093.00		Tech-Phone-Cell Data	\$1,100.00	
Mahnomen SWCD			Training & Certification	\$250.00	
Recruitment	\$600.00		Vehicle Maintenance	\$250.00	
Staff Training	\$500.00		Sub Total		\$75,140.00
Worker's Comp	\$5,000.00		ADMINISTRATION		
Unemployment	\$8,000.00		Program Admin	\$3,000.00	
Sub Total		\$241,193.00	Liability Insurance	\$4,500.00	
			Office Supplies	\$100.00	
			Sub Total		\$7,600.00
			Total Expense		\$358,033.00