

2021 Program Details

Duration of Inspections:

Lake Ann and Lake Susan 45 Days (5/31/21 - 9/6/21)
Lotus Lake 185 days (5/15/21 - 11/15/21)

Coverage Times:

Lake Ann & Lake Susan:

Fridays, Saturdays, Sundays (6 a.m. to 8 p.m.)
Holidays (6 a.m. to 8 p.m.)

Lotus Lake:

May 15 - September 6 (6 am to 8 pm)
September 7-30 (6:30 am to 7:30 pm)
October 1-15 (7:00 am to 7:00 pm)
October 16 – Oct 31 (7:30 am to 6:30 pm)
November 1-15 (7:00 am to 4:00 pm)

Total Inspection Hours:

Lake Ann	630	hours
Lake Susan	630	hours
Lotus Lake	2413	hours
	<hr style="width: 100%; border: 0.5px solid black; margin-bottom: 5px;"/> 3673	hours

Combined Program Budget

Inspections	3673 @ \$16.28/hr	\$59,796.44
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Funding:

Riley Purgatory Bluff Creek Watershed District RPBCWD	\$32,000
City of Chanhassen	\$18,500
Lotus Lake Conservation Alliance/LLCA	\$9,296.44
	<hr style="width: 100%; border: 0.5px solid black; margin-bottom: 5px;"/> \$59,796.44

Lotus Lake Program Breakdown

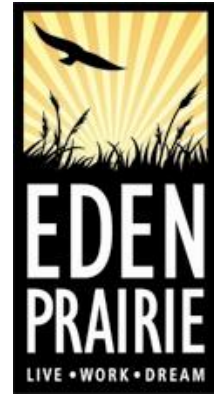
<u>Who</u>	<u>County</u>	CC Hrs	
Day:	Hours to Cover	Per Day	14
Mon	6am - 8pm	Per Week	98
Tues	6am - 8pm	Total Inspection days	115
Wed	6am - 8pm	Total Inspection hours	1610
Thur	6am - 8pm	Total Inspection \$ at 16.28/hr	\$ 26,210.80
Fri	6am - 8pm		
Sat	6am - 8pm		
Sun	6am - 8pm		
May 15- Sept 06 ↑			
<u>Who</u>	<u>County</u>	CC Hrs	
Day:	Hours to Cover	Per Day	13
Mon	6: 30am - 7:30pm	Per Week	91
Tues	6: 30am - 7:30pm	Total Inspection days	24
Wed	6: 30am - 7:30pm	Total Inspection hours	312
Thur	6: 30am - 7:30pm	Total Inspection \$ at 16.28/hr	\$ 5,079.36
Fri	6: 30am - 7:30pm		
Sat	6: 30am - 7:30pm		
Sun	6: 30am - 7:30pm		
Sept 7 - Sept 30 ↑			
<u>Who</u>	<u>County</u>	CC Hrs	
Day:	Hours to Cover	Per Day	12
Mon	7am - 7pm	Per Week	84
Tues	7am - 7pm	Total Inspection days	15
Wed	7am - 7pm	Total Inspection hours	180
Thur	7am - 7pm	Total Inspection \$ at 16.28/hr	\$ 2,930.40
Fri	7am - 7pm		
Sat	7am - 7pm		
Sun	7am - 7pm		
Oct 1- Oct 15 ↑			
<u>Who</u>	<u>County</u>	CC Hrs	
Day:	Hours to Cover	Per Day	11
Mon	7:30am - 6:30pm	Per Week	77
Tues	7:30am - 6:30pm	Total Inspection days	16
Wed	7:30am - 6:30pm	Total Inspection hours	176
Thur	7:30am - 6:30pm	Total Inspection \$ at 16.28/hr	\$ 2,865.28
Fri	7:30am - 6:30pm		
Sat	7:30am - 6:30pm		
Sun	7:30am - 6:30pm		
Oct 16- Oct 31 ↑			
<u>Who</u>	<u>County</u>	CC Hrs	
Day:	Hours to Cover	Per Day	9
Mon	7:00 am - 4pm	Per Week	63
Tues	7:00 am - 4pm	Total Inspection days	15
Wed	7:00 am - 4pm	Total Inspection hours	135
Thur	7:00 am - 4pm	Total Inspection \$ at 16.28/hr	\$ 2,197.80
Fri	7:00 am - 4pm		
Sat	7:00 am - 4pm		
Sun	7:00 am - 4pm		
Nov 1- Nov 15			

Lake Ann Program Breakdown			
<u>Who</u>	<u>County</u>		<u>CC Hrs</u>
Day:	Hours to Cover		Per Day 14
Mon			Per Week 42
Tues			Total Inspection days 45
Wed			Total Inspection hours 630
Thur			Total Inspection \$ at 16.28/hr \$ 10,256.40
Fri	6am - 8pm		
Sat	6am - 8pm		Including Mem. Day, July 4, and Labor Day
Sun	6am - 8pm		
	May 31- Sept 6		

Lake Susan Program Breakdown			
<u>Who</u>	<u>County</u>		<u>CC Hrs</u>
Day:	Hours to Cover		Per Day 14
Mon			Per Week 42
Tues			Total Inspection days 45
Wed			Total Inspection hours 630
Thur			Total Inspection \$ at 16.28/hr \$ 10,256.40
Fri	6am - 8pm		
Sat	6am - 8pm		Including Mem. Day, July 4, and Labor Day
Sun	6am - 8pm		
	May 31- Sept 6		

February 4, 2022

Terry Jeffery
Interim District Administrator
Riley-Purgatory-Bluff Creek Watershed District
18681 Lake Drive East
Chanhassen, MN 55317



Re: Aquatic Invasive Species Inspection
Program Reimbursement Request

Dear Terry,

The City of Eden Prairie completed an Aquatic Invasive Species (AIS) program last summer. The City is writing to request reimbursement of \$32,000 per our agreement dated April 14, 2020. The total cost in 2021 was \$53,493.79 including Waterfront Restorations invoices (\$52,355.69), 33.50 recorded staff hours and \$1,138.10 in intern hours. In addition, Park staff worked with Hennepin County to install a solar-powered CD3 station at the Mitchell Lake boat landing. The City match would be more than \$21,493.79.

Inspections were conducted between May 15 and October 24, 2021. The CD3 cleaning station that was installed in 2018 in partnership with Hennepin County, Wildlife Forever and CD3 continued to function and was determined to be very popular. For more information on CD3 you can visit their website (www.cd3station.com)

The City hired Waterfront Restoration to manage the watercraft inspection program. Inspectors covered shifts at Riley, Red Rock and Mitchell Lakes. The City's Engineering Intern was given responsibility to regularly check on the watercraft inspectors. A year-end summary from Waterfront is attached to this letter.

Following are some key observations:

- Inspections = 4,938, up from 3,709 in 2020
- Inspection Hours = 2,322 hours, down from 2,413 in 2020
- Inspection Percentages = 98% of the inspections completed were on Lake Riley. Mitchell and Red Rock Lake had the remaining 2%
- Watercraft Types = 40% were fishing boats and 38% were runabouts
- Number from Out of State – 62 (most from Arizona and Wisconsin)
- Number of violations for entering watercraft = 26 (51% had plants and 49% had drain plugs in)
- Number of watercraft exiting Lake Riley with zebra mussels attached = 5 (2%)
- Number of watercraft sent for decontamination = None

If you have any questions regarding the AIS program or the published findings, please contact me at 952-949-8327 or lstovring@edenprairie.org.

Sincerely,

A handwritten signature in black ink that reads "Leslie Stovring".

Leslie A. Stovring
Water Resources Coordinator



P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
6/21/2021	1490

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

Item	Qty	Description	Rate	Serviced	Amount
On-Site	135.16	Watercraft Inspector - On-site at launch	22.55		3,047.86

Total					\$3,047.86
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Please remit payment to:

Waterfront Restoration, LLC
P.O. Box 783
Long Lake, MN 55356

Phone #	Web Site
6124443410	www.waterfrontrestoration.com

Payments/Credits	\$0.00
Balance Due	\$3,047.86

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Denk Lee
6D259CE549094FE...



P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
7/5/2021	1496

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

Item	Qty	Description	Rate	Serviced	Amount
On-Site	565.72	Watercraft Inspector - On-site at launch June	22.55		12,756.99

			Total	\$12,756.99
Please remit payment to: Waterfront Restoration, LLC P.O. Box 783 Long Lake, MN 55356	Phone #	Web Site	Payments/Credits	\$0.00
	6124443410	www.waterfrontrestoration.com	Balance Due	\$12,756.99

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Derik Lee
6D259CE549094FE...



P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
8/9/2021	1504

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

Item	Qty	Description	Rate	Serviced	Amount
On-Site	608.28	Watercraft Inspector - On-site at launch July	22.55		13,716.71

Total					\$13,716.71
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Please remit payment to: Waterfront Restoration, LLC P.O. Box 783 Long Lake, MN 55356	Phone #	Web Site	Payments/Credits	\$0.00
	6124443410	www.waterfrontrestoration.com	Balance Due	\$13,716.71

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Derek Lee
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P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
9/8/2021	1510

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

Item	Qty	Description	Rate	Serviced	Amount
On-Site	581.95	Watercraft Inspector - On-site at launch August	22.55		13,122.97

			Total	\$13,122.97
Please remit payment to:			Payments/Credits	\$0.00
Waterfront Restoration, LLC P.O. Box 783 Long Lake, MN 55356	Phone # 6124443410	Web Site www.waterfrontrestoration.com	Balance Due	\$13,122.97

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Derek Lee
18D9347923E7407...



P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
10/5/2021	1519

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

Item	Qty	Description	Rate	Serviced	Amount
On-Site	247.11	Watercraft Inspector - On-site at launch September	22.55		5,572.33

				Total	\$5,572.33
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Please remit payment to:

Waterfront Restoration, LLC
P.O. Box 783
Long Lake, MN 55356

Phone #	Web Site
6124443410	www.waterfrontrestoration.com

Payments/Credits	\$0.00
Balance Due	\$5,572.33

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Derek Lee
18D9347923E7407...



P.O. Box 783
Long Lake, MN 55356

Invoice

Date	Invoice #
11/11/2021	1525

Bill To:

City of Eden Prairie
Leslie Storving
8080 Mitchell Road
Eden Prairie, MN 55344

Account Representative	Terms	Project
D.Lee	Due on receipt	

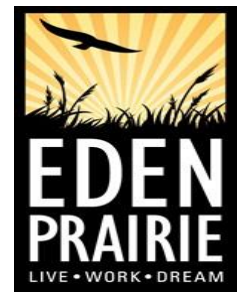
Item	Qty	Description	Rate	Serviced	Amount
On-Site	183.54	Watercraft Inspector - On-site at launch	22.55		4,138.83

				Total	\$4,138.83
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Please remit payment to: Waterfront Restoration, LLC P.O. Box 783 Long Lake, MN 55356	Phone #	Web Site	Payments/Credits	\$0.00
	6124443410	www.waterfrontrestoration.com	Balance Due	\$4,138.83

I declare under penalty of perjury that this account, claim, or demand is just and correct and that no part of it has been paid.

DocuSigned by:
Derek Lee
18D9347923E7407...



2021 Season Report



City of Eden Prairie Watercraft Inspections

Waterfront Restoration, LLC
November 23, 2021

City of Eden Prairie Watercraft Inspection Survey Data Table of Contents

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2021 City of Eden Prairie Watercraft Inspection Program

Watercraft Inspection Summary

Waterfront Restoration was contracted to administer the City of Eden Prairie's 2021 Aquatic Invasive Species (AIS) watercraft inspection program. The city provided a list of the three lake launches on which they desired watercraft inspector coverage, as well as the days and hours during which the inspector coverage was to take place. The staffed launches were located at Lake Riley, Mitchell Lake, and Red Rock Lake. For the majority of the season (5/28/21 through 9/6/21) it was requested that Lake Riley have full Monday through Sunday coverage, from 6 A.M. – 8 P.M. on weekends (Fri-Sun), and 6 A.M. – 7 P.M. on weekdays (Mon-Thurs). Mitchell Lake and Red Rock Lake were each requested to have a total of eight inspector hours each week, spread out randomly in increments of four hours shifts.

Table 1: 2021 Watercraft Inspection Totals

Lake Name	Inspections	Inspection Hours
Lake Riley	4,838	1,913
Mitchell Lake	64	216
Red Rock Lake	36	194
Total	4,938	2,322

The 2021 AIS inspection program kicked-off on MN Fishing Opener, Saturday May 15th and concluded on Sunday October 24th. According to official MN DNR inspector survey data, 4,938 watercraft inspections were completed during the 2021 program season (Table 1). Of that total, 3,157 were entering inspections and 1,781 were exiting inspections. Lake Riley launch accounted for the largest portion of inspections at 98%, (Figure 1). Mitchell Lake and Red Rock Lake each made up 1%.

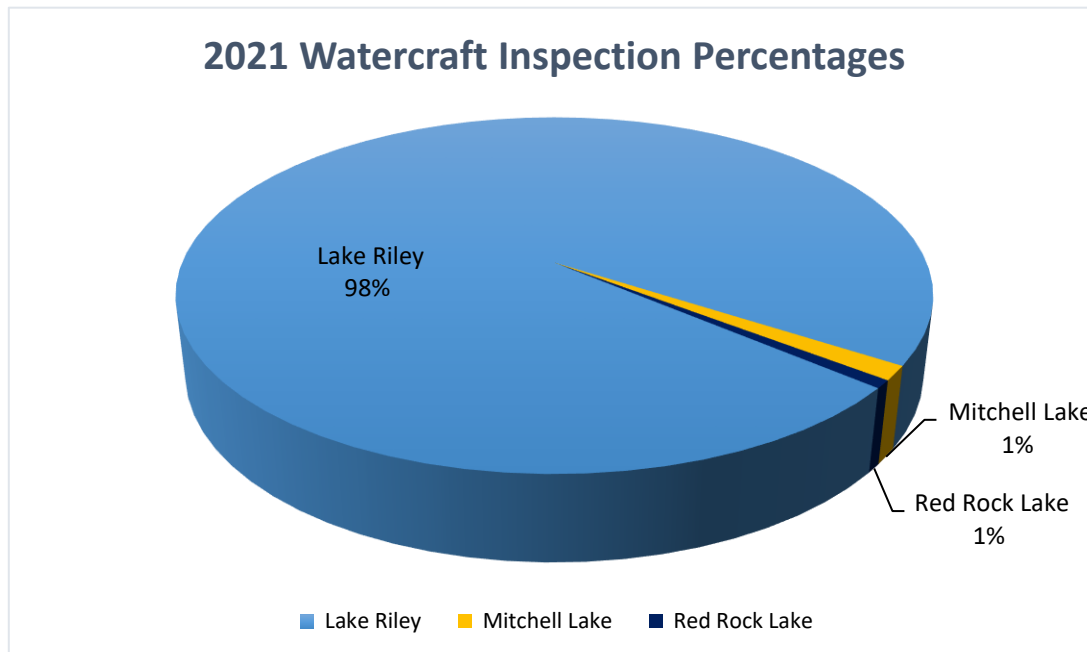


Figure 1: Chart (above) reflects the percentage of total inspections completed at each lake during the 2021 inspection season.

The inspection survey data reveals that 40% of all inspections were conducted on fishing boats, while runabouts were the second most inspected watercraft at 38% (Figure 2). Personal watercrafts, wakeboards and canoes/kayaks accounted for 9%, 7%, and 3% of the total inspections, respectively. Pontoons, Sailboats, Jon boats and Boat Lifts/Docks accounted for 2%, 1%, 0% and 0% respectively.

Type of Watercraft

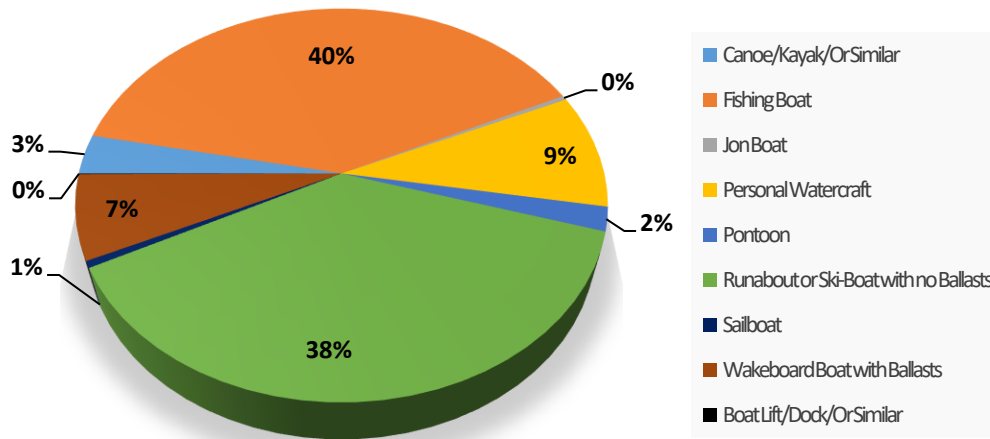
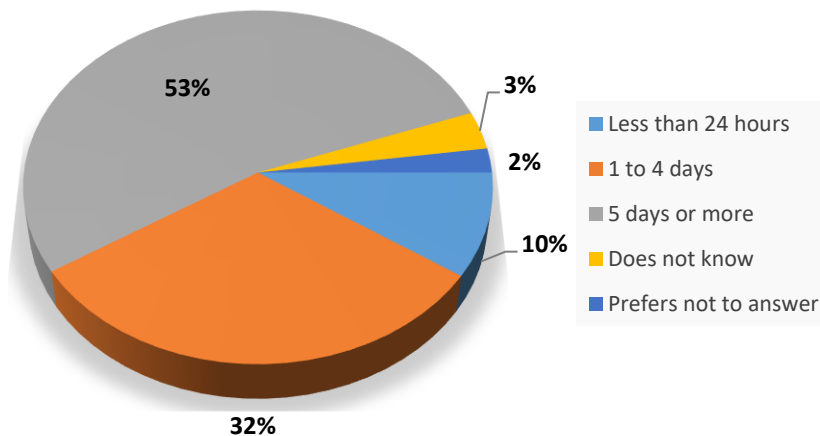


Figure 2: Chart (above) reflects the percentage of total inspections conducted on watercraft types during the 2021 inspection season.

Time out of Water Before Entering



The data also shows that throughout the 2021 inspection season 53% of watercrafts entering had been left out water for the recommended 5 days or more, while 32% were reported as only being out for 1-4 days (Figure 3). However, 10% of entering watercrafts were recorded as being out of the water for less than 24 hours. The remaining 5% of boaters reported that they either did not know how long the watercraft had been out of the water for, or they preferred not to answer.

Figure 3: Chart (above) reflects the percent of responses from entering boaters regarding the amount of time their watercraft had been out of the water prior to entering a staffed lake.

While the majority of inspected watercrafts were recorded as being trailered by vehicles from Minnesota, the remaining watercrafts were recorded as being brought in by out-of-state vehicles. The most common out-of-state vehicles trailering a watercraft were from Arizona at 19, followed by Wisconsin at 17 (Figure 4). Note that when determining what state a watercraft is from, only the license number of the vehicle pulling the watercraft is recorded.

Number of Out-of-state Watercraft inspected

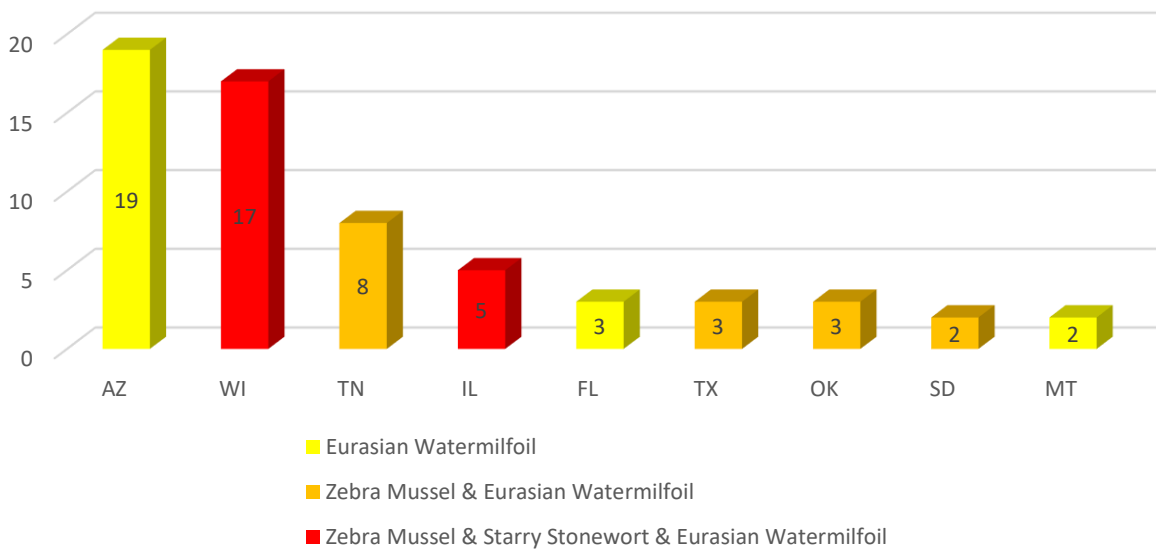


Figure 4: Graph (above) reflects the number of watercrafts recorded as being from out-of-state. Each state is color coded to indicate certain AIS that have been reported in each state. **Note, “No infestation” only suggests that neither zebra mussels, Eurasian Watermilfoil nor Starry Stonewort have been recorded in the given state.**

The three City of Eden Prairie lakes were staffed for a total of 2,322 hours in 2021. Lake Riley received the highest percent of inspection hours at 83% (1,913 hours). (Figure 5). Mitchell Lake received around 9% (216 hours) and Red Rock Lake received around 8% (194 hours) of the inspection hours.

2021 Watercraft Inspection Staffing Allocation Percentages

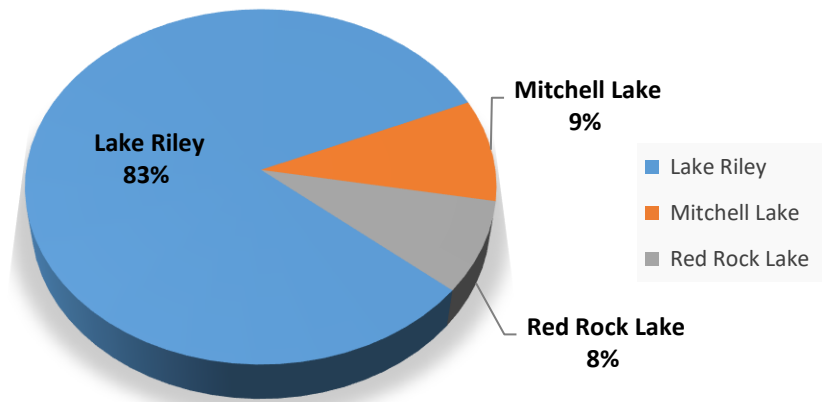


Figure 5: Chart (above) reflects the percent of total hours received by each lake during the 2021 inspection season.

From the survey data we determined that the busiest month for watercraft inspections was June, with 1,439 completed surveys. July and August followed close by at 1,316 and 1,000 surveys logged (Figure 6). September and October have understandably lower inspection counts since coverage hours significantly decreased and it is at the end of the season. Further detail by week can be found in Figure 7, where it shows that the first week of June has the highest count of inspection surveys at 422.

Inspections by Month

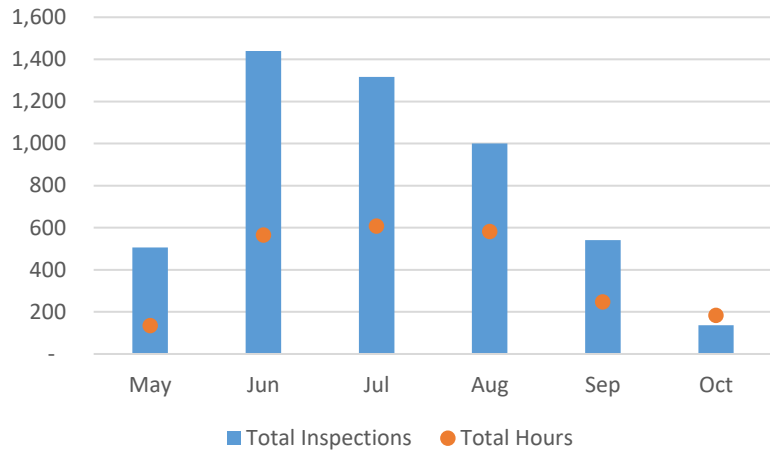


Figure 6: Graph (above) reflects the number of inspection surveys, and the hours of inspector coverage logged each month during the 2021 inspection season.

Inspections by Week

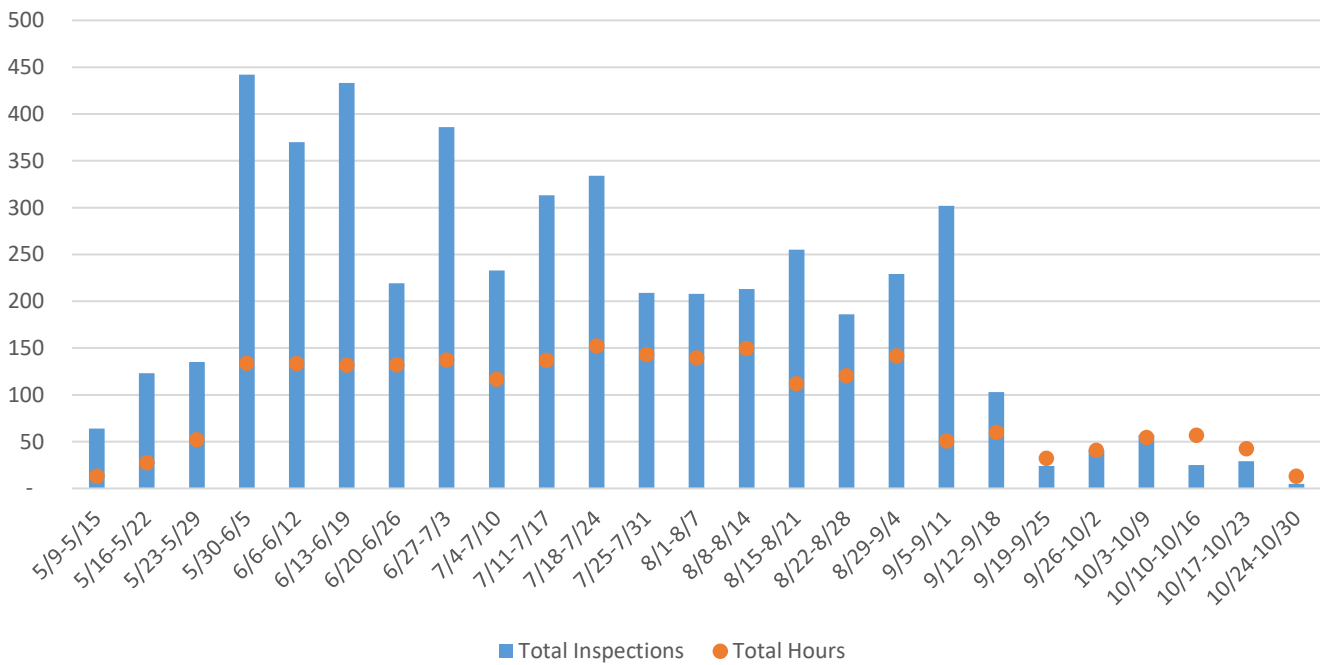
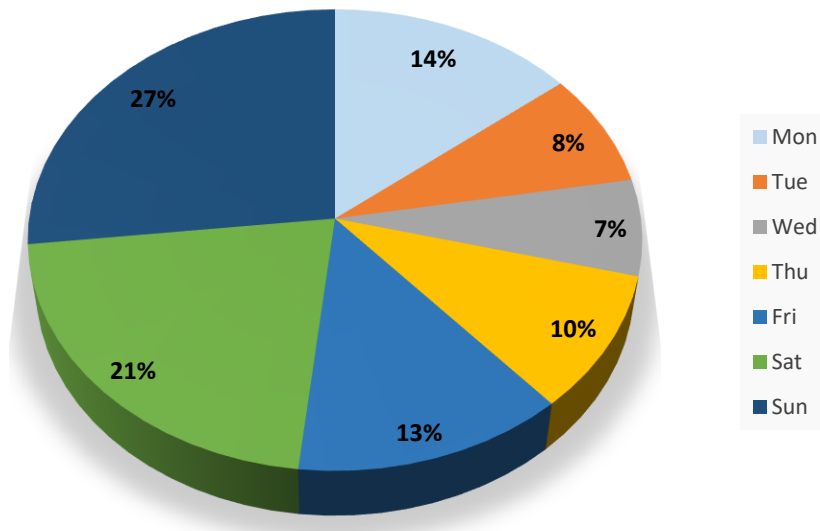


Figure 7: Graph (above) reflects the number of inspection surveys, and the hours of inspector coverage logged each week during the 2021 inspection season.

Inspections by Week Day



The data shows that the busiest days for inspections were Saturday and Sunday, both of which accounted for 21% and 27% of inspections, respectively (Figure 8). Monday and Friday followed with 14% and 13% of the total inspections being complete, respectively. On Fridays, Saturdays, and Sundays alike, the data shows that the busiest time of day for inspections is between 11 A.M. to 4 P.M. (Figure 9). However, during the weekdays (Mon-Thurs) the busiest time of day is shown to be split between 11 A.M. to 4 P.M. and 4 P.M. to 10 P.M.

Figure 8: Chart (above) reflects the distribution of completed inspection surveys by day of week during the 2021 inspection season.

Inspections by Time of Day

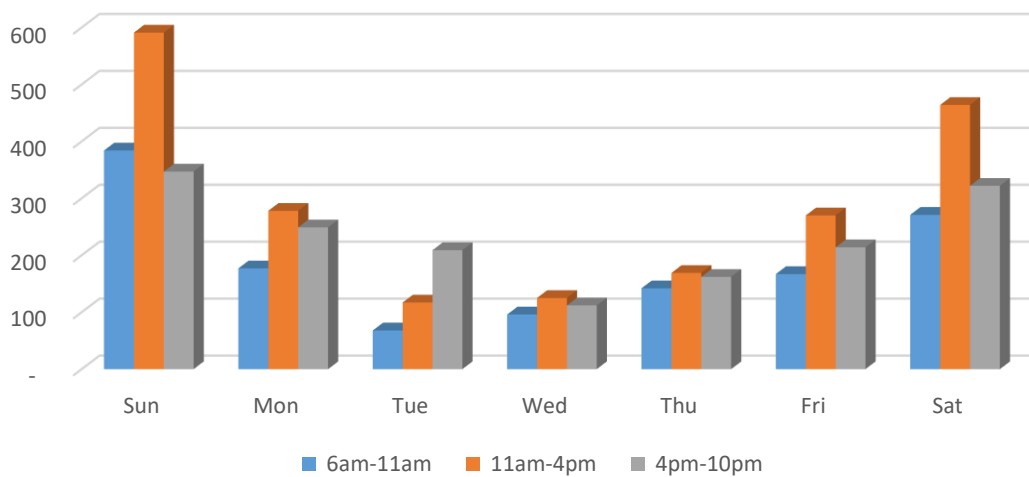


Figure 9: Graph (above) reflects the number of inspection surveys completed at specific times of day, and by day of week during the 2021 inspection season.

Of the entering inspections, the waterbody most visited by boaters prior to entering an inspector staffed launch within the City of Eden Prairie was Lake Riley, with 1,805 boaters reporting last being there (Figure 10). The other most common responses were lakes Minnetonka (220), Storage (165), Waconia (51), and Minnewashta (46). This information can help us understand where new AIS infestations arise from since AIS are often unintentionally transported between bodies of water via watercrafts, trailers, and other water-related equipment.

LAST Body of Water Visited

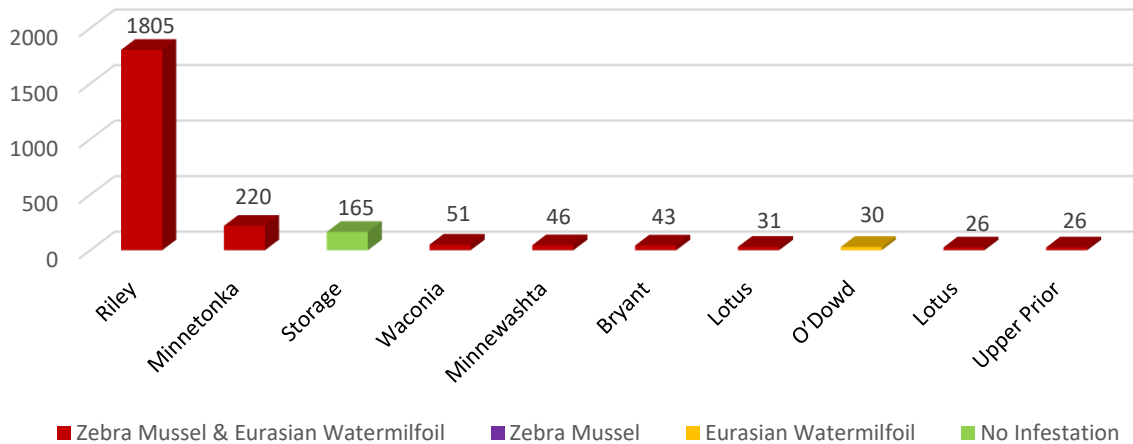


Figure 10: Graph (above) reflects the number of boaters that reported the last lake visited prior to entering another waterbody via one of the City of Eden Prairie staffed launches during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Likewise, of the same entering inspections, the boater responses pertaining to which waterbody they would be visiting next, showed that the majority of boaters leaving an inspector staffed launch within the City of Eden Prairie would head to Lake Riley (1,199), Lake Minnetonka (58), Storage (25), Mitchell Lake (18) and Waconia (14) (Figure 11).

NEXT Body of Water Planning to Visit

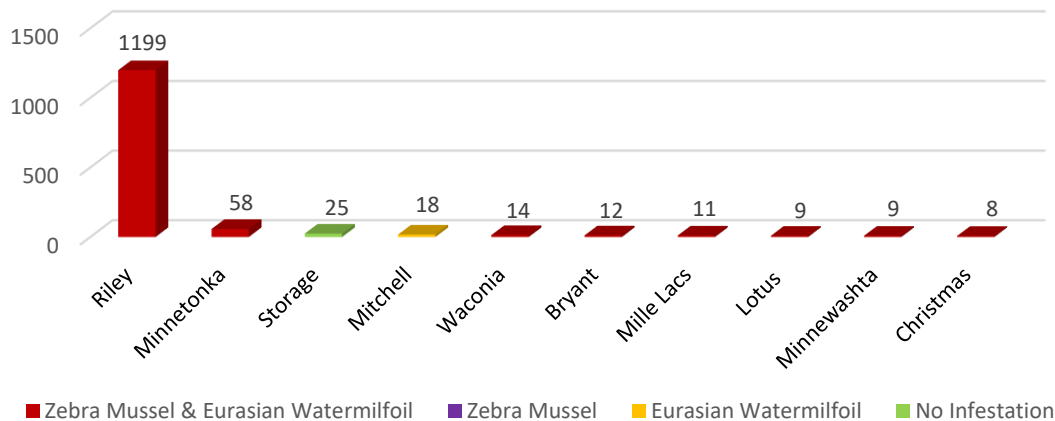


Figure 11: Graph (above) reflects the number of boaters that reported the next lake they expected to visit after exiting an Eden Prairie inspector staffed launch during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Inspection Findings, Violations, and Decontaminations

There were 51 entering inspections that were in violation of Minnesota AIS laws (nearly 1% of all inspections), of which 25 were drain plug violations. On 320 exiting watercrafts there was at least one finding on and/or in the watercraft, trailer, or equipment. However, exiting inspection findings are not considered AIS violations since they were caught prior to the boater leaving the launch. Regardless, these findings during exiting inspections provide useful information when determining what could be leaving an infested lake and entering a new lake.

All of the 26 entering inspections were plants (removeable by hand) (Figure 12).

Findings During Entering Inspections

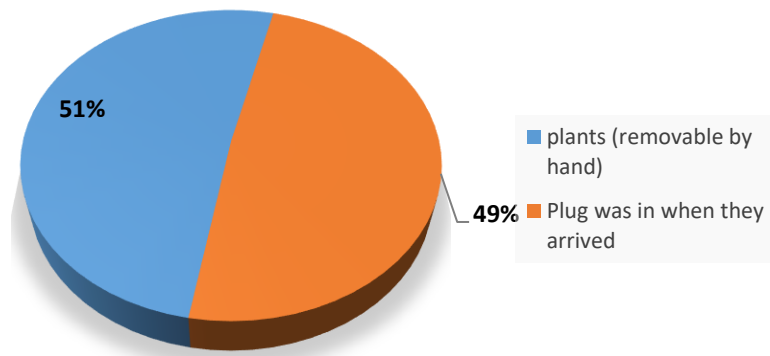
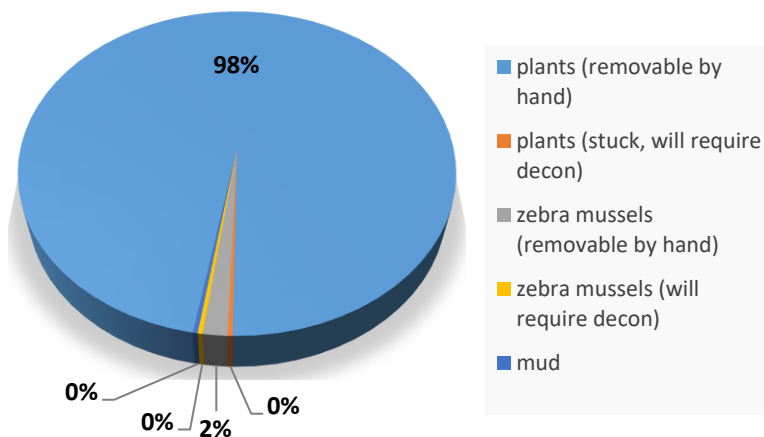


Figure 12: Chart (above) reflects the distribution of findings during entering inspections during the 2021 inspector season.

Findings During Exiting Inspections



The most common finding during exiting inspections were plants (removable by hand) at 312 (Figure 13). However, there was 5 instances (2%) with zebra mussels. None of the 320 exiting inspections that contained findings were deemed as AIS violations since they were caught and resolved prior to the watercraft leaving the launch.

Figure 13: Chart (above) reflects the distribution of findings during exiting inspections during the 2021 inspection season. Watercraft requiring decontamination were encouraged to go to the nearby Christmas Lake launch decon station, or to a professional watercraft dealer service for cleaning before entering the next body of water.

The data shows that all 51 entering findings were reported from Lake Riley (Figure 14).

Entering Violations by Lake

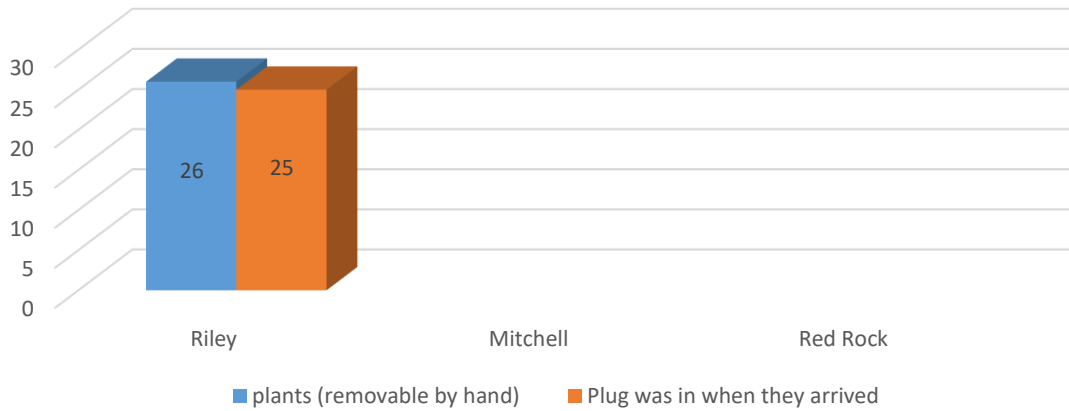


Figure 14: Graph (above) reflects the number of findings by lake during entering inspections during the 2021 inspection season.

Looking at potential exiting violations, Lake Riley once again comes in with the highest number of “plants (removable by hand)” at 302 (Figure 15). The second most common lake reporting findings of “plants (removable by hand)” was Mitchell at 6, followed by Red Rock at 4.

Exiting Violations by Lake

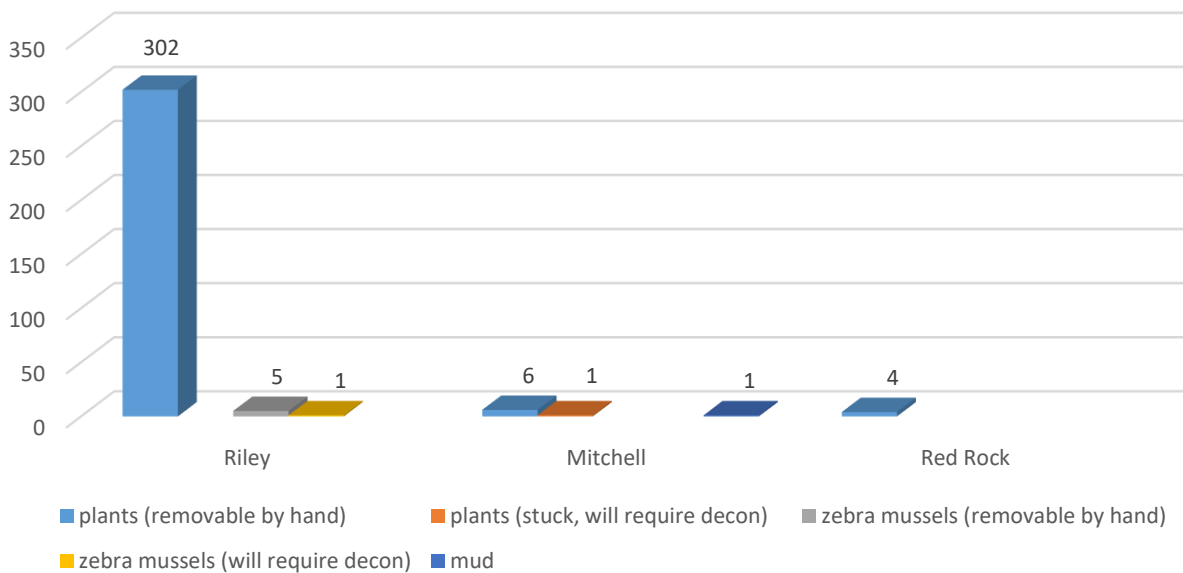


Figure 15: Graph (above) reflects the distribution of findings during exiting inspections during the 2021 inspection season. Watercraft requiring decontamination were encouraged to go to the Clean Drain Dry Dispose station on site, the Christmas Lake launch decon station, or to a professional watercraft dealer service for cleaning before entering the next body of water.

Lake Riley

Lake Riley had the highest count of inspection surveys compared to the other two staffed lakes in the City of Eden Prairie. In total, Lake Riley was staffed for 1,913 hours from May 15th through October 24th and had 4,838 inspections completed over this period (Table 2). Eden Prairie required inspector staffing on Monday – Sunday from 6AM-8PM. This schedule was accomplished through Labor Day, September 6th, after which the schedule shifted to only Saturday and Sunday coverage from 6AM-7PM.

Table 2: Lake Riley 2021 Inspection Types

Month	Enter	Exit	Inspection Hours
May	304	184	127
Jun	933	487	494
Jul	825	465	527
Aug	651	337	488
Sep	305	218	178
Oct	80	49	99
Total	3,098	1,740	1,913

The survey data reveals that 40% of all inspections were conducted on fishing boats, while runabouts were the second most inspected watercraft at 38% (Figure 19). Personal watercrafts and wakeboards accounted for 10% and 7% of the total inspections, respectively.

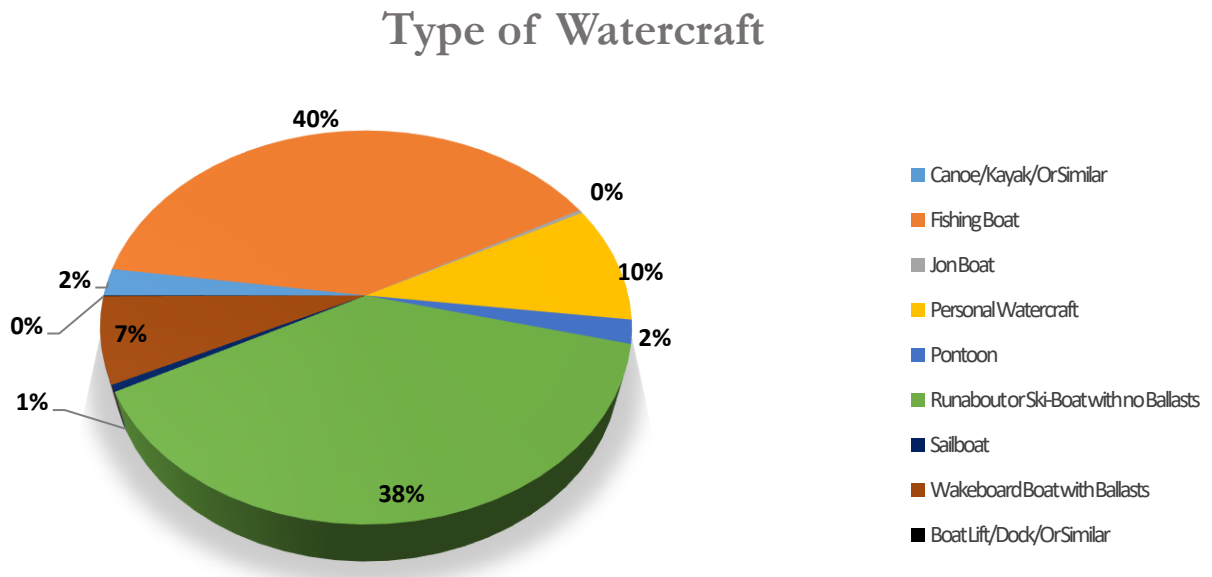
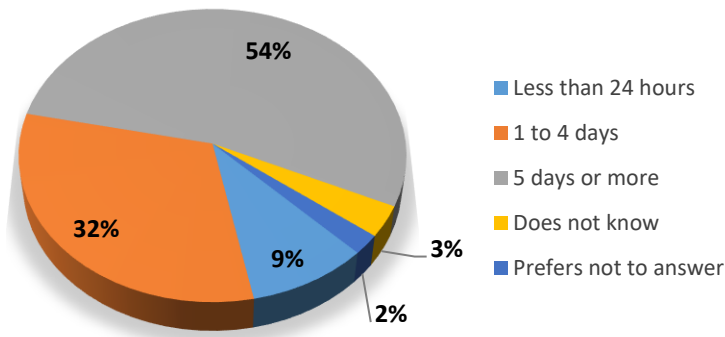


Figure 19: Chart (above) reflects the percentage of total inspections conducted on watercraft types at Lake Riley during the 2021 inspection season.

Time out of Water



The data also shows that throughout the 2021 inspection season 54% of watercrafts entering had been left out of water for the recommended 5 days or more, while 32% were reported as only being out for 1-4 days (Figure 20). However, another 9% of entering watercrafts were recorded as being out the water for less than 24 hours. The remaining 5% of boaters reported that they either did not know how long the watercraft had been out of the water for or they preferred not to answer.

Figure 20: Chart (above) reflects the percent of responses from entering boaters at Lake Riley regarding the amount of time their watercraft had been out of the water prior to entering.

Inspections by Week

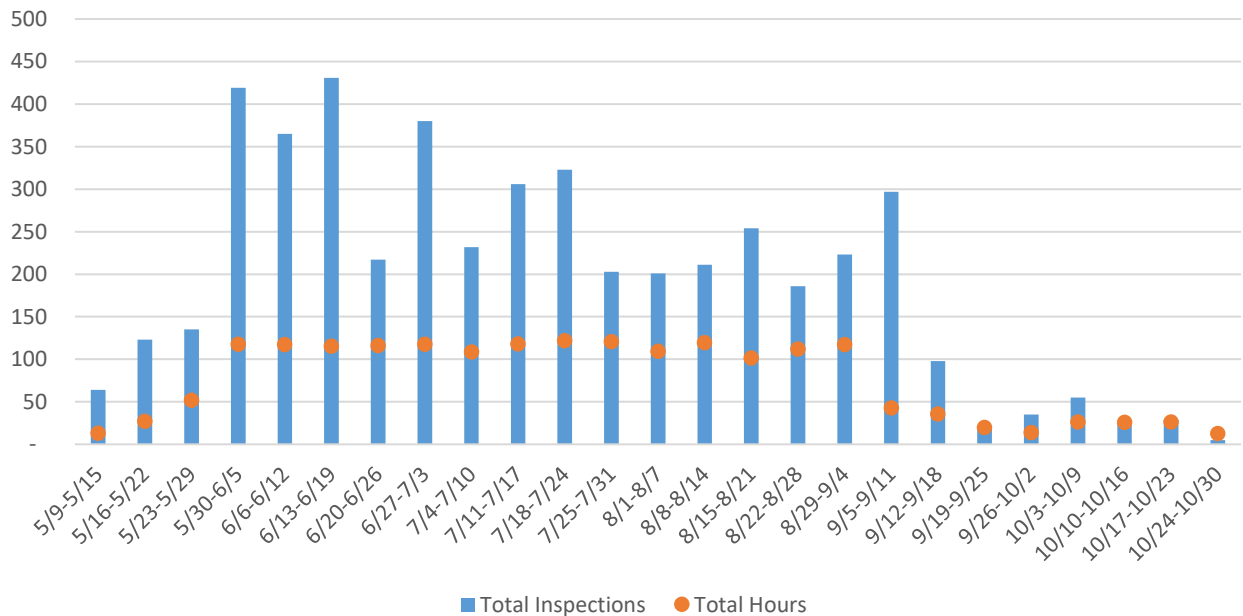


Figure 21: Graph (above) reflects the number of inspection surveys and the hours of inspector coverage logged at Lake Riley each week during the 2021 inspection season.

From the survey data we determined that the busiest month for watercraft inspections at Lake Riley was June, with July and August following close behind. May, September, and October had predictably lower inspection counts since they did not have inspection coverage for the full month nor full weeks of coverage. Further detail by week can be found in Figure 21, where it shows that the third week of June has the highest count of inspection surveys of 431.

The data also allowed us to determine the busiest days and busiest times of day over the course of the inspection season. It is shown that the busiest days for inspections were Saturday and Sunday, followed by Mondays and Fridays (Figure 22).

Inspections by Weekday

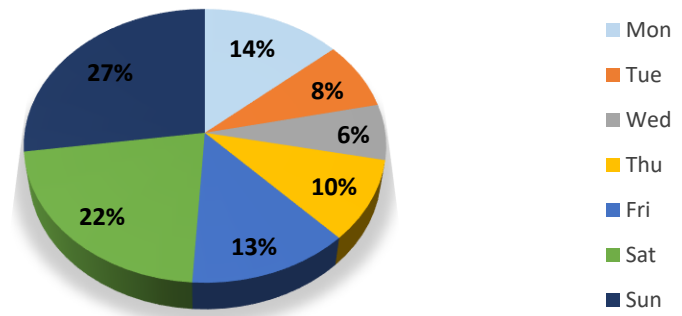
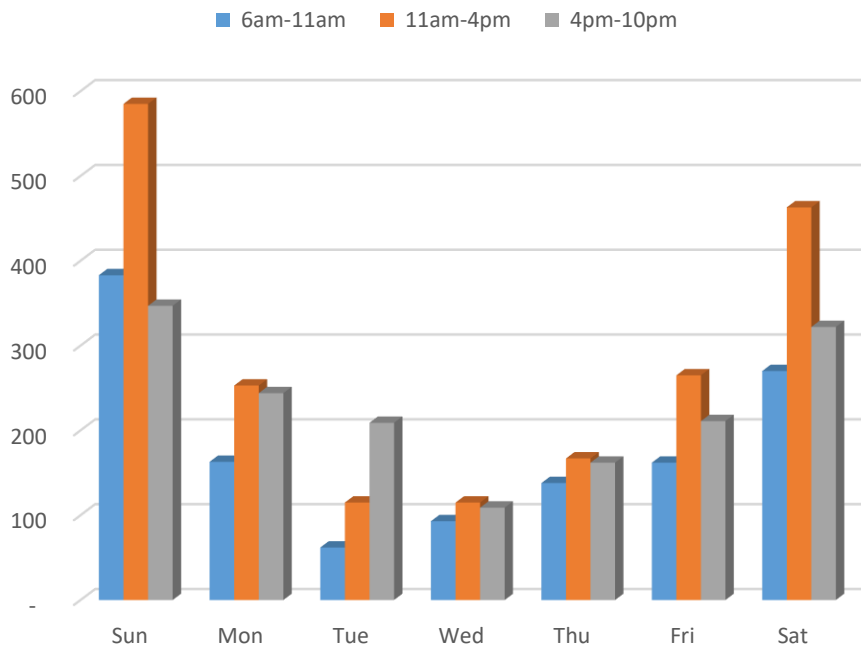


Figure 22: Chart (above) reflects the distribution of completed inspection surveys on Lake Riley by day of week during the 2021 inspection season.

Inspections by Time of Day



On six of the seven days of the week, Tuesdays being the exceptions, the busiest time of day for inspections was between 11 A.M. to 4 P.M. (Figure 23). The second busiest time of day was shown to be from 4 P.M. to 10 P.M.

Figure 23: Graph (above) reflects the number of inspection surveys reported by the time of day, and day of week at Lake Riley during the 2021 inspection season.

LAST Body of Water Visited

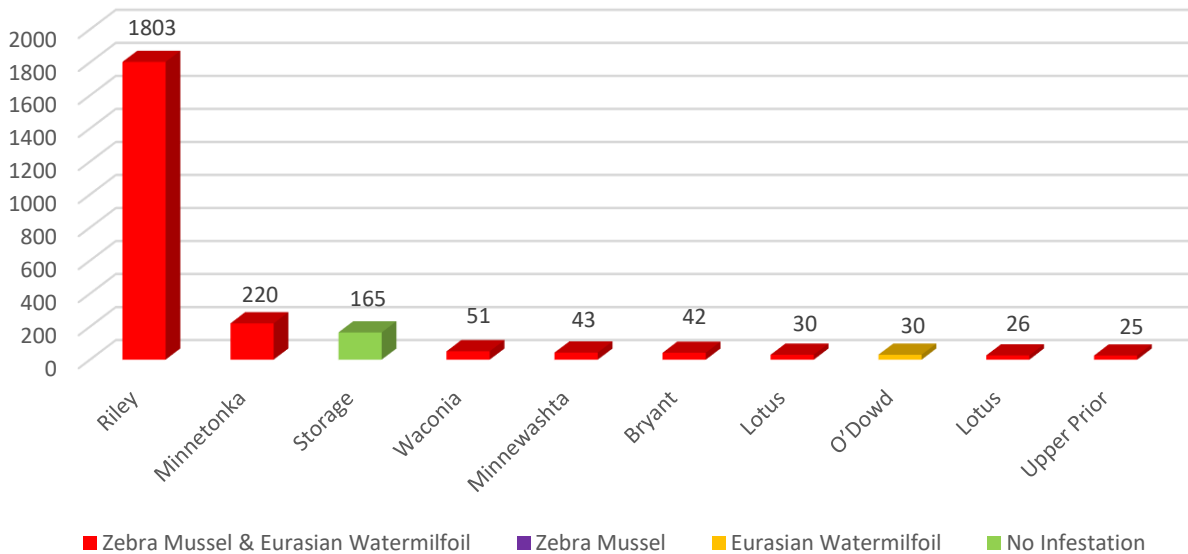


Figure 24: Graph (above) reflects the number of boaters that reported the last lake visited prior to entering Lake Riley during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Of the entering inspections, the waterbody most visited by boaters prior to entering Lake Riley was Lake Riley itself, with 1,803 boaters reporting last being there (Figure 24). The other most common responses were lakes Minnetonka (220) and Storage (165).

The boater responses pertaining to which waterbody they would be visiting next, showed that the majority of boaters leaving Lake Riley would head back to Lake Riley (1,197), or go to Lake Minnetonka (56) or Storage (24) (Figure 25).

NEXT Body of Water Planning to Visit

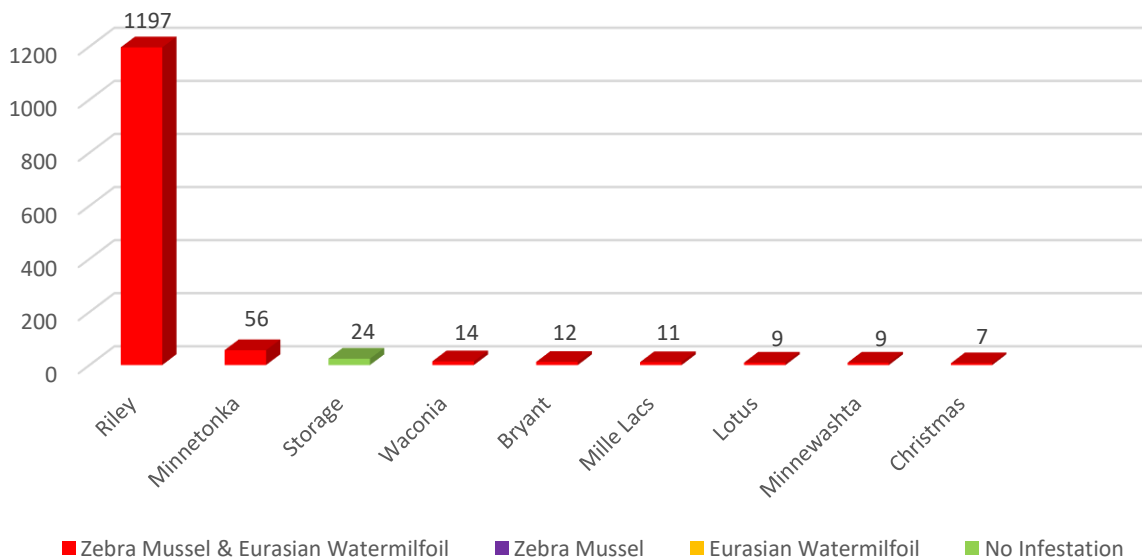


Figure 25: Graph (above) reflects the number of boaters that reported the next lake they expected to visit after Lake Riley during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Mitchell Lake

Mitchell Lake received 216 hours of inspector coverage from May 31st through October 22nd and had 64 inspections completed (Table 3). Eden Prairie required inspector staffing eight hours a week, spread out in two, four hour shifts a week which were to be varied each week. This schedule was accomplished, with the exception of a few additional shifts that were put in place to make up for lost hours from the season start date delay.

Table 3: Mitchell Lake 2021 Watercraft Inspection Totals

Month	Enter	Exit	Inspection Hours
May	8	6	4
Jun	6	6	36
Jul	11	8	49
Aug	4	3	47
Sep	5	4	37
Oct	2	1	44
Total	36	28	216

The inspection survey data reveals that more 52% of all inspections were conducted on canoe/kayaks, while fishing boats were the second most inspected watercraft at 31% (Figure 26). Runabouts, Jon boats and Pontoons accounted for 9%, 6% and 2% of the total inspections, respectively.

Type of Watercraft

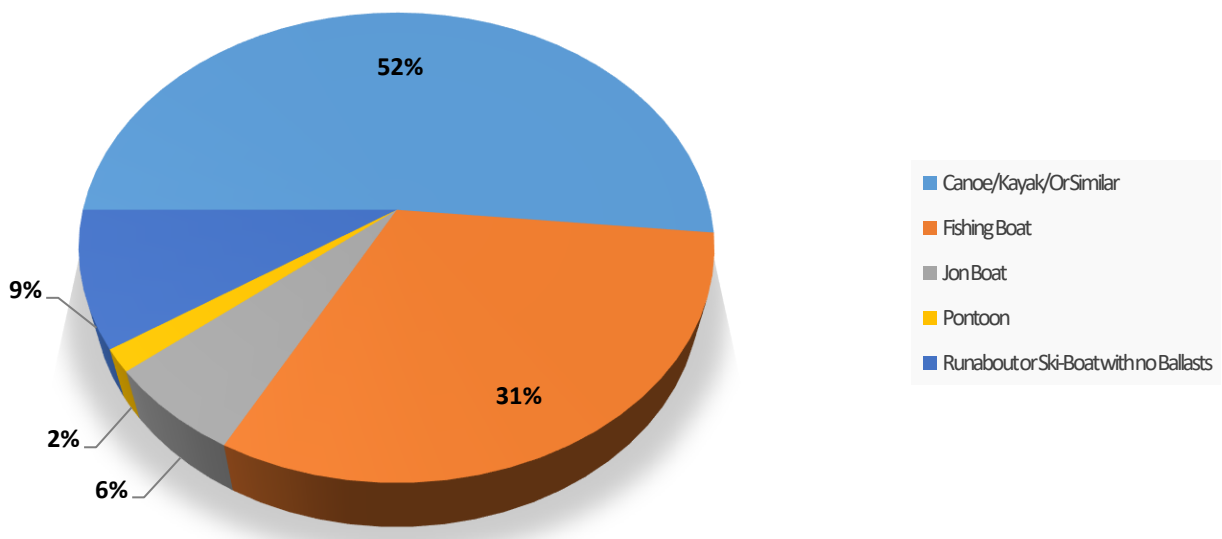
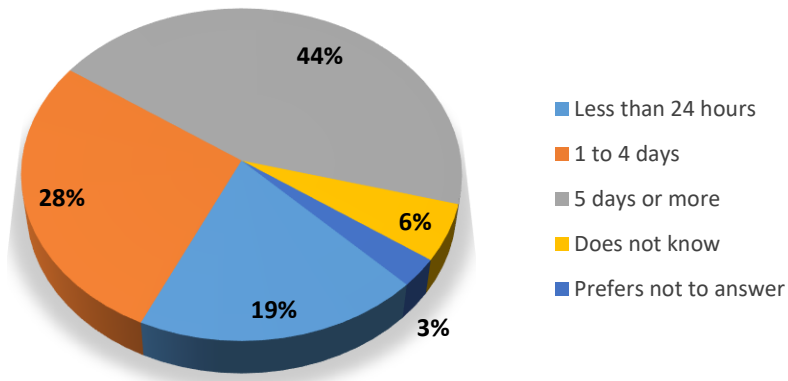


Figure 26: Chart (above) reflects the percentage of total inspections conducted on watercraft types during the 2021 inspection season.

Time out of Water



The data also shows that throughout the 2021 inspection season 44% of watercrafts entering had been left out of any body of water for the recommended 5 days or more, while 28% were reported as only being out for 1-4 days (Figure 27). However, 19% of entering watercrafts were recorded as being out the water for less than 24 hours. 6% of boaters reported that they did not know how long the watercraft had been out of the water for and 3% reported that they preferred not to answer.

Figure 27: Chart (above) reflects the percent of responses from entering boaters at Mitchell Lake regarding the amount of time their watercraft had been out of the water prior to entering.

Inspections by Week

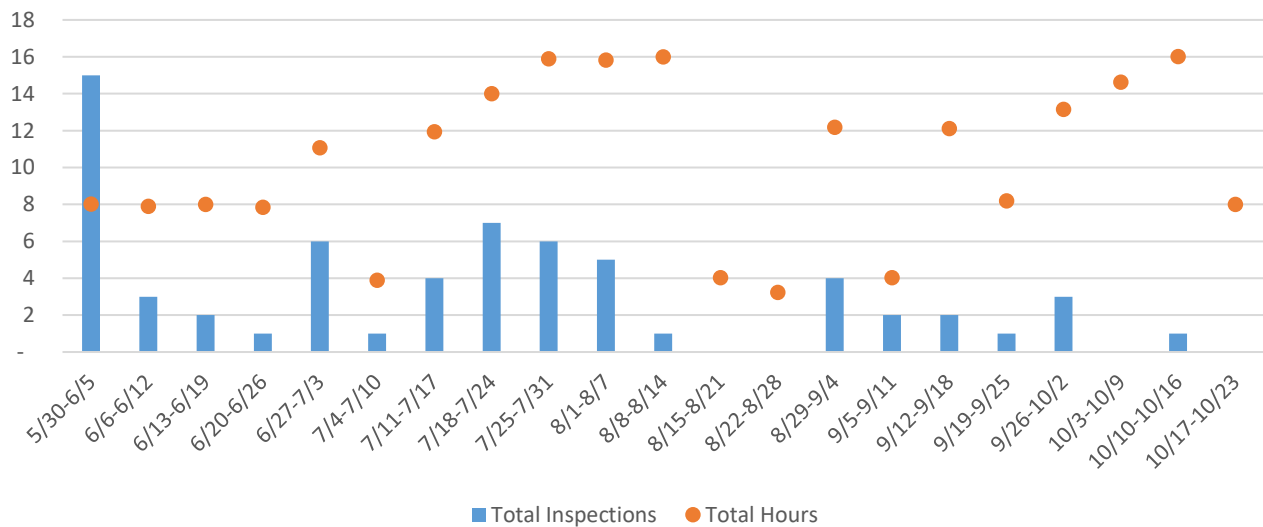


Figure 28: Graph (above) reflects the number of inspection surveys and the hours of inspector coverage logged at Mitchell Lake each week during the 2021 inspection season.

From the survey data we determined that the busiest month for watercraft inspections was July. Further detail by week can be found in Figure 28, where it shows that the last week of May had the highest count of inspection surveys.

The data also allowed us to determine the busiest days and busiest times of day over the course of the inspection season. It is shown that the busiest days for inspections were Monday, followed by Wednesday and Tuesday (Figure 31). These results are influenced by the varied days of the week in which inspectors were staffed at the launch.

Inspections by Week Day

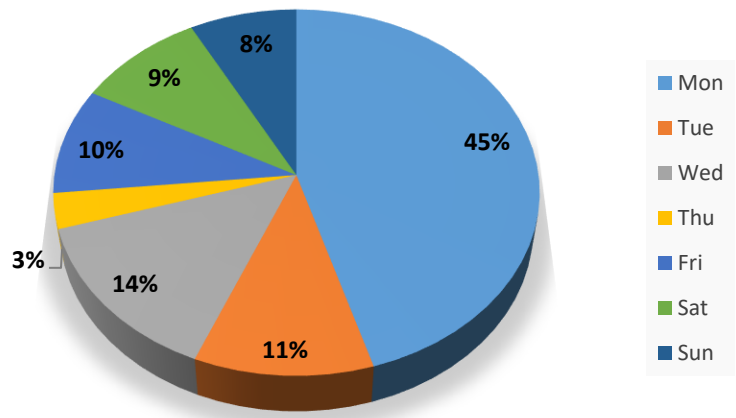
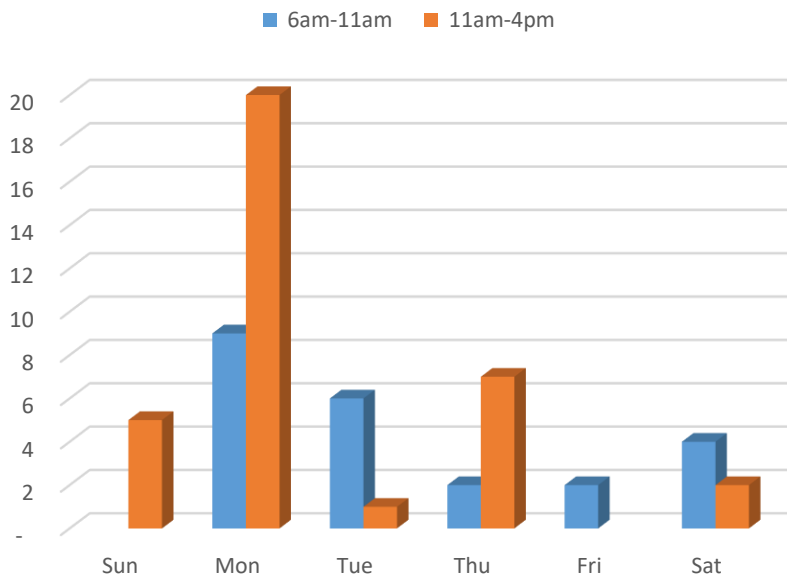


Figure 29: Chart (above) reflects the distribution of completed inspection surveys on Mitchell Lake by day of week during the 2021 inspection season.

Inspections by Time of Day



On Sunday, Monday, and Thursday alike, the data shows that the busiest time of day for inspections is between 11AM to 4PM (Figure 30). The second busiest time of day is shown to be from 6AM to 11AM. No inspections after 4PM were conducted.

Figure 30: Graph (above) reflects the number of inspection surveys reported by day of week at Mitchell Lake during the 2021 inspection season.

Of the entering inspections, the waterbody most visited by boaters prior to entering Mitchell Lake was Mitchell Lake itself, with 14 boaters reporting last being there (Figure 31). The other most common responses were lakes Cedar (2) and Minnewashta (2). This information can help us understand where new AIS infestations arise from since AIS are often unintentionally transported between bodies of water via watercrafts, trailers, and other water-related equipment.

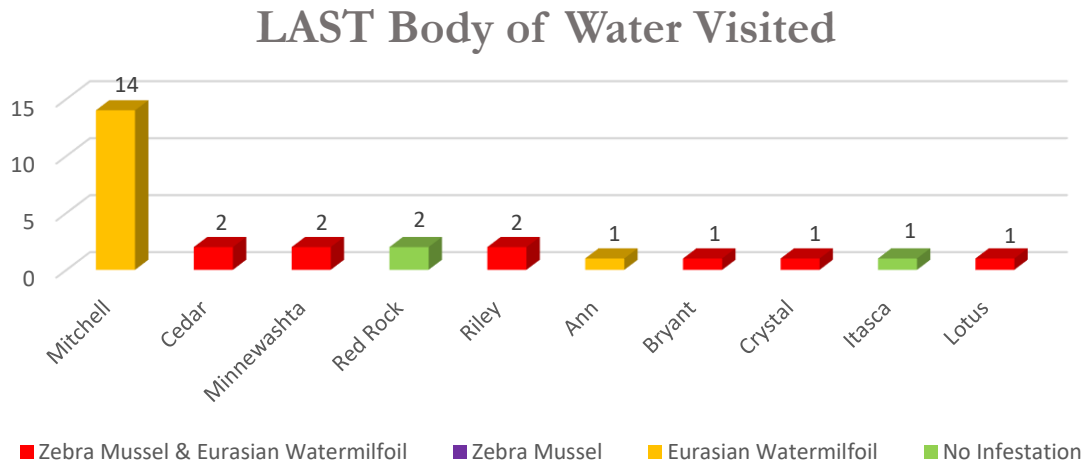


Figure 31: Graph (above) reflects the number of boaters that reported the last lake visited prior to entering Mitchell Lake during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Likewise, of the same entering inspections, the boater responses pertaining to which waterbody they would be visiting next, showed that the majority of boaters leaving Mitchell Lake would be heading right back to Mitchell Lake (14). (Figure 32).

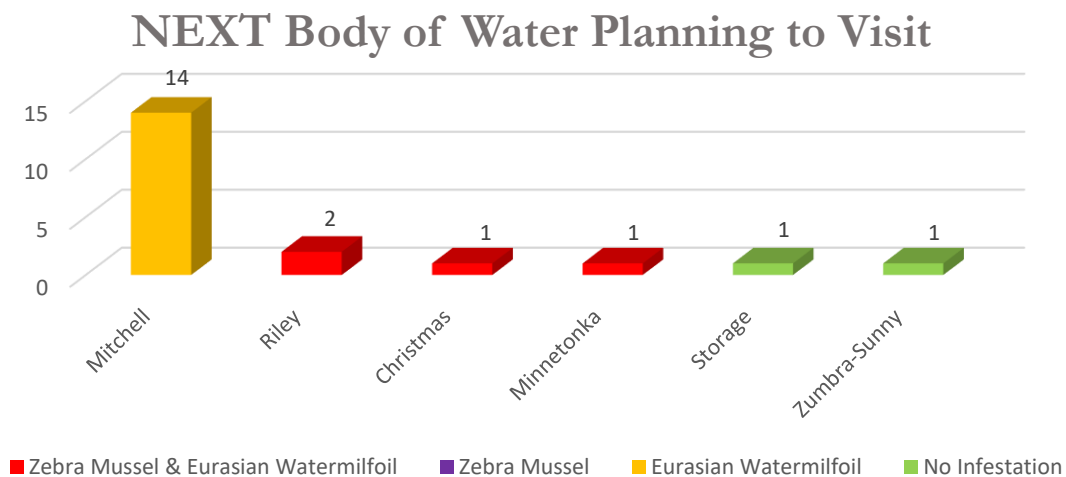


Figure 32: Graph (above) reflects the number of boaters that reported the next lake they expected to visit after Mitchell Lake during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS.

Red Rock Lake

In total, Red Rock Lake was staffed for 194 hours from May 31st through October 22nd and had 36 inspections completed (Table 4). Eden Prairie required inspector staffing eight hours a week, spread out in two, four hours shifts a week which were to be varied each week. This schedule was accomplished, with the exception of a few additional shifts that were put in place to make up for lost hours from the season start date delay.

Table 4: Red Rock Lake 2021 Watercraft Inspection Totals

Month	Enter	Exit	Inspection Hours
May	1	3	4
Jun	3	4	36
Jul	4	3	33
Aug	3	2	47
Sep	9		32
Oct	3	1	42
Total	23	13	194

The inspection survey data reveals that more than half (53%) of all inspections were conducted on canoe/kayaks, while fishing boats were the second most inspected watercraft at 33% (Figure 33). Runabouts and Pontoons accounted for 8% and 6% of the total inspections, respectively.

Type of Watercraft

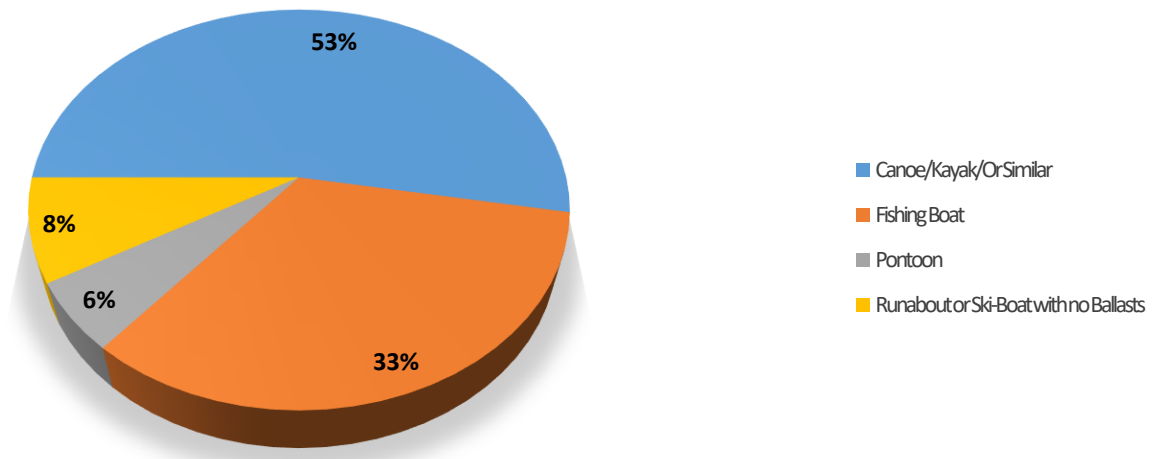
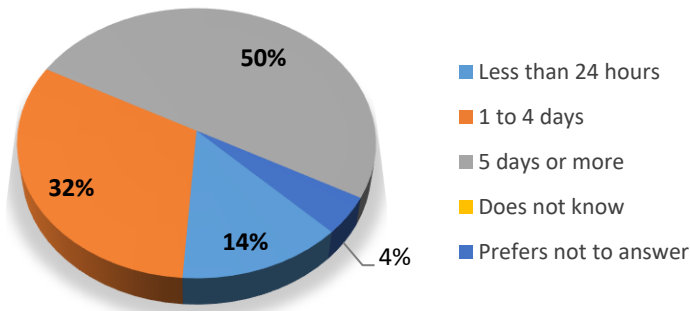


Figure 33: Chart (above) reflects the percentage of total inspections conducted on watercraft types during the 2021 inspection season.

Time out of Water



The data also shows that throughout the 2021 inspection season 50% of watercrafts entering had been left out of any body of water for the recommended 5 days or more, while 32% were reported as only being out for 1-4 days. The remaining 4% of boaters reported that they preferred not to answer. (Figure 34).

Figure 34: Chart (above) reflects the percent of responses from entering boaters at Red Rock Lake regarding the amount of time their watercraft had been out of the water prior to entering.

Inspections by Week

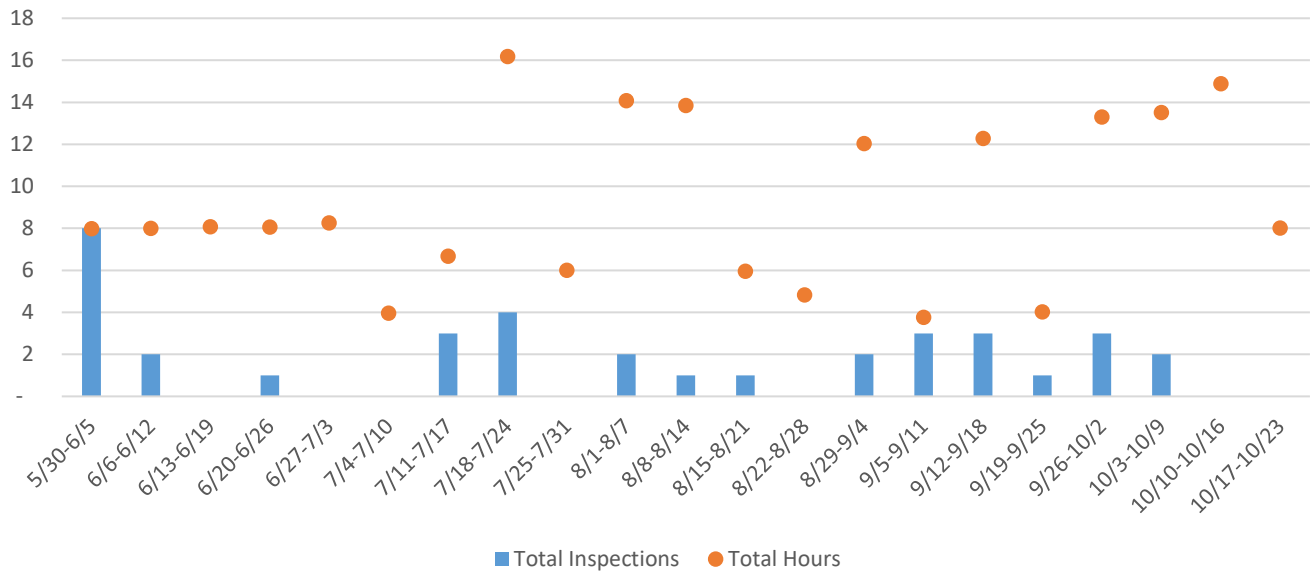


Figure 35: Graph (above) reflects the number of inspection surveys and the hours of inspector coverage logged at Red Rock Lake each week during the 2021 inspection season

From the survey data we determined that the busiest month for watercraft inspections was September. Further detail by week can be found in Figure 35, where it shows that the last week of May has the highest count of inspection surveys at 8.

The data also allowed us to determine the busiest days and busiest times of day over the course of the inspection season. It is shown that the busiest days for inspections were Mondays, followed by Wednesdays and Fridays. (Figure 36).

Inspections by Week Day

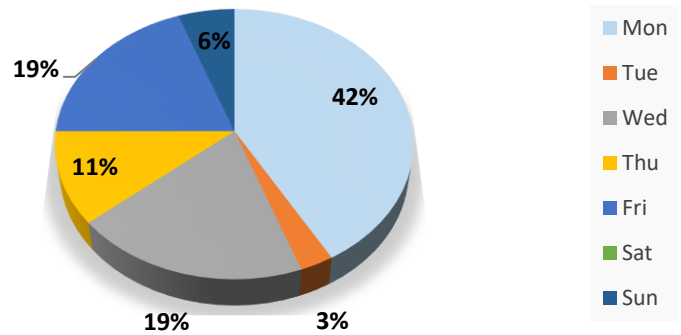
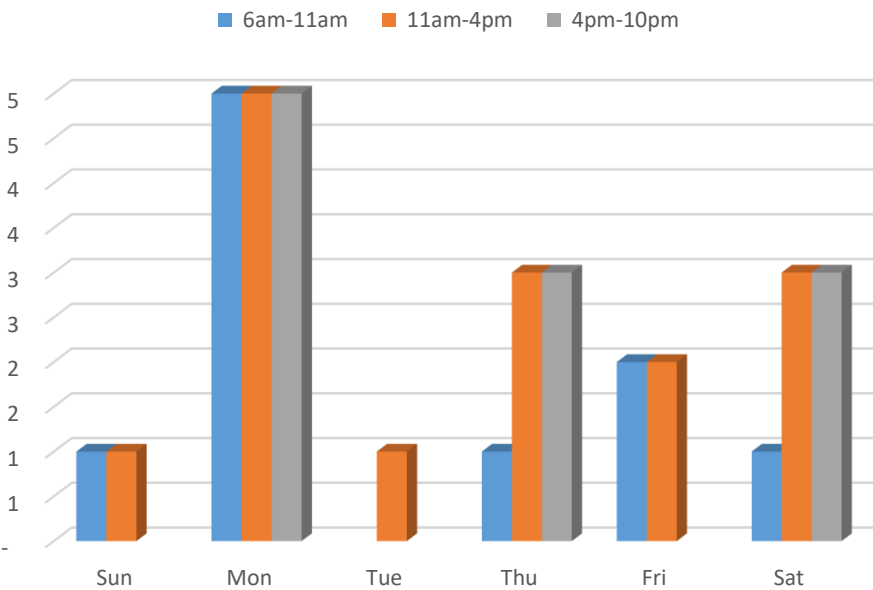


Figure 36: Chart (above) reflects the distribution of completed inspection surveys at Red Rock Lake by day of week during the 2021 inspection season.

Inspections by Time of Day



On Fridays, Saturdays, and Sundays alike, the data shows that the busiest time of day for inspections is between 11 A.M. to 4 P.M. (Figure 37). The second busiest time of day is shown to be from 4 P.M. to 10 P.M.

Figure 37: Graph (above) reflects the number of inspection surveys reported by day of week at Red Rock Lake during the 2021 inspection season.

Of the entering inspections, the waterbody most visited by boaters prior to entering Red Rock Lake was Red Rock Lake itself, with 9 boaters reporting last being there (Figure 38). It should be noted that Red Rock Lake is not infested with Zebra Mussels or Eurasian Watermilfoil. This boater traffic and lake specific AIS knowledge can help us understand where new AIS infestations arise from since AIS are often unintentionally transported between bodies of water via watercrafts, trailers, and other water-related equipment.

LAST Body of Water Visited

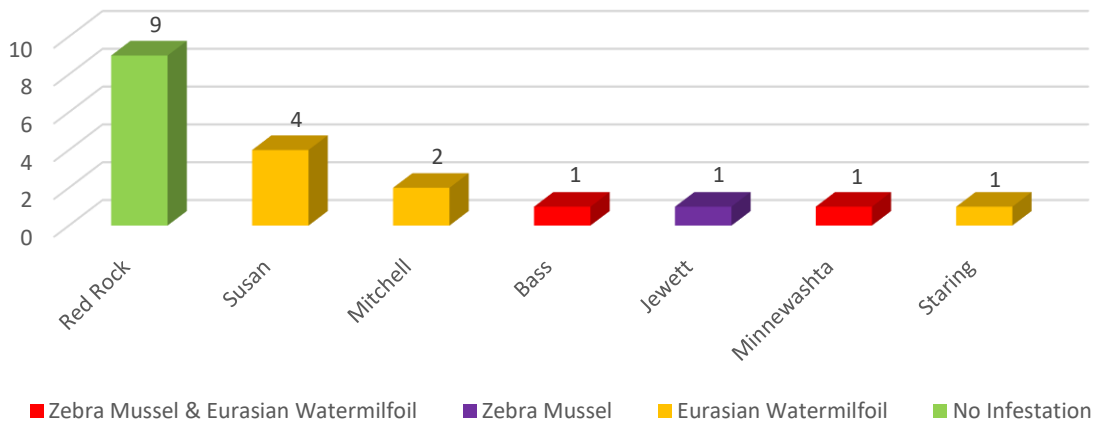


Figure 38: Graph (above) reflects the number of boaters that reported the last lake visited prior to entering Red Rock Lake during the 2021 inspection season.

Likewise, of the same entering inspections, the boater responses pertaining to which waterbody they would be visiting next, showed that the majority of boaters leaving Red Rock Lake would be going back to Red Rock Lake (4) (Figure 39).

NEXT Body of Water Planning to Visit

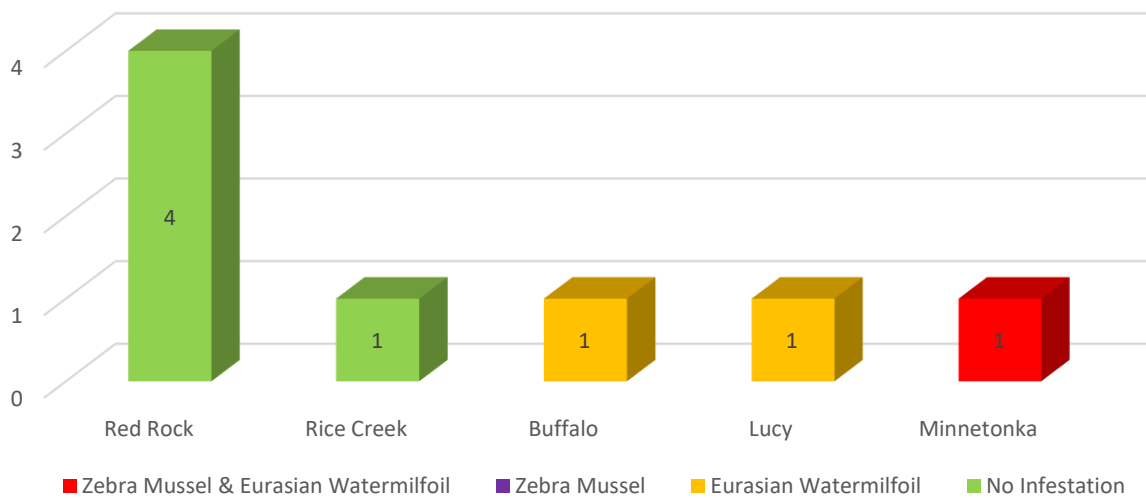


Figure 39: Graph (above) reflects the number of boaters that reported the next lake they expected to visit after Red Rock Lake during the 2021 inspection season. Note: “No infestation” only means that such lakes are not infested with the mentioned AIS. Graph only shows the top ten responses.

Trends

The following graphs were created using the data gathered from the 2021 watercraft inspection program administered by Waterfront Restoration, while data collected from the DNR survey database was used to supply the 2019, 2020, and 2021 counts. Note that because Waterfront Restoration did not administer the 2019 watercraft inspector program, we are unable to compare the difference of inspector coverage hours by lake for each year.

Using this watercraft inspections survey data, we are able to create the following graphs and analyze them to check for trends from season to season within the inspections program. The knowledge gathered from the provided information can then be used by Eden Prairie to adjust and improve the inspection program as desired.

The percent of traffic on Lake Riley and Red Rock slightly increased in 2021, while traffic on Mitchell Lake decreased (Figure 40). Lake Riley remains by far the busiest lake.

Survey and Coverage Data

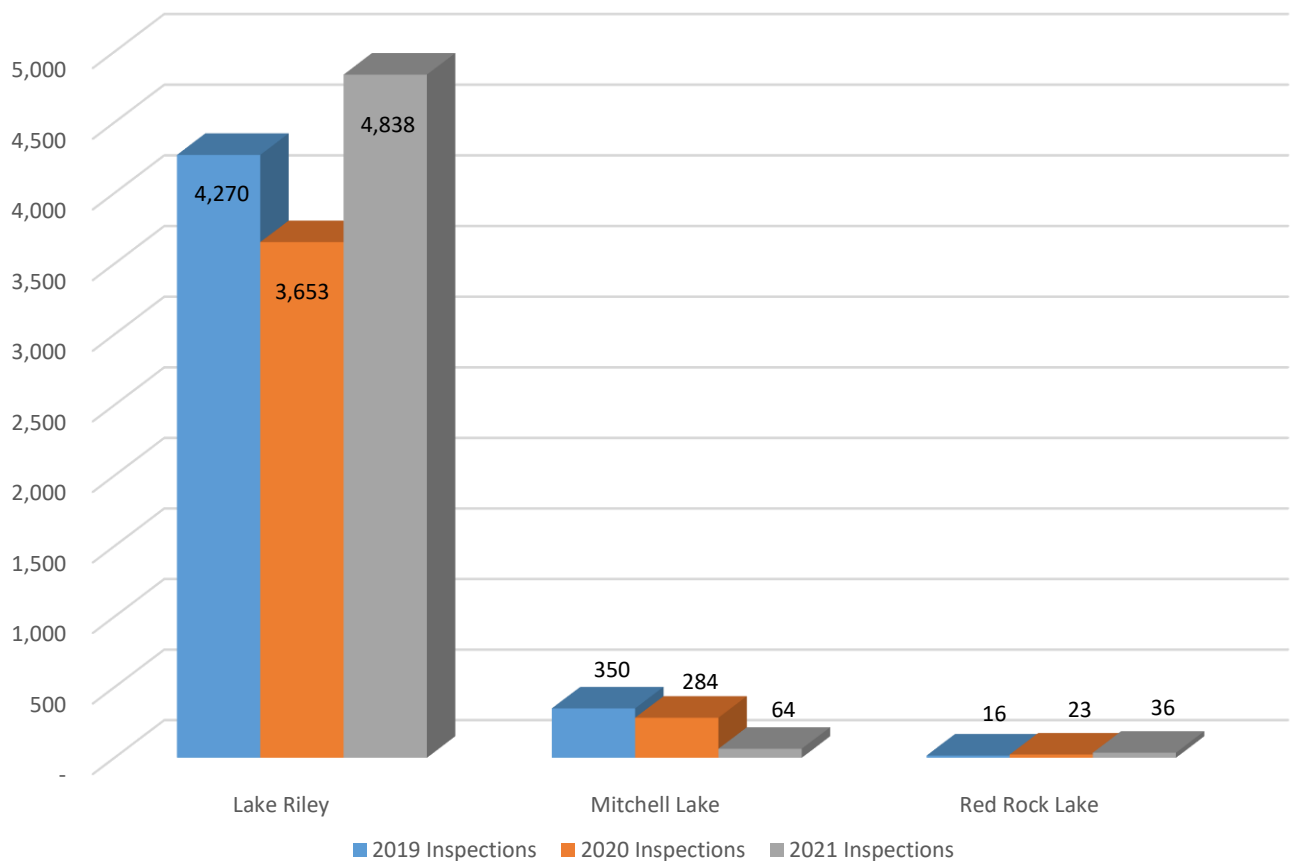


Figure 40: Graph (above) shows the comparison of inspection surveys completed at each lake between 2019, 2020 and 2021

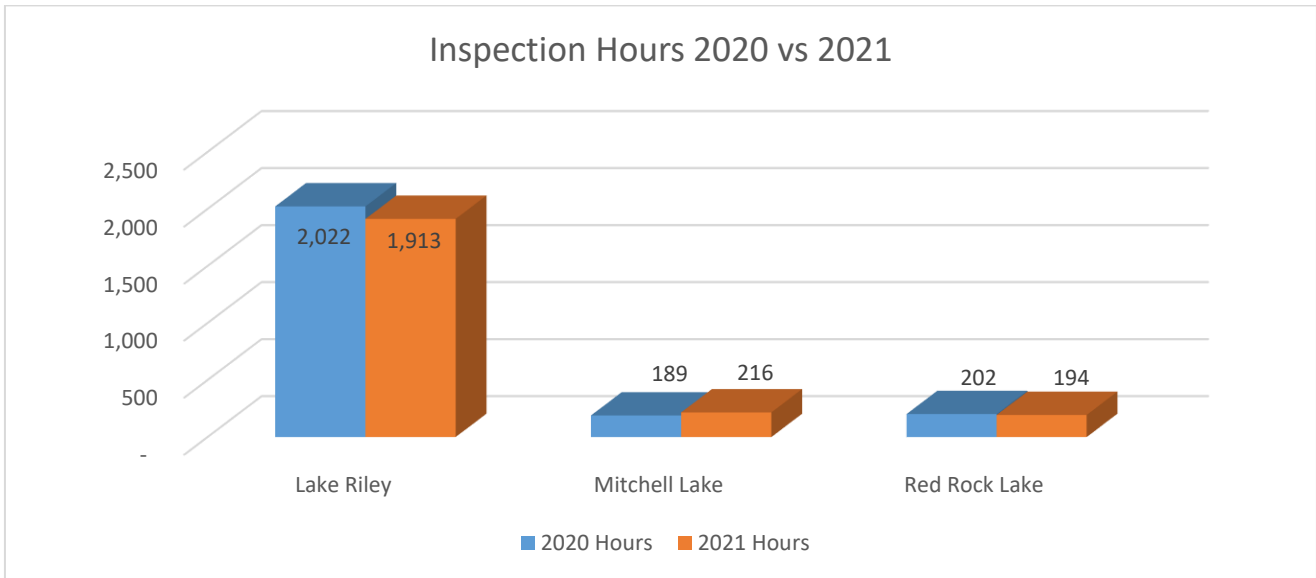


Figure 41: Graph (above) shows the comparison of inspection hours completed at each lake between 2020 and 2021

Lake Riley Inspections by Month 2019, 2020 and 2021

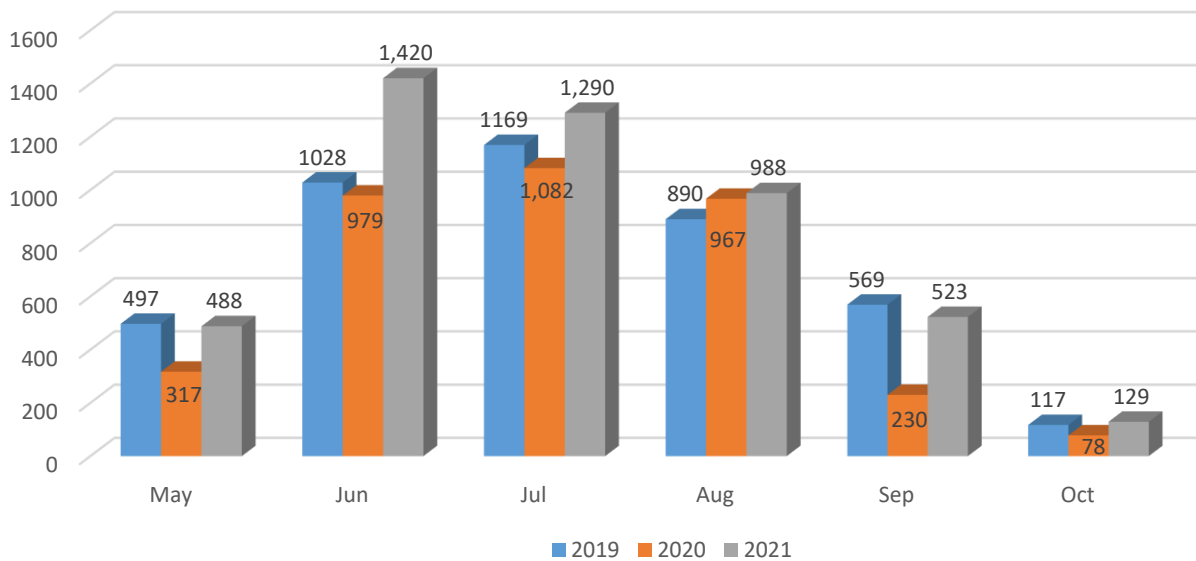


Figure 42: Graph (above) shows the comparison of inspection surveys completed by month at Lake Riley in 2019, 2020 and 2021

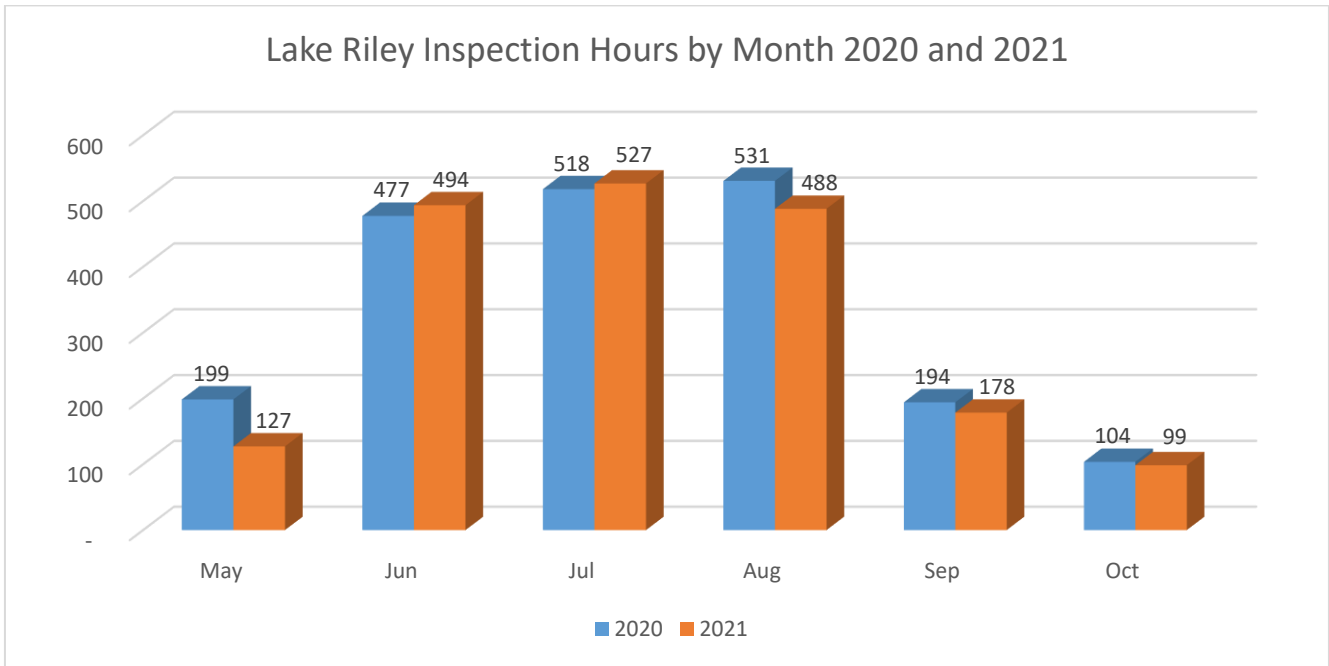


Figure 43: Graph (above) shows the comparison of inspection hours completed by month at Lake Riley in 2020 and 2021

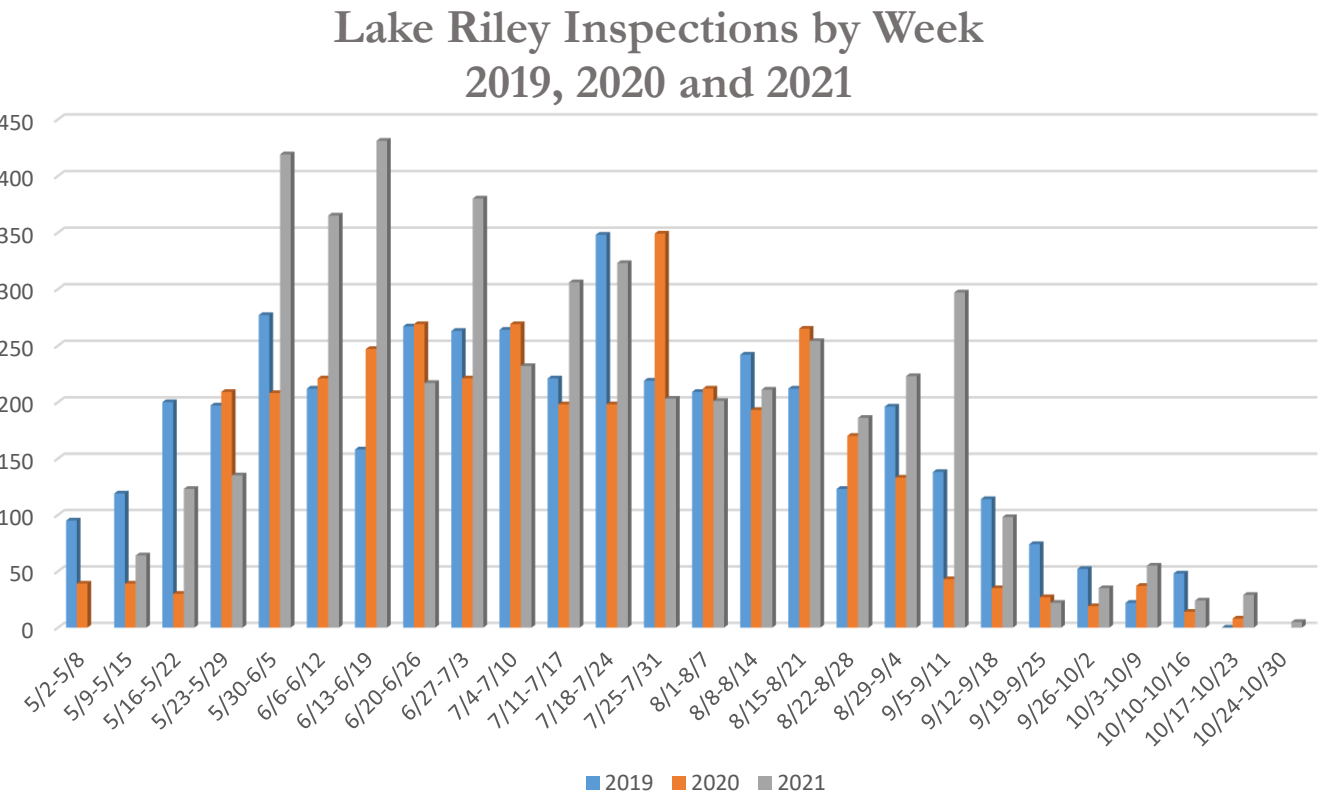


Figure 44: Graph (above) shows the comparison of inspection surveys completed by week at Lake Riley in 2019, 2020 and 2021

Entering watercraft that arrive at a lake access with their drain-plug in and/or arrive with aquatic plants, water, or mud in or on their watercraft are in violation of MN law. Figure 41 shows the number of these cases reported over the last three years. In 2021 MN AIS law violations decreased by 0.5% from 2020, while drain plug violations increased by 0.5%.

Comparison of MN AIS Law Violation

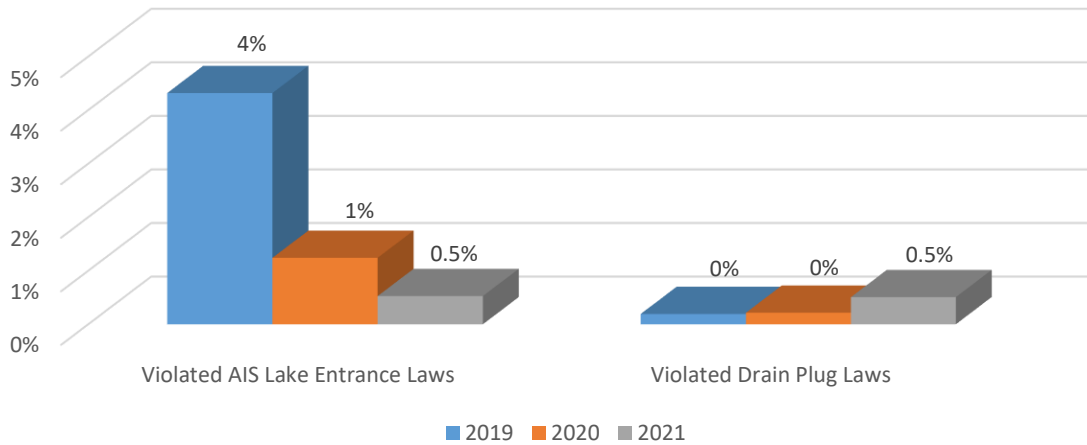


Figure 44: Graph (above) shows the comparison of the percent of total boaters that violated Minnesota Aquatic Invasive Species (AIS) Laws between 2019, 2020, and 2021.

Over the past three years, the most common finding remains to be plants removable by hands (Figure 42). It also appears that in 2021 plants (removable by hand) have dropped significantly compared to 2019.

Comparison of Findings at Entrance by Year

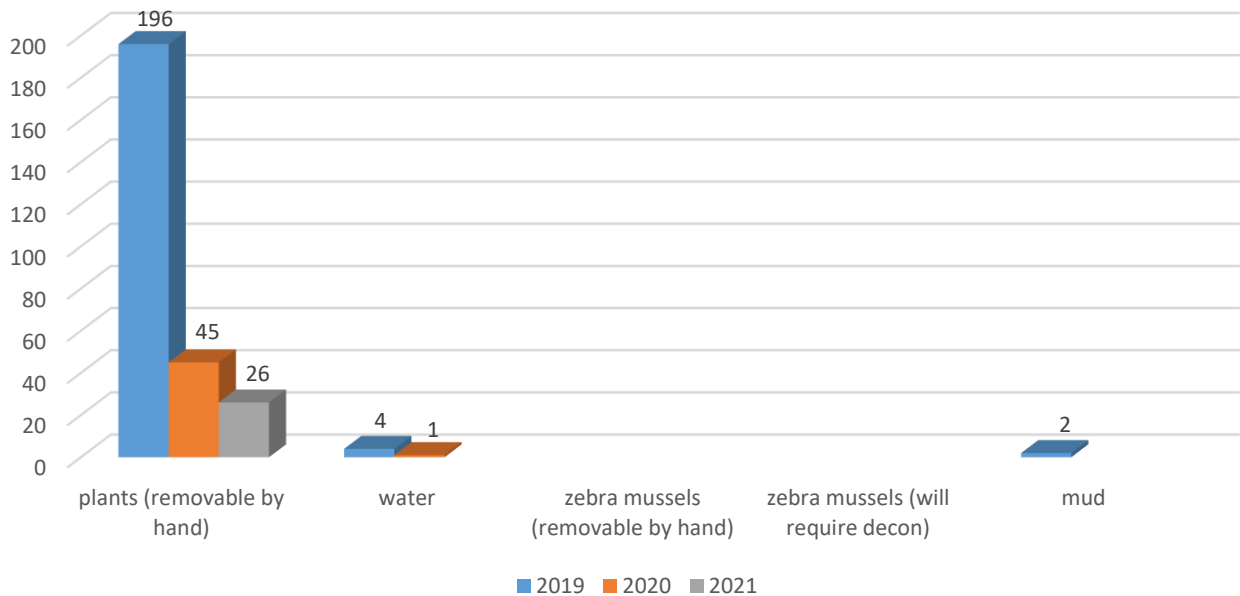


Figure 45: Graph (above) the comparison of findings during entering inspections between 2019, 2020, and 2021.

Summary and Comments

The 2021 watercraft inspection staffing began on May 15th and concluded on October 24th. Of the 2,365 contracted inspector hours for the season 2,322 were fulfilled (98.2% of all contract hours). The 43 staffing hours short of the contract not to exceed amount was primarily due to staffing challenges and inspector availability during the first and last month of the season. According to the survey data, 2021 saw an increase of almost 1,000 watercraft inspections in the City of Eden Prairie compared to 2020. Factors contributing to this increase in traffic at the launches is likely due to the more favorable weather in May, June and September compared to last year. Boating is still encouraged as a safe activity to do during the pandemic. Lastly, there was also the unfortunate circumstance of losing an unknown number of surveys in 2020 because of a tablet malfunction.

Key impacts from 2021 watercraft inspection season:

- In total, Inspectors conducted 2.13 inspections per hour vs 1.64 per hour in 2020. The average at Lake Riley was 2.52 inspections per hour.
- AIS law compliance improved overall but drain plug violations increased. Inspectors made numerous comments to management throughout the season that the majority of boaters seem to have a strong understanding on their responsibility in preventing the spread of AIS.
- Inspectors offered public assistance at the boat ramp. At times this included directing traffic in the parking lot, holding a watercraft on the dock while a vehicle was retrieved, and on one occasion helping a person trailer their watercraft safely to avoid a major accident.
- Explained and encouraged the usage of the CD3 machines
- Represented the company and City of Eden Prairie in a polite and professional manner.
- Successfully enforced the state AIS statutes.

Recommendations for 2022 watercraft inspection season:

- Continue with full coverage at Lake Riley and consider more weekday coverage prior to Memorial Day.
- Expand inspector coverage to other Eden Prairie lakes. Bryant Lake being a potential location for coverage in the future. Red Rock and Mitchell have low traffic volume and those 400 hours could be reassessed.
- Continue to provide and refresh educational AIS material handouts that Inspectors can give to boaters.

Overall, the watercraft inspection season was another success! Thank you for trusting Waterfront Restoration to recruit, staff, train, and manage a team of dedicated inspectors to help protect the City of Eden Prairie lakes. We look forward to continuing our services to the city, and the people who enjoy the lakes next season.

Appendix

[Why do watercraft inspections?](#)

[County Funding - How it works](#)

[Entering Inspection](#)

[How are your watercraft inspectors trained and what is your inspection protocol?](#)

[Little known facts about inspections](#)

[Should our county or lake consider expanding inspections to include more weekday shifts?](#)

[Watercraft Inspection Checklist](#)

[What are some of the AIS CURRENTLY on other lakes within Hennepin County?](#)

[What are some of the AIS laws and Penalties?](#)

[What risks are on the horizon in terms of AIS?](#)

[Other questions](#)

6. Do you have suggestions for improving the statewide inspection program for the future? If yes, please provide a description below. This information may be used at annual off-season inspection meetings.

7. Are you planning on piloting any new inspection protocols or procedures next year? If yes, please provide a description below. DNR will need to review and approve any proposed new procedures.