



Aquatic Invasive Species Watercraft Inspection Report 2018

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2018 Inspection Program Summary

General Inspection Information

Carver County's Aquatic Invasive Species (AIS) watercraft inspection program is administered by the Planning and Water Management Department. The county partners with the MN Department of Natural Resources (MN DNR), Minnehaha Creek Watershed District (MCWD), and the City of Chanhassen to provide watercraft inspections at 11 lakes. Five of these lakes are within the Carver County Water Management Organization (CCWMO) boundaries, which include Lake Waconia, Bavaria, Hydes, Eagle, and Reitz. Three lakes are in the Minnehaha Creek Watershed District (MCWD), including Lake Minnewashta, Pierson, and Wasserman, and three lakes are in the City of Chanhassen; Lotus, Ann, and Susan.

The 2018 inspection program began on May 12th and concluded on September 3rd, except for Waconia and Minnewashta which concluded on October 31st, and Lotus Lake which concluded on November 15th. According to official MN DNR inspection data, 19,807 watercraft inspections took place in Carver County during this time (Table 1). Overall, there were 11,565 entering inspections, 8,177 exiting inspections, 13 courtesy inspections, and 50 unclassified (Lake Service Providers). Lake Waconia accounted for the largest portion of the inspections at 45% followed by Lake Minnewashta and Lotus Lake at 23% and 15% respectively (Figure 1).

Table 1: 2018 AIS Program Totals

Lake Name	Number of Inspections
Ann	454
Bavaria	1,351
Eagle	3
Hydes	7
Lotus	2,993
Minnewashta	4,505
Pierson	1,186
Reitz	27
Susan	176
Waconia	8,975
Wasserman	130
Total	19,807

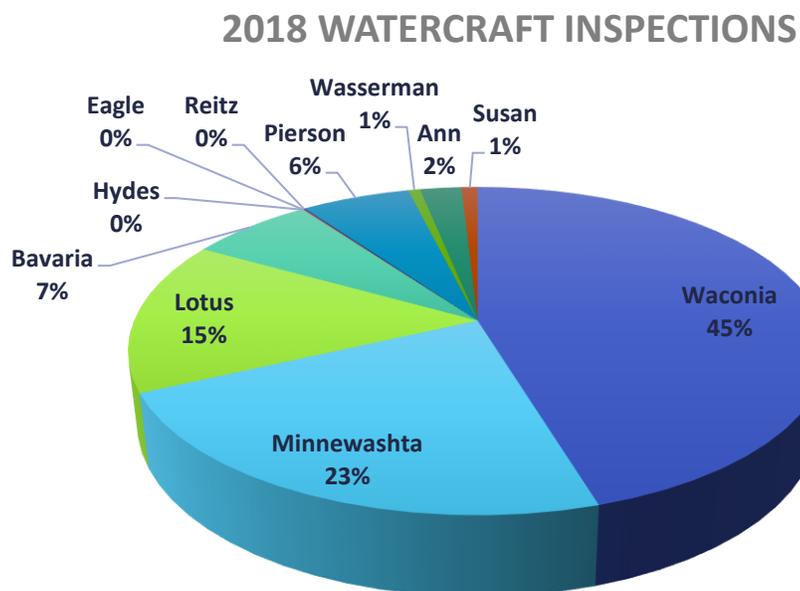


Figure 1: The above chart shows the percent of inspections conducted at each lake during the 2018 inspection season.

Inspection data shows that 66% of inspections were conducted on fishing boats (Figure 2). The second most common type of watercraft was runabouts (18%). The remaining common watercraft types were pontoons, personal watercrafts, wakeboard boats (each accounting for 4% of the total inspections), and canoes/kayaks at 3%. Canoes/kayaks, Jon Boats, and Sailboats each accounted for 1% of the total inspections, while Boat Lift/Docks and Wakeboard Boats with Ballasts each accounted for 0%.

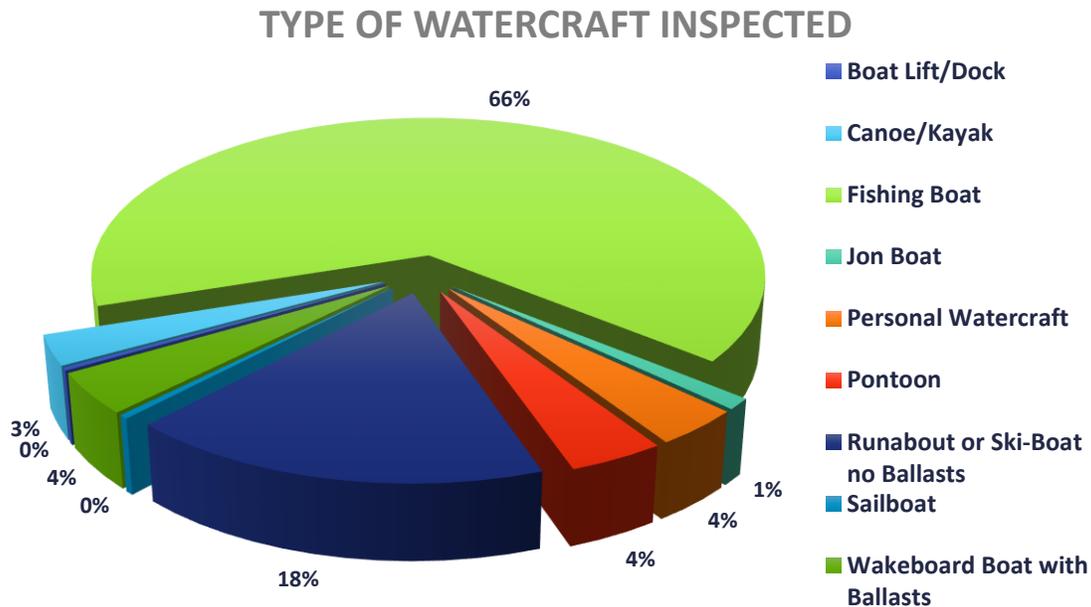


Figure 2: The above chart shows the percent of inspections conducted on each watercraft type throughout the 2018 inspection season.

Throughout the 2018 inspection season, roughly 64% of incoming boaters reported that the watercraft was out of water for the recommended 5 days or more (Figure 3). However, a total of 34% of incoming boaters reported that the watercraft had been out of water for less than that. Twenty five percent reported 1-4 days while 9% reported less than 24 hours. One percent reported they prefer not to answer, and one percent does not know.

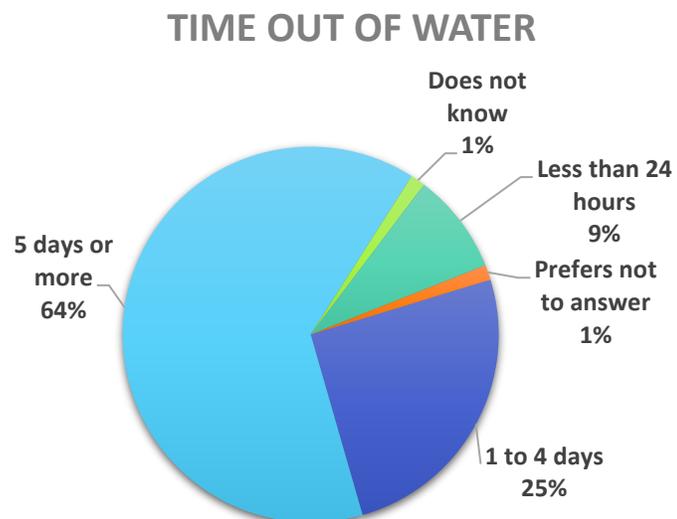


Figure 3: The above chart shows the reported amount of time out of water by incoming boaters throughout the 2018 inspection season.

The majority of watercrafts were trailered by vehicles from Minnesota (98.5% or 19,492). The remaining 1.5% (or 315) of watercrafts came from 31 different states. The state most reported was Wisconsin at a total of 78, followed by Iowa and Florida at 35 and 26 (Figure 4). As AIS laws vary by state, it is important that out-of-state boaters know and adhere to Minnesota laws. This can be done through signage at accesses, through the inspectors, etc. It is important to note that when reporting the state from which the watercraft was from, inspectors look at the trailering vehicle license plate.

NUMBER OF OUT-OF-STATE WATERCRAFT INSPECTED

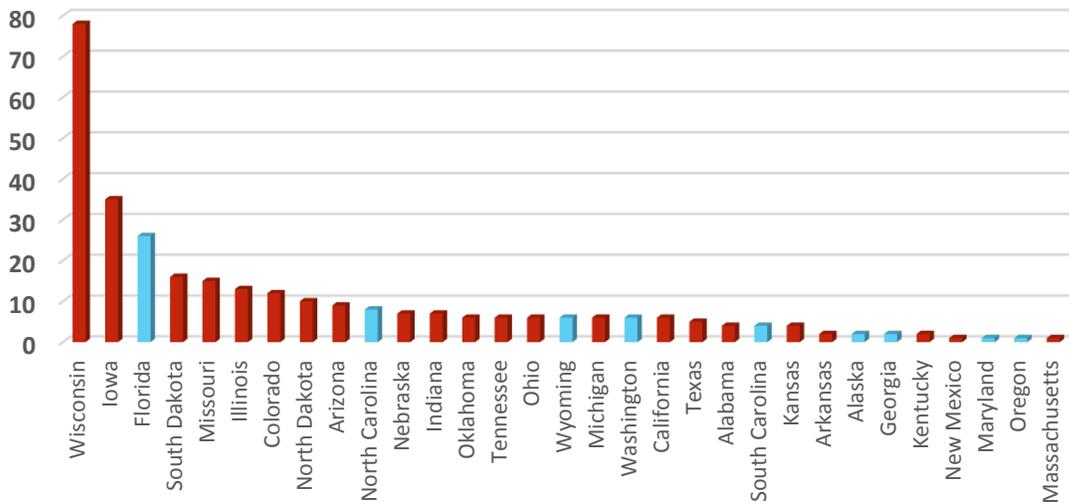


Figure 4: The above chart shows the number of watercrafts inspected by state. States with red bars have waterbodies with confirmed invasive mussel infested waters.

According to the survey data, the busiest day of the week was Saturday at 27% but with a difference of only 72 inspections, Sunday closely followed at 25% of all inspections (Figure 5).

INSPECTIONS BY DAY OF WEEK

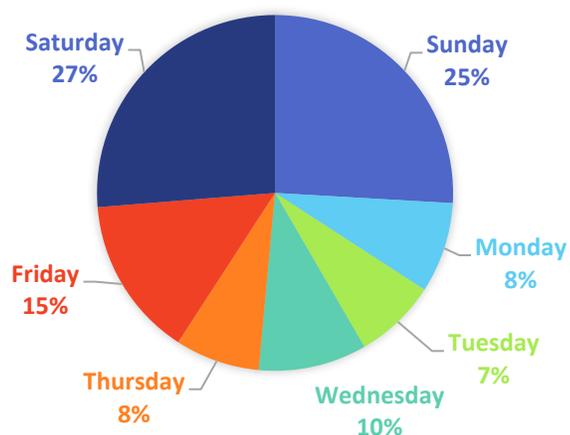


Figure 5: The chart shows the distribution of inspections by day of the week for the entire 2018 inspection season.

Inspection Findings and Violations

There was a total of 654 inspections that were in violation of MN AIS laws (3.3%). This includes violations found during entrance inspections which totaled 447 along with drain plug violations which totaled 207. Approximately 1,678 exit inspections resulted in at least one finding on or in the watercraft, equipment, or trailer. These findings are not considered violations as they were caught prior to the watercraft leaving the access. However, AIS found on exit inspections are important to know as they help determine what could be leaving a lake and entering a new lake if the inspection program was not in place.

Of the 447 entrance inspections, plants (removable by hand) were the most common finding (69%). The second most common violation was standing water in the watercraft (25%) (Figure 6). There was a total of 10 zebra mussel violations, 5 of which required decontamination.

FINDINGS AT ENTRANCE

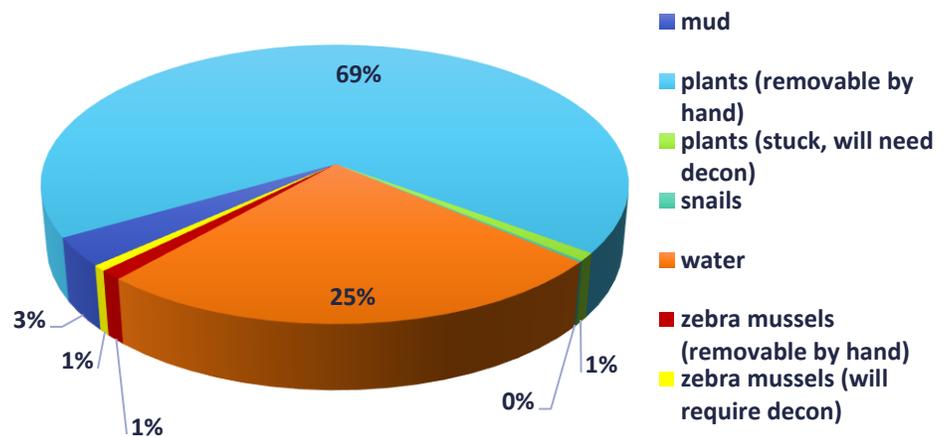


Figure 6: The above chart shows the variety of species found on incoming watercrafts, trailers, and water-related equipment. These findings are considered violations of MN AIS Laws.

FINDINGS AT EXIT

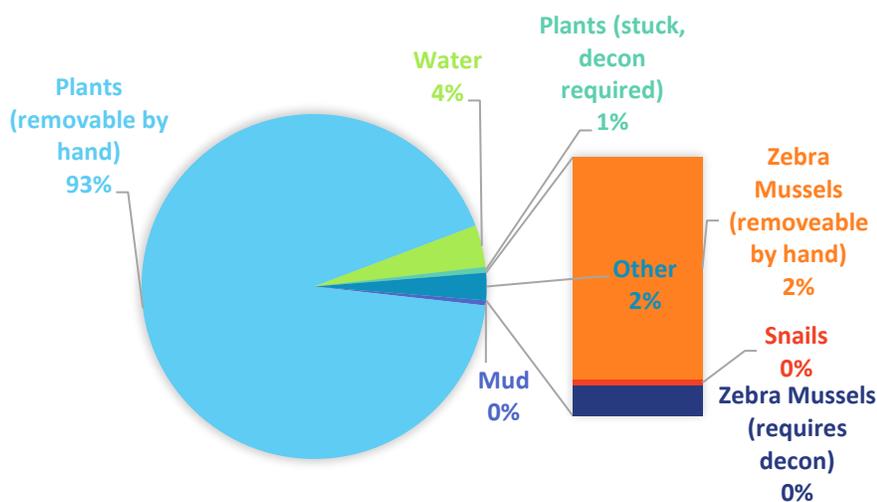


Figure 7: The above chart shows the distribution of species found during exit inspections only. NOTE: These are not counted as violations.

Of the 1,678 exiting inspections where a potential AIS violation was found, 93% were plants (removable by hand). The next most common type was standing water at 4% (Figure 7). There was a total of 41 zebra mussel findings during exit inspections, 5 of these findings required decontamination.

Carver County Water Management Organization Lakes

Lake Waconia

General Inspection Information

Lake Waconia was the leading lake in terms of total inspections. However, since Lake Waconia has high levels of traffic it is staffed more often than other lakes. In total, Lake Waconia was staffed for 2,002.5 hours from May 12th to October 15th. During this time there were 8,975 inspections (Table 2).

The most common type of watercraft inspected at Lake Waconia was fishing boats accounting for 72% of the total inspections. The second most common type of watercraft was runabouts/ski-boats at 15%. Pontoons, wakeboard boats, and personal watercrafts followed at 5% and 3% respectively (Figure 9).

Table 2: Lake Waconia Inspection Types

Inspection Type	Count
Entering	5,384
Exiting	3,576
Courtesy	4
Unclassified	11
TOTAL	8,975

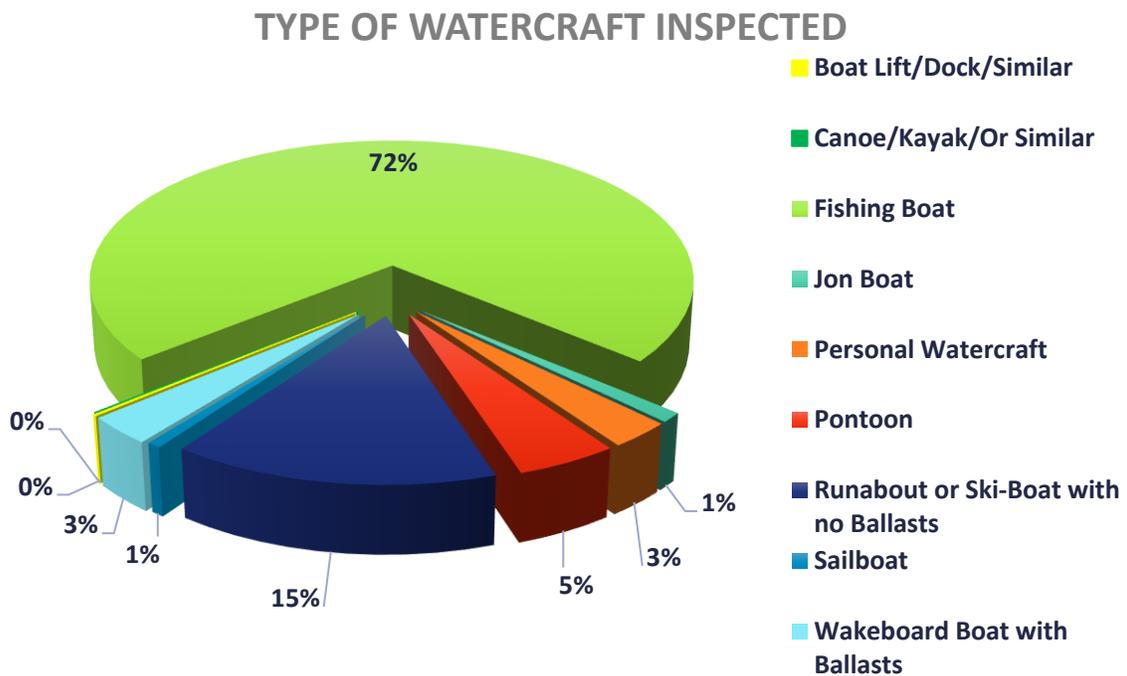


Figure 9: The above chart shows the percentage of inspections conducted on each type of watercraft.

The majority of entering lake users reported that the watercraft under inspection had been out of water for the recommended 5 days or more (Figure 10). However, 35% reported that the watercraft had been out of water for less than the recommended time (26% reported 1-4 days and 9% less than 24 hours).

TIME OUT OF WATER

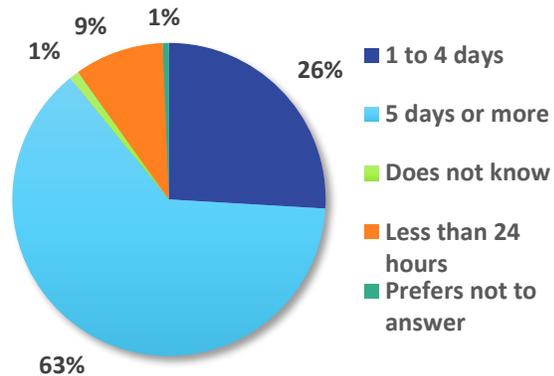


Figure 10: The above chart shows boaters' responses when asked how long the watercraft was out of water during entrance inspections.

Roughly 99% of incoming watercrafts were from Minnesota. The 1% of out-of-state watercrafts encompasses 23 different states (Figure 11).

OUT OF STATE WATERCRAFTS

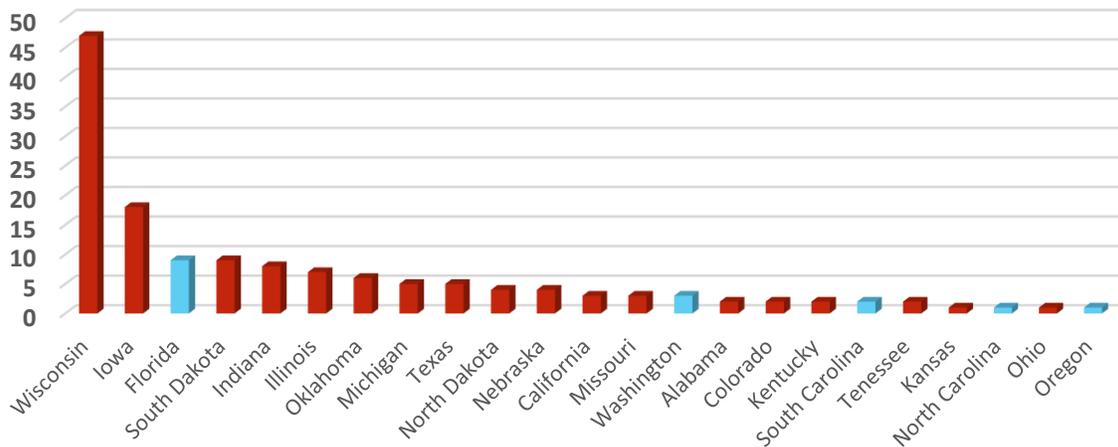


Figure 11: The above chart shows the number of inspections conducted on out-of-state watercrafts entering Lake Waconia. **Note:** States with invasive mussel infested waters are indicated in red.

Wisconsin was the most recorded state, making up 33% of all out-of-state watercraft inspections, followed by Iowa and Florida at 13% and 6%. Many of the states from which watercrafts came have waterbodies infested with invasive mussels. It is important to thoroughly inspect these watercrafts and ensure boaters follow the MN AIS Laws, as they vary from state-to-state.

During the 5,384 entrance inspections, 32% of boaters reported that the last lake the watercraft had been in was Lake Waconia. However, the most common responses of lakes other than Lake Waconia included Lake Minnetonka, Lake Minnewashta, Mille Lacs, and Prior Lake, all of which are zebra mussel infested waters (Figure 12). Invasives are often transferred unintentionally from one lake to another via trailer, watercraft, or water-related equipment.

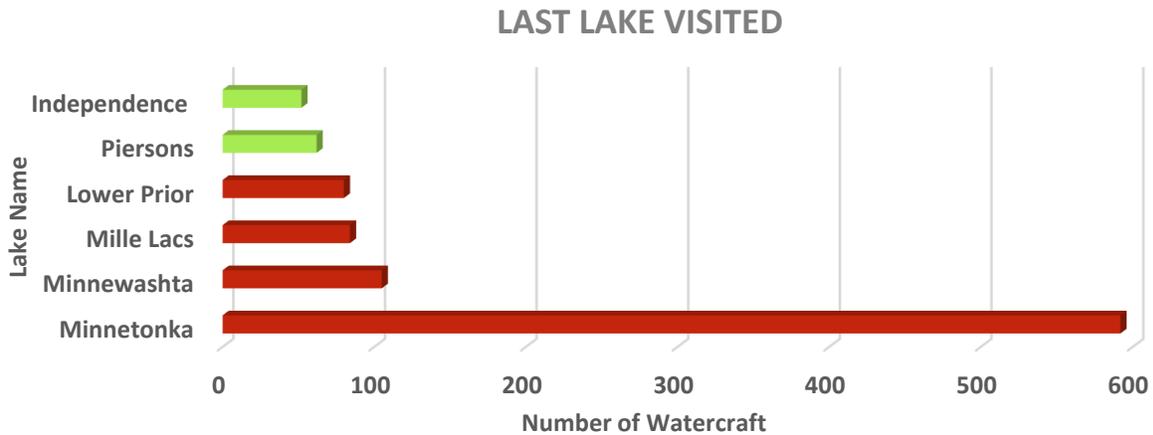


Figure 12: The above chart displays the number of watercrafts that had last launched on a lake other than Waconia. **Note:** Graph only shows the top 6 responses.

Lake Waconia had an inspector on duty 7 days a week for at least 12 hours a day. Inspection data shows that most inspections were conducted on Saturdays (27%) followed closely by Sundays (23%), including both entrance and exit inspections (Figure 13).

Inspection surveys were grouped into 1 of 3 timeframes: 6am-10:59am, 11am-3:59pm, and 4pm-8pm. Overall, 11am-3:59pm was the busiest time with 45% of all inspections (exit and entrance) conducted during this time frame.

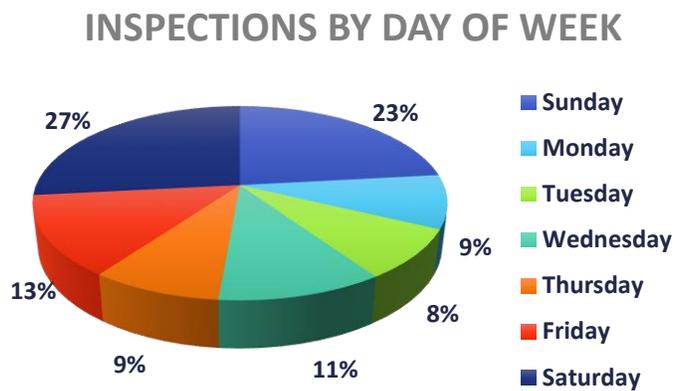


Figure 13: The above chart shows the distribution of inspections by day of the week.

Weekend afternoons were the busiest times for Lake Waconia inspectors, more than double the number of inspections on weekdays (Figure 14). During the week, the afternoons (11am-3:59pm) and evenings (4pm-8pm) are the busiest times.

INSPECTIONS BY TIME OF DAY

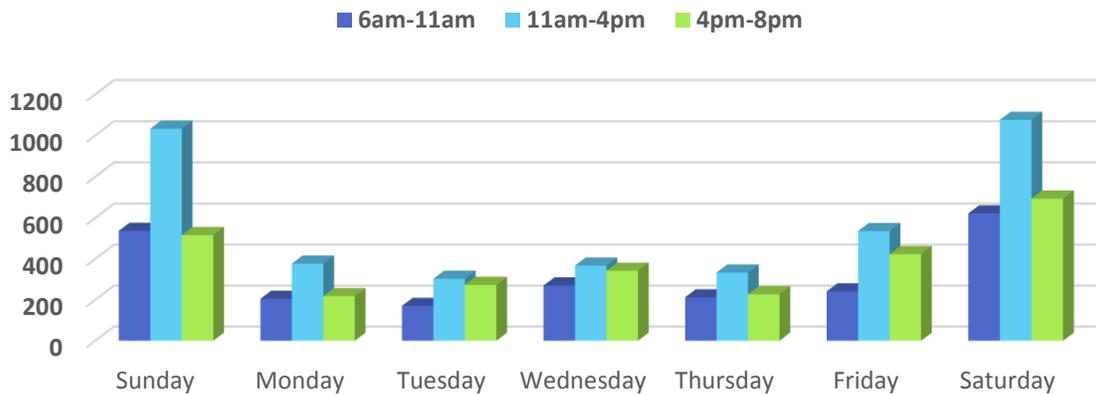


Figure 14: The above chart shows the number of inspections by time of day. Note: this data set only includes inspections conducted at the Waconia access while inspectors are present.

Inspection Findings and Violations

Overall, there were a total of 194 violations of MN AIS Laws (2% of all inspections conducted). This includes drain plug violations (144) and AIS found during entrance inspections (50). During entrance inspections, most violations (84%) were due to plants (removable by hand) found on the watercraft, trailer, or equipment (Figure 15). Zebra mussels were found during 2 entrance inspections, both of which required decontamination.

FINDINGS AT ENTRANCE

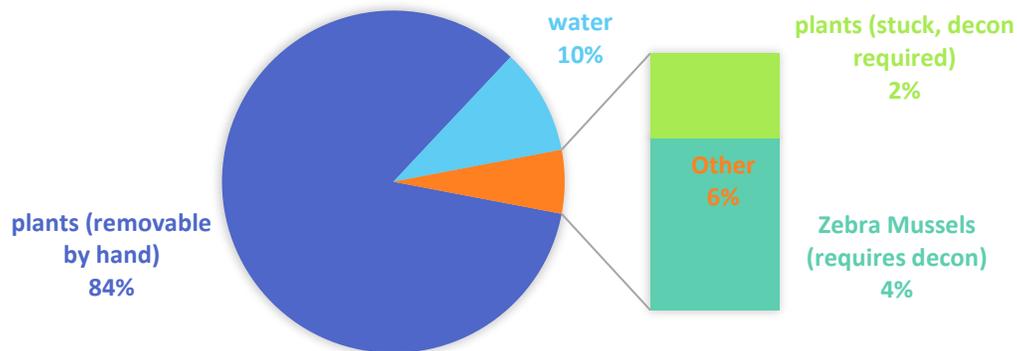


Figure 15: The above chart shows the species found during entrance inspections only. These are considered violations.

Of all the inspections where AIS, vegetation, mud, or water were found (727), exit inspections made up 93% (or 677). Though these are not considered violations upon exit, it is important to know what is coming out of the lake and could potentially enter another if exit inspections were not in place at the access. The most common discovery during exit inspections were plants (removable by hand) making up 93% (or 626). Water was found on exit in 7 cases. A total of 41 inspections resulted in zebra mussel findings (5 would require decontamination while 36 were removable by hand) (Figure 16). All watercrafts that had zebra mussel findings were reportedly in the water for less than 24 hours.

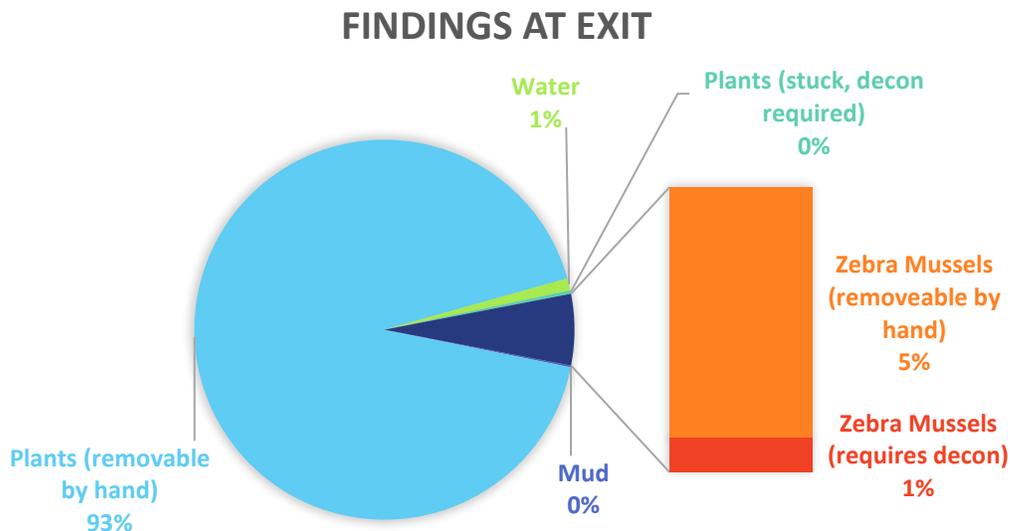


Figure 16: The above chart shows the percent of species found on exit inspections only. These are not considered violations.

Plants (removable by hand) were the most common finding at both entrance and exit inspections accounting for 92% followed by zebra mussels (removable by hand) at 5% and zebra mussels that require a decontamination at 1%. Unfortunately, data does not show whether the plants found were invasive.

Lake Bavaria

General Inspection Information

Lake Bavaria received a total of 984 staffed hours from May 12th to September 3rd plus a few extended season days during November to catch duck hunter traffic. During this time, 1,351 inspections were conducted (Table 3). Lake Bavaria is staffed all day on Friday, Saturday, and Sunday. However, during weekdays it is only staffed in the morning (6am-10am). Inspection data shows that of the 1,485 inspections at Lake Bavaria, 686 (or 51%) were conducted on fishing boats followed by runabouts/ski with no ballast tanks at 22% (Figure 17).

Table 3: Lake Bavaria Inspection Types

Inspection Type	Count
Entering	790
Exiting	558
Courtesy	3
TOTAL	1,351

boats

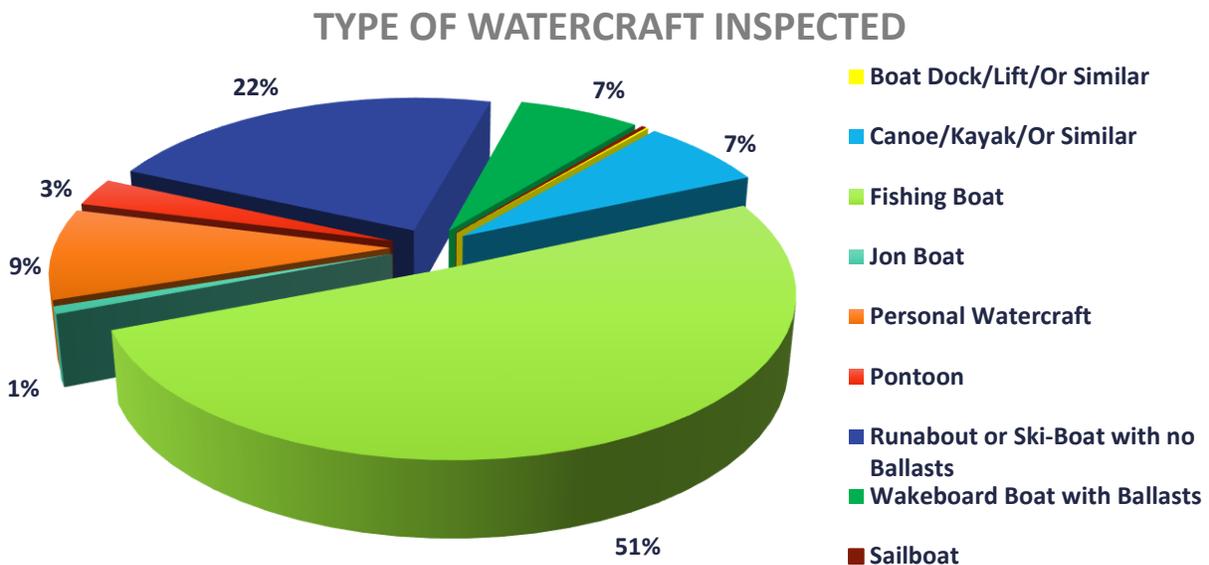


Figure 17: The above chart shows the distribution of inspections by type of watercraft inspected.

The majority of incoming watercrafts were reportedly out of water for the recommended 5 days or more (Figure 18). However, 31% (or a total of 244) reported less than 5 days. 22% reported a dry time of 1-4 days while 9% reported less than 24 hours.

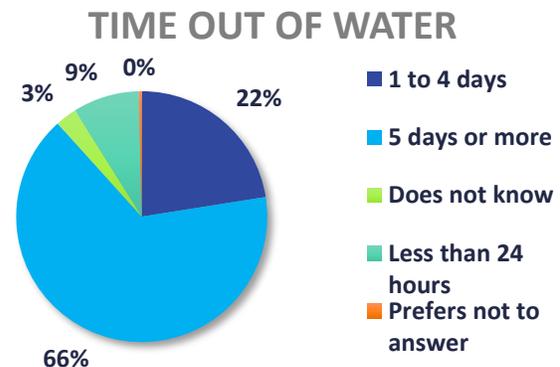


Figure 18: The above chart shows the reported amount of time watercrafts were out of water prior to entering Lake Bavaria.

Ninety-eight percent of all watercrafts inspected at Lake Bavaria were from Minnesota. However, the 2% (25) of out-of-state watercrafts were from 10 different states, 7 of which have waterbodies infested by invasive mussels (Figure 19).

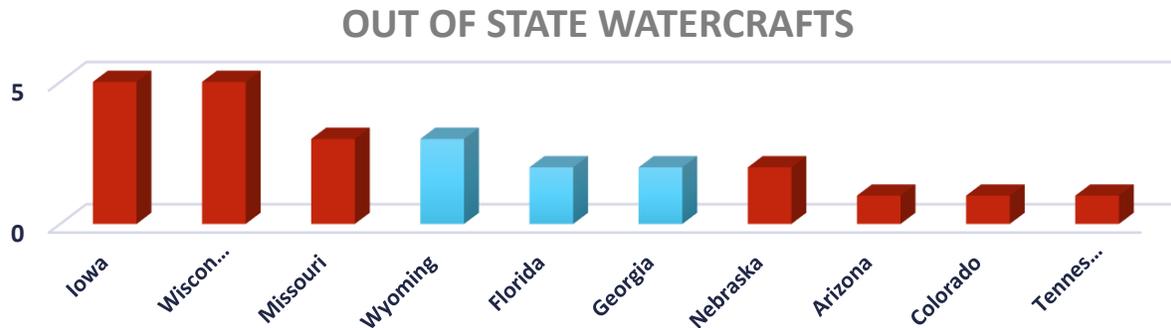


Figure 19: The above chart shows the number of inspections conducted on out-of-state watercrafts entering Lake Bavaria. **Note:** States with invasive mussel infested waters are indicated in red.

Of the 1,351 watercrafts inspected, 25% (337) had last been on Lake Bavaria. According to inspection data, other than Lake Bavaria, Lake Minnetonka was the most common lake previously visited totaling 48 reports. Lake Minnetonka was closely followed by Lake Waconia at 41 reports (Figure 20). Both of these lakes are infested with zebra mussels. Roughly 40 of the watercrafts coming from 1 of these 2 lakes reported that the time out of water was less than 5 days (28 reported 1-4 days while 13 reported less than 24 hours). Though the watercrafts may have been decontaminated prior to entering Lake Bavaria, not meeting the recommended dry time increases the potential for infestation of zebra mussels.

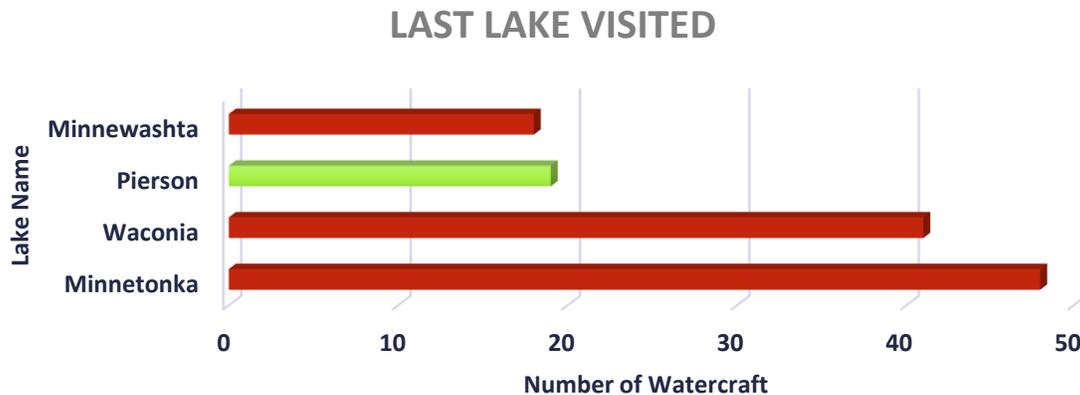


Figure 20: The above chart displays the number of watercrafts that had last launched on a lake other than Lake Bavaria. **Note:** Graph only shows the top 4 responses and lakes infested with zebra mussels are indicated in red.

Weekends were the busiest for inspectors at Lake Bavaria, specifically Sundays with a total of 490 inspections conducted (Figure 21). However, as mentioned, the access is staffed all day on weekends and only in the morning during weekdays therefore the data may not accurately portray the busy times at the access but rather the busy times during staffed hours.

INSPECTIONS BY DAY OF WEEK

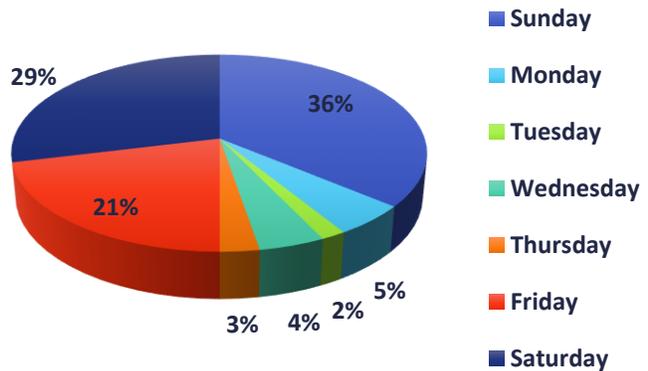


Figure 21: The above chart shows the distribution of inspections by day of the week. **Note:** Lake Bavaria is staffed all day Friday-Sunday plus holidays and only mornings during the week.

Inspection data was grouped into 1 of 3 timeframes to show what time of day is busiest at the access during staffed time. Overall, Sunday afternoons (11am-3:59pm) had the highest number of inspections conducted with a total of 219, Saturday afternoon closely followed with 183 inspections (Figure 22).

INSPECTIONS BY TIME OF DAY

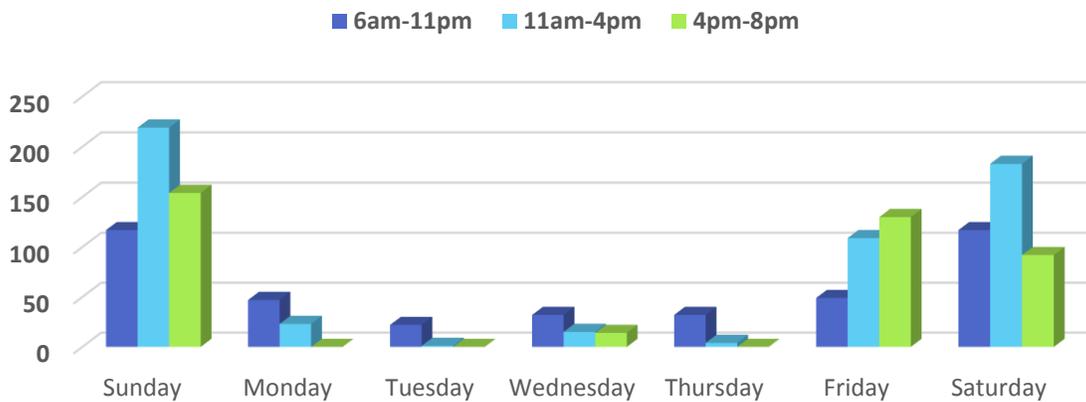


Figure 22: The above figure shows the number of inspections conducted by time of day. **Note:** Lake Bavaria is staffed all day Friday-Sunday plus holidays and only mornings during the week.

Inspection Findings and Violations

Overall, only 3% of (or 43) inspections resulted in a violation of MN AIS Laws. This includes 11 drain plug violations and 32 entering inspection violations due to plants, water, or mud on the watercraft, trailer, or equipment. Thirty of the 32 findings were plants (removable by hand), 1 violation was due to standing water in the boat, and 1 due to mud which can contain larvae and small plant fragments (Figure 23).

FINDINGS AT ENTRANCE

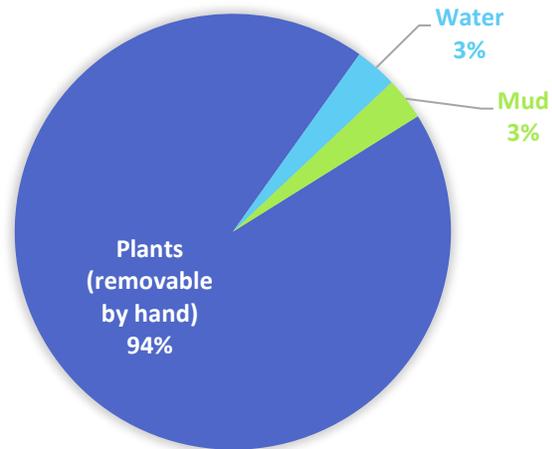
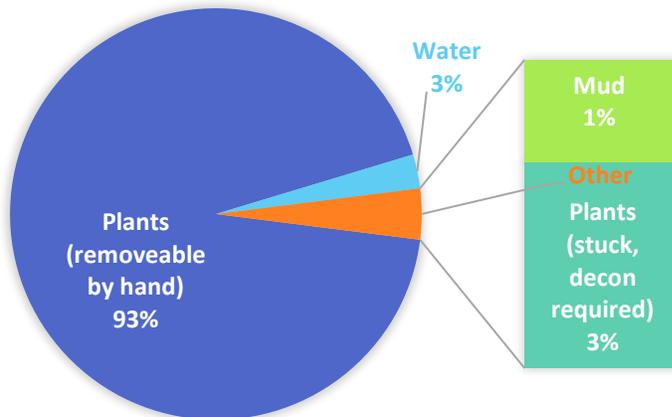


Figure 23: The above chart shows the variation of findings during entrance inspections. These are violations of MN AIS Law.

There were a total of 75 AIS findings during exit inspections (Figure 24). Though these are not considered a violation of MN AIS Laws, they are potential violations that were caught prior to the watercraft leaving the access. Of the 75 potential violations, 70 were due to plants (removable by hand), followed by water (2), plants requiring decontamination (2), and mud (1).

FINDINGS AT EXIT



Plants (removable by hand) were the most common finding during both entrance and exit inspections accounting for 84% of all inspection findings. However, it is unknown whether these plants were invasive. Often, clumps of vegetation contain larvae and other plant fragments that may be invasive so all plants, invasive or not, are important to remove.

Figure 24: The above chart shows the variation of findings during exit inspections. These are not violations of MN AIS Law.

Hydes, Reitz, and Eagle Lake

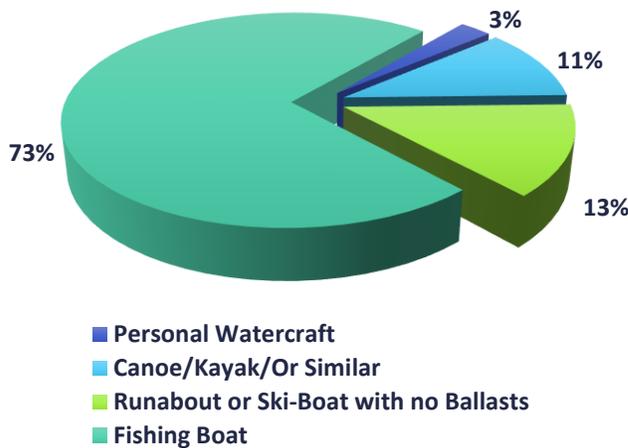
General Inspection Information

Hydes, Eagle, and Reitz Lake were inspected sporadically on rotating Saturday or Sundays and a handful of days in the extended fall season to potentially assist duck hunter traffic. Since the above three lakes were the least busy lakes within the inspection program, they have been grouped together in this report due to low inspection numbers. Together there were a total of 37 inspections. (Table 3).

Table 3: Hydes, Reitz, and Eagle Lake Inspection Types

Inspection Type	Count
Entering	24
Exiting	13
TOTAL	37

Type of Watercraft Inspected



A large majority of the 37 inspections were conducted on fishing boats (27). The remaining inspections were conducted on personal watercrafts (1), canoes/kayak/or Similar (4), and runabouts/ski-boats (5) (Figure 25). All watercrafts inspected were from Minnesota.

Figure 25: The above chart shows the distribution of inspections by watercraft type.

Of the 24 incoming boaters, 18 (or 75%) reported that the watercraft under inspection had been out of water for the recommended 5 days or more (Figure 26). Only 6 boaters reported less than the recommended dry time (4 reported 1-4 days while 1 reported less than 24 hours).

Time Out of Water

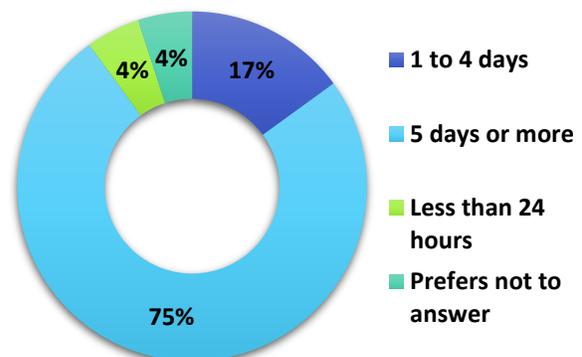


Figure 26: The above chart shows the time out of water by incoming boaters.

Out of the 24 incoming inspections more than half reported the last lake visited was either Hydes, Reitz, or Eagle Lake (12) none which are infested with zebra mussels. Fortunately, none of the other reported lakes are infested with zebra mussels either, which greatly decreases the risk of infestation.

As mentioned, Hydes, Reitz, and Eagle Lake were staffed on a rotating schedule on Saturday and Sundays when staff was available only from 8am-4pm, and then a few shifts in fall to assist duck hunters.

Saturday was the busier of the two days with 26 out of 37 inspections. Specifically, Saturday afternoons during which there were 18 inspections conducted within the timeframe of 11am-4pm (Figure 27).

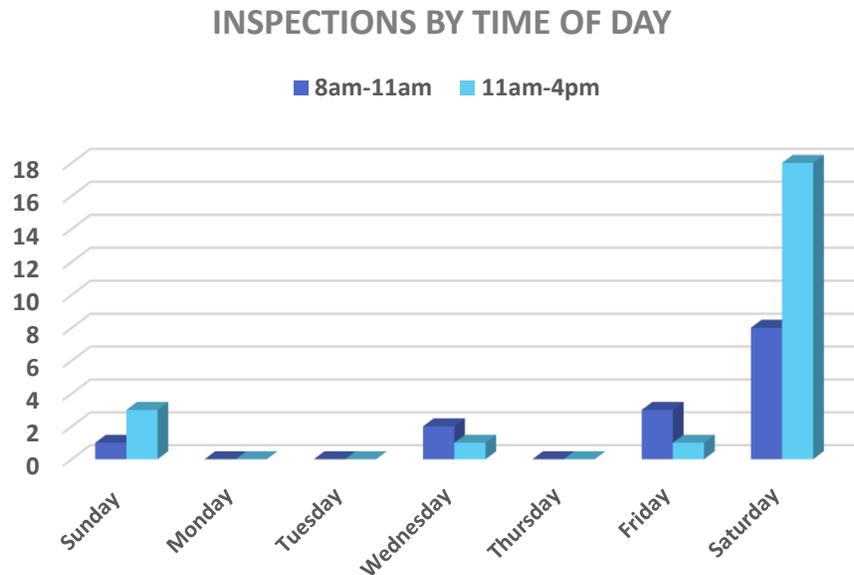


Figure 27: The above chart shows the number of inspections conducted by time of day. Note: Friday and Wednesday data come from the extended fall season shifts.

Inspection Findings and Violations

There were only 4 violations during the inspection season at all three lakes, three of which were instances of plants (removable by hand) found on arriving watercraft along with one instance of a drain plug in on arrival.

Minnehaha Creek Watershed District Lakes

Lake Minnewashta

General Inspection Information

In total, Lake Minnewashta received 2,088 staffed hours from May 12th to October 31st. According to the Minnesota Department of Natural Resources (MN DNR) inspection data, 4,505 inspections took place at Lake Minnewashta (Table 6). Lake Minnewashta is staffed all day Sunday through Saturday. Approximately 63% of the total inspections were conducted on fishing boats. The second most common watercraft type were runabouts/ski-boats (19%) (Figure 28).

Table 4: Lake Minnewashta Inspection Types

Inspection Type	Count
Entering	2,509
Exiting	1,964
Unclassified	29
Courtesy	3
TOTAL	4,505

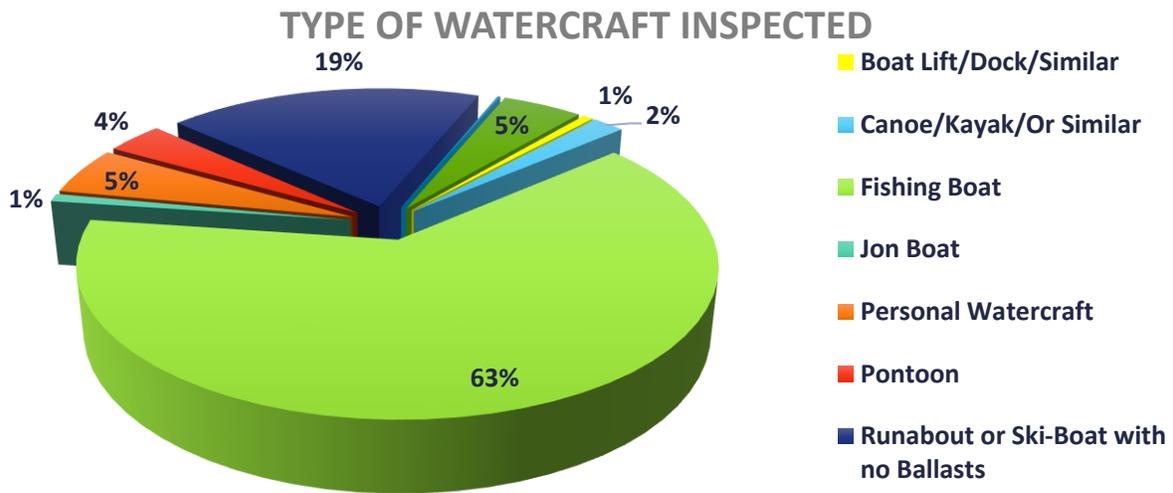


Figure 28: The above chart shows the breakdown of the total inspections by type of watercraft.

A majority (67%) of people entering the lake reported that the watercraft was out of water for the recommended 5 days or more (Figure 29). However, 801 boaters were entering the lake after 1-4 days and 158 after less than 24 hours. Together, roughly 33% of incoming watercraft had not reached the 5-day dry time prior to entering a new lake. This increases the potential for infestations on Lake Minnewashta.

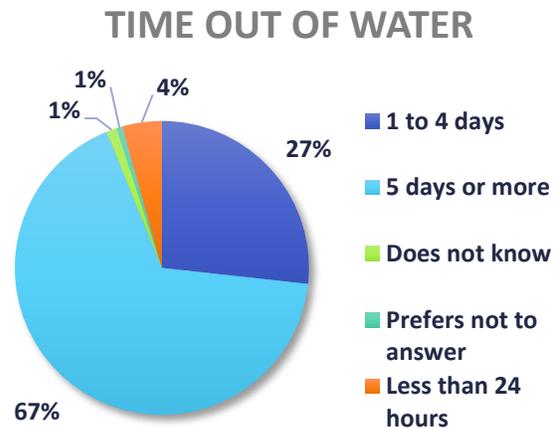


Figure 29: This pie chart shows the reported amount of time out of water for incoming watercraft.

Aside from Lake Minnewashta, inspection data shows that Lake Minnetonka and Lake Waconia were most commonly reported as the last waterbody visited (331 and 157 watercrafts respectively) (Figure 30). Both Lake Minnetonka and Waconia are zebra mussel infested waters which increases the potential of new zebra mussel introductions.

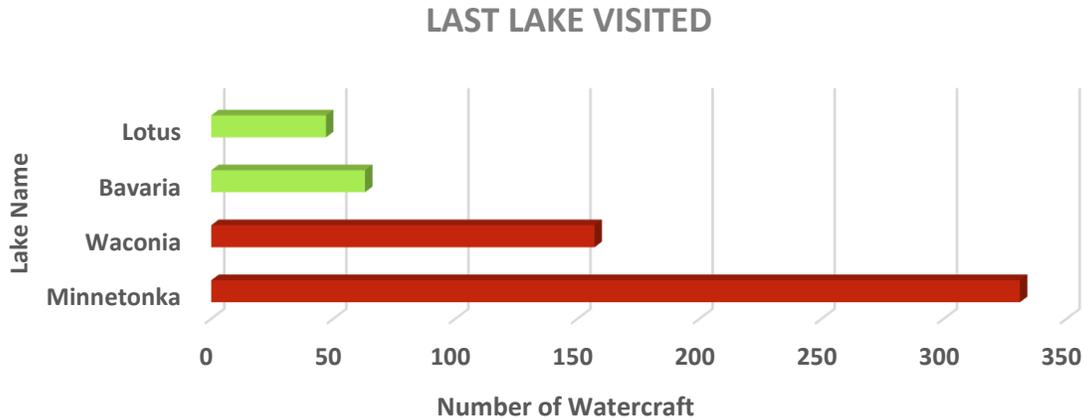


Figure 30: The above graph shows the top 4 most common last visited lakes. The red bars indicate that the lake is infested with zebra mussels.

Seventy-two watercrafts from 16 other states entered Lake Minnewashta throughout the 2018 inspection season. This is cause for concern as 12 of the 16 reported states have waterbodies infested by invasive mussels (Figure 31). As laws differ from state-to-state it is important to thoroughly inspect all watercraft and ensure out-of-state boaters are following the Minnesota AIS laws.

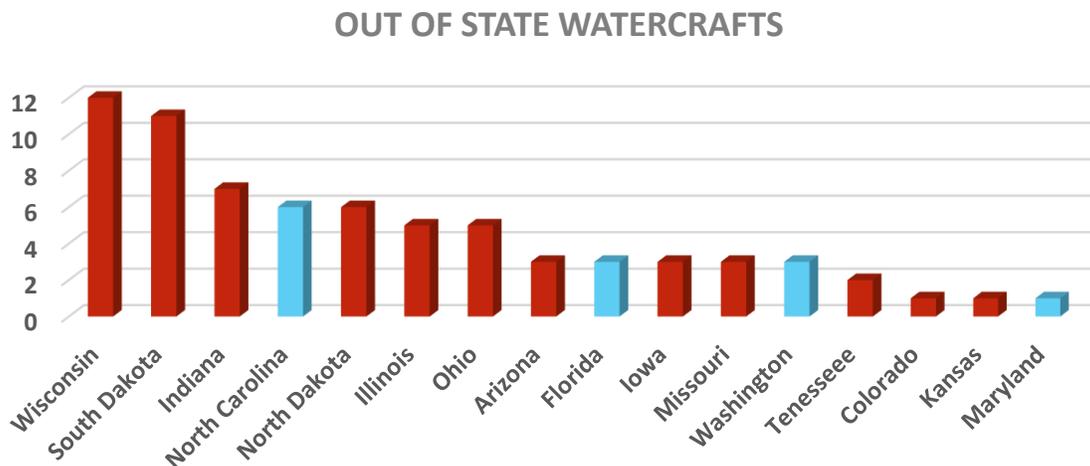


Figure 31: The above graph shows the number of watercrafts entering Lake Minnewashta from a different state. Red bars indicate that the state has waterbodies infested with invasive mussels.

As mentioned, inspection staff was scheduled every day of the week from roughly 6am-8pm May 12th – Sept. 3rd, 7am-7pm Sept. 4th-Sept. 30th, then 7am-6:30pm Oct. 1st-Oct. 14th. According to inspection data, Saturday and Sunday were the busiest days accounting for roughly 46% of all inspections, followed by Fridays at 14%. Inspection surveys were sorted into 1 of 3 timeframes: 6am-10:59am, 11am-3:59pm, and 4pm-8pm. Afternoons were consistently the busiest time for inspections, while mornings were the least (Figure 32).

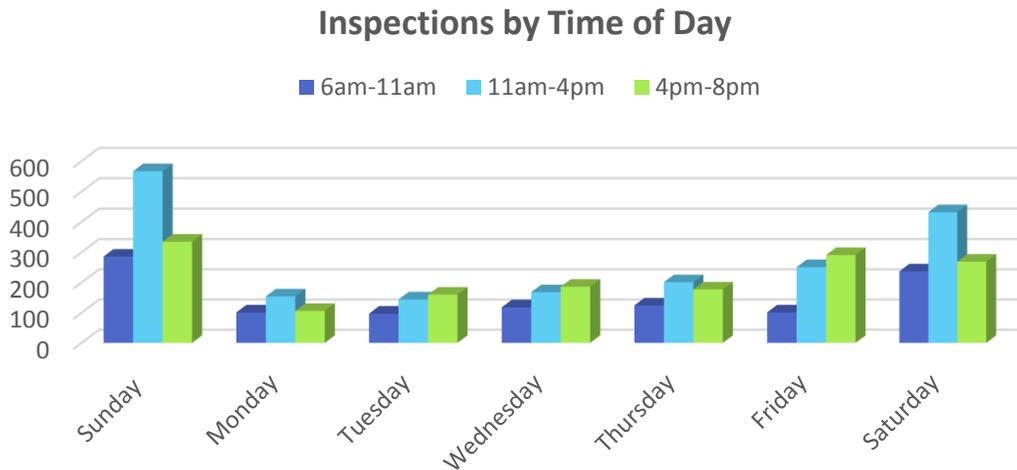


Figure 32: The above chart shows the number of inspections at the access by time of day.

Inspection Findings and Violations

Overall, 76% of the inspections conducted at Lake Minnewashta resulted in zero findings. However, this leaves 24% (907) of inspections with at least one type of unwanted finding. The majority (676) of findings were during exit inspections which are not considered violations (Figure 33). The remaining (231) entering inspection findings are considered violations of the MN AIS Laws (Figure 34). The most common type of finding during entrance and exit inspections were plants removable by hand (88%).

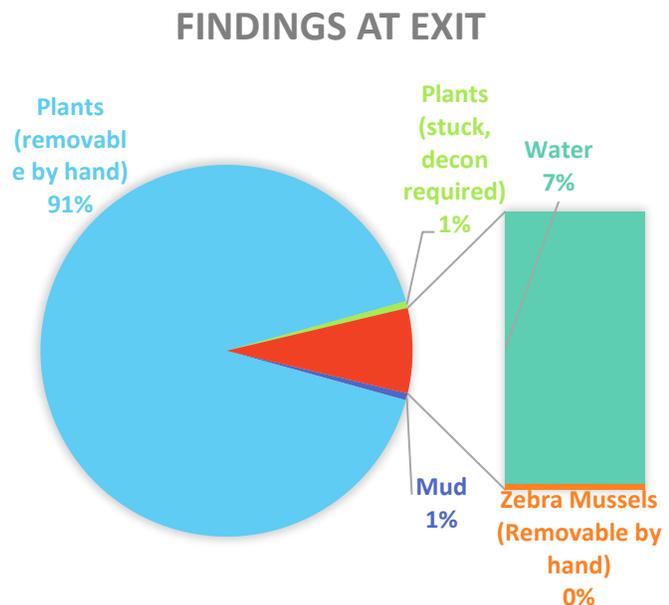


Figure 33: The above chart shows the variation of findings during exit inspections.

FINDINGS AT ENTRANCE

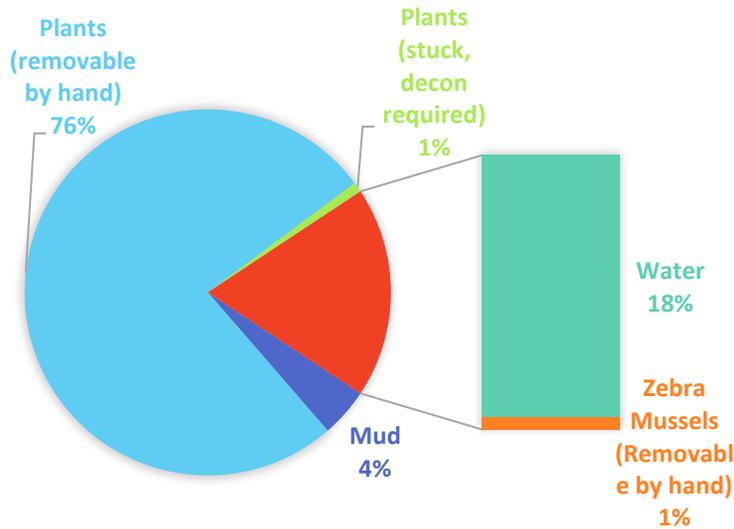


Figure 34: The above chart shows the variation of findings during entrance inspections.

However, there were 2 cases of zebra mussel findings (removeable by hand) and 2 cases of weeds not removeable by hand that required decontamination on entering watercraft, along with 41 cases of watercraft arriving with standing water. This is a concern due to the potential of veliger infested water. Therefore, it is important to staff inspectors to stop and inform boaters of potential risks. (Figure 34). Fifteen watercrafts entered the access with the drain plug still in which is also a violation of AIS Law.

Other Information

The entire east bay of Lake Minnewashta was treated for zebra mussels in the summer of 2016. Though this treatment was successful, another zebra mussel was found at the access in September 2017. Based on the size, it was determined that the discovered zebra mussel was a new introduction. Another successful treatment was conducted in the immediate area of the main access.

Piersons Lake

General Inspection Information

Piersons Lake received approximately 420 staffed hours from May 12th to September 3rd. Piersons Lake was a “Roving Lake” meaning for an additional 408 hours inspectors moved back and forth from Piersons Lake to Wasserman Lake. There were 1,186 watercraft inspections conducted at the access of Piersons Lake during these times (Table 5).

Fishing boats were the most common type of watercraft inspected at 854 inspections (72%). The second most common watercraft type was runabouts/ski-boats without ballasts at 12% of the total inspections.

The remaining 16% of inspections were conducted on a variety of watercraft types (Figure 35).

Table 5: Piersons Lake Inspection Types

Inspection Type	Count
Entering	680
Exiting	505
Courtesy	1
TOTAL	1,186

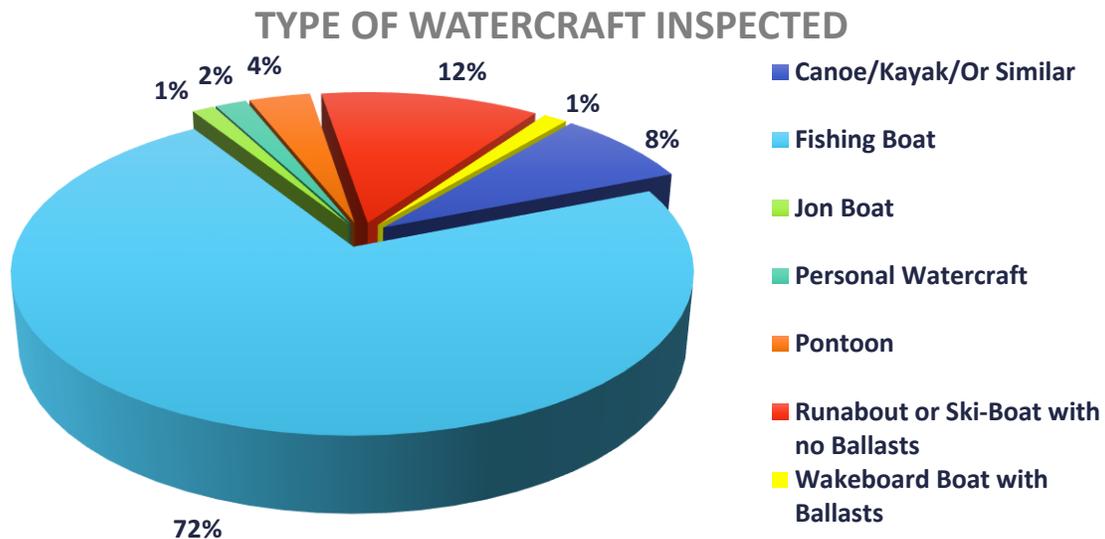


Figure 35: The above chart depicts the variety of watercraft inspected in the 2018 inspection year at Piersons Lake.

Sixty eight percent of people entering Piersons Lake reported that the watercraft had been out of water for the recommended 5 or more days (465 inspections). However, 21% reported it had only been 1-4 days while 10% was less than 24 hours since the watercraft had been in water. The remaining 1% did not know or preferred not to answer (Figure 36).

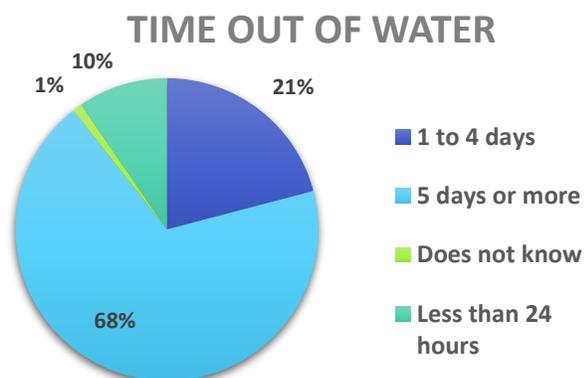
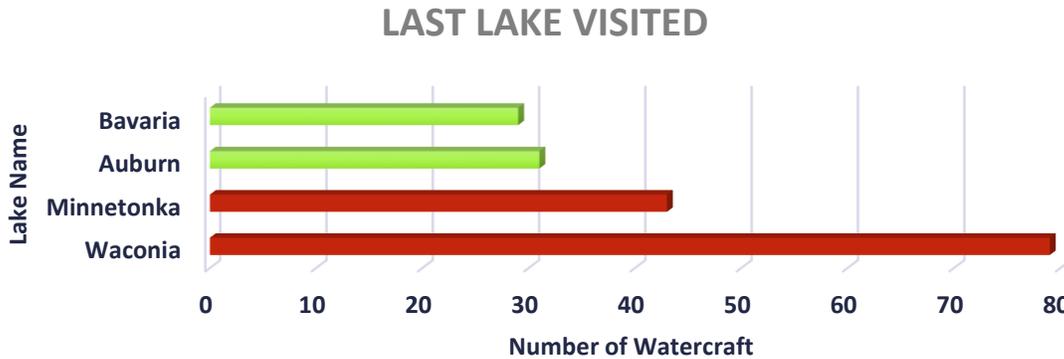


Figure 36: The chart shows the reported time out of water for incoming watercrafts.

Aside from Piersons Lake (532), Lake Waconia was the most common lake last visited, followed by Minnetonka, Auburn and Bavaria. Two of the 4 lakes are infested with zebra mussels which increases the potential of infestation (Figure 37).



been in. Red indicates that the waterbody is infested with zebra mussels.

Piersons Lake was accessed by 18 out-of-state boaters. Though this is not a significant amount, it is important to note that 9 out of the 10 states have waterbodies infested by invasive mussels (Figure 38). No violations were made by out-of-state boaters however.

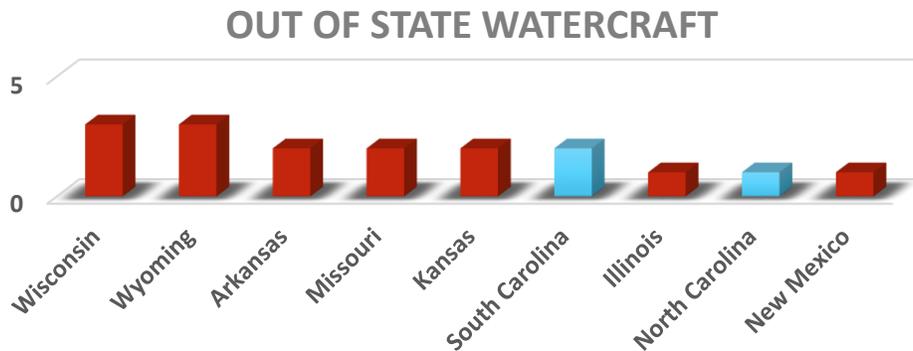


Figure 38: The above graph shows the number of out- of-state watercraft inspected. Red indicates that the state has waterbodies infested with invasive mussels.

According to inspection data, Saturdays were the busiest day for inspectors with over 1/3 of all inspections occurring on that day. Sunday and Friday were the next busiest days at 34% and 17% of all inspections. Survey data was sorted into 1 of 3 timeframes (6am-10:59am, 11am-3:59pm, and 4pm-6pm) to determine the most active times at the access. Afternoons (11am-3:59pm) were consistently

the busiest time for inspectors, except for Saturday during which mornings were slightly higher, with roughly 43% of all inspections falling within this timeframe (Figure 39).

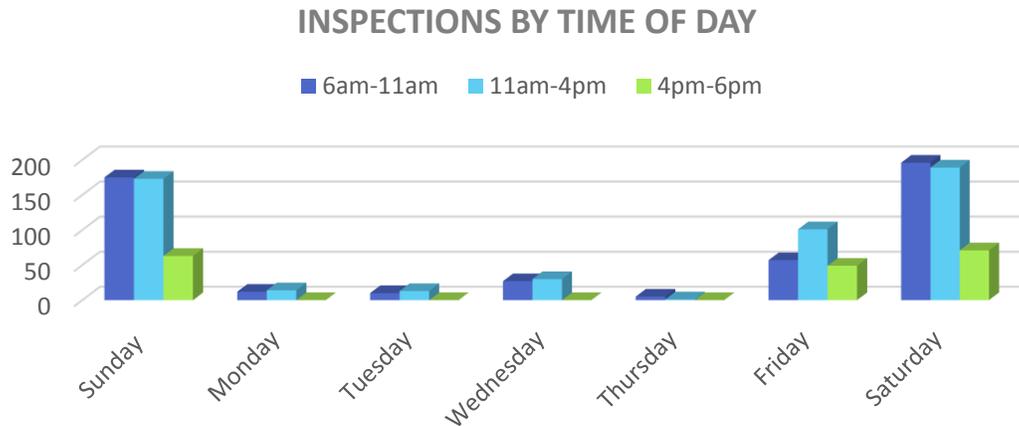


Figure 39: The above chart shows the number of inspections at the access by time of day.

Inspection Findings and Violations

There was a total of 20 violations at Piersons Lake. Of the 20 violations, 14 were findings during entrance inspections while 6 were drain plug violations upon arrival at the access. Roughly 65% of inspections with violations were due to plants (removable by hand) found on the watercraft/trailer/equipment (Figure 40). Two zebra mussels were found, one was removable by hand and one required decontamination.

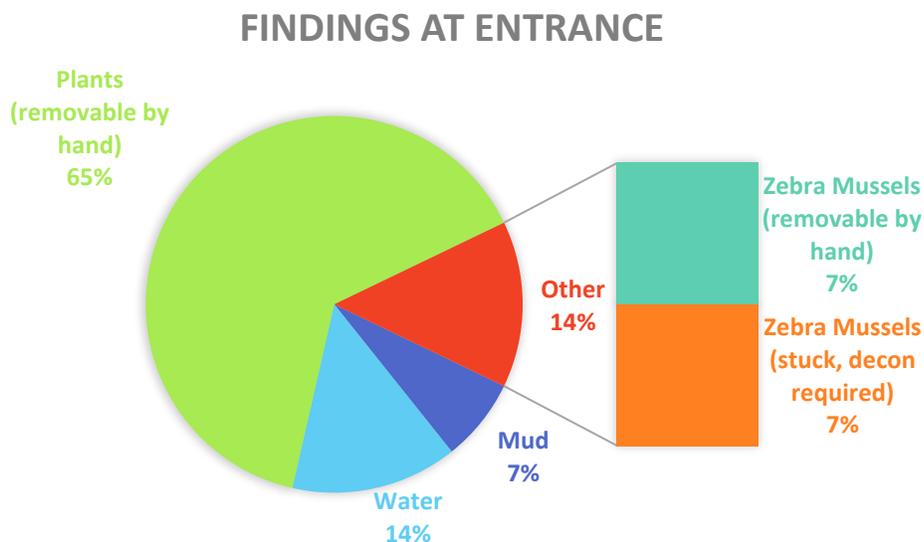


Figure 40: The above chart shows the variation of findings during entrance inspections.

Most findings occurred during exiting inspections. Though these are not considered violations, they are important to note because without exit inspections, invasive species can travel from lake to lake by way of boat and trailer or other water-related equipment. Out of the 52 findings during exit inspections, 50 of them were plants removable by hand (Figure 41).

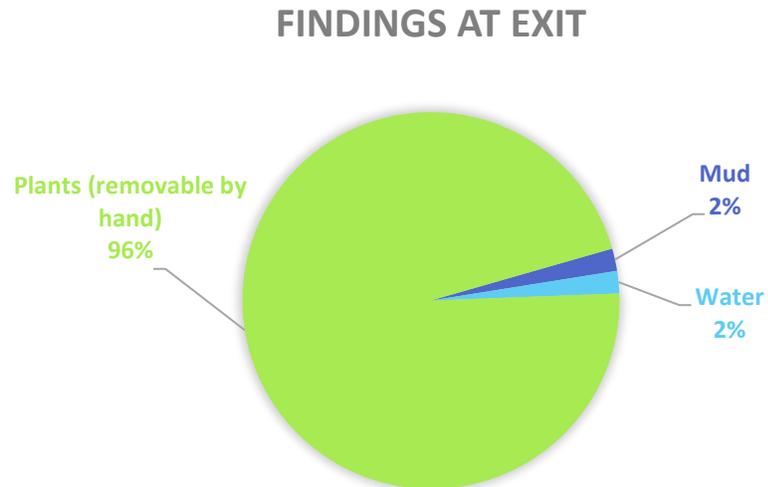


Figure 41: The above chart shows the variation of findings during exit inspections.

Wasserman Lake

General Inspection Information

Wasserman Lake received 96 staffed hours from May 12th to September 3rd. Wasserman Lake was a “Roving Lake” meaning for an additional 408 hours inspectors moved back and forth from Wasserman Lake to Piersons Lake. In total, 260 watercraft inspections took place during staffed hours. A majority of the watercrafts were fishing boats (78% or 102), runabout/ski-boat were the next most common watercraft with 10 inspections conducted (Figure 42).

Table 6: Wasserman Lake Inspection Types

Inspection Type	Count
Entering	63
Exiting	67
TOTAL	130

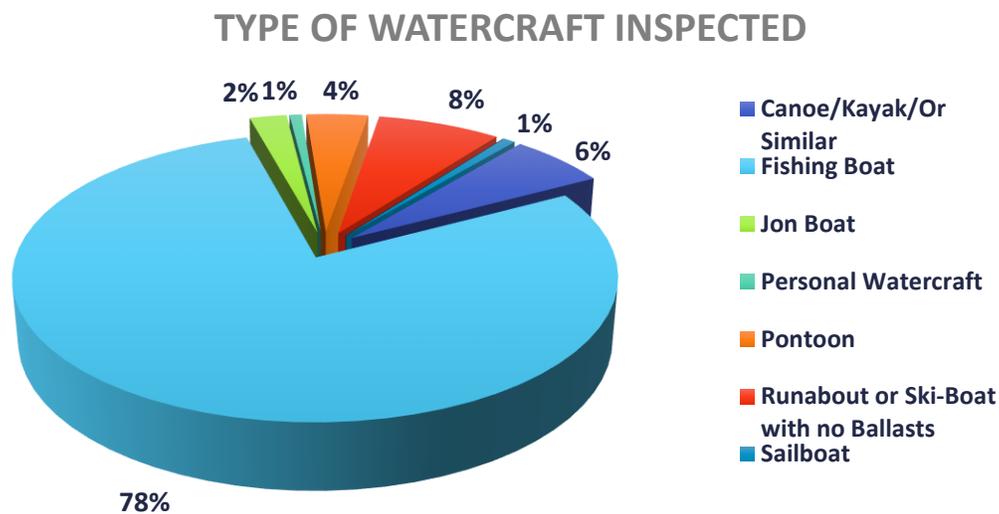


Figure 42: The above chart shows the type of watercrafts inspected.

Forty incoming watercrafts had been out of water for the recommended 5 days or more (roughly 63%). However, 13 boaters reported a dry time of only 1-4 days while 10 reported less than 24 hours (Figure 43). These increase the potential of infestation by incoming watercrafts.

However, all watercraft inspected were from Minnesota.

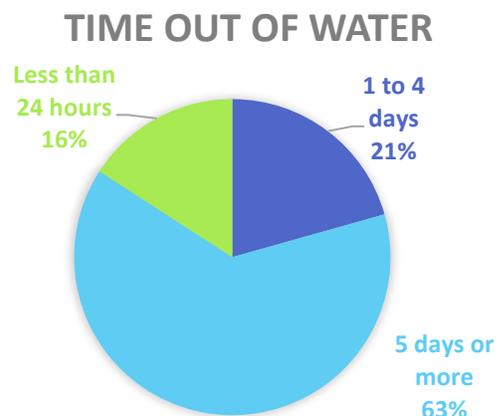


Figure 43: The above chart shows the reported time out of water by incoming boaters.

Of the 130 boaters, the most commonly reported lake last visited was Wasserman. However, this only made up 36% of all responses. The remaining 64% consisted of over 30 lakes with Piersons and Waconia tied at 10 reports each (Figure 44). As mentioned, Waconia and Minnetonka are infested with zebra mussels which are both in the top 5 responses, proving the importance of inspectors.

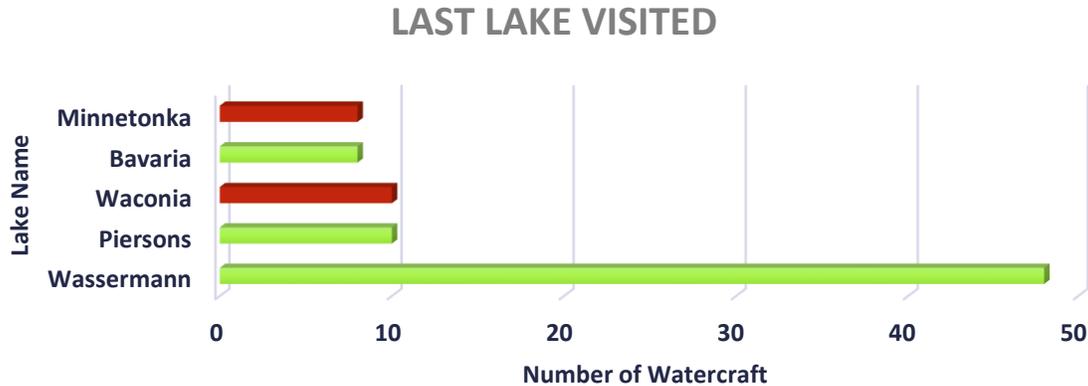


Figure 44: The above chart shows the reported last lake visited for entering watercraft inspections. Note: The red bars indicate lakes infested with zebra mussels.

Saturday was the busiest day for Lake Wasserman. Afternoons were the busiest time of day for inspectors (Figure 45). However, as mentioned Wasserman was a roving lake during the week, receiving only half of the assigned staff's shift.

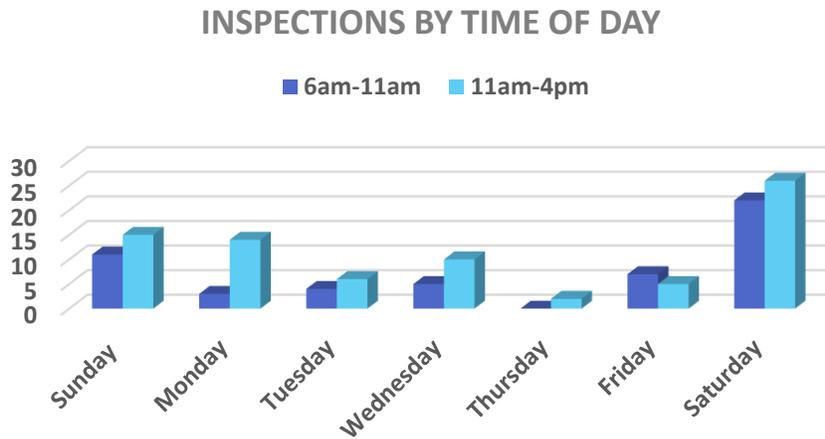


Figure 45: The above chart shows the number of inspections conducted by time of day. Note: Wasserman and Roving shifts were never scheduled past 4pm.

Inspection Findings and Violations

Overall, there was only 1 violation of MN AIS Law at Wasserman Lake, which was one drain plug in on arrival. However, there were 18 potential violations prevented during exit inspections at the access, all of them being plants that were removeable by hand. The vegetation was most commonly found on trailers.

City of Chanhassen Lakes

Lotus Lake

General Inspection Information

Lotus Lake received 2,478 staffed hours from May 12th to November 15th. Lotus Lake was staffed every day of the week from 6am-8pm May 12th-Sept. 3rd, 6:30am-7:30pm Sept. 4th-Sept. 30th, 7am-7pm Oct. 1st-Oct. 15th, 7:30am-6:30pm Oct. 16th-Nov. 3rd, and 7am-4pm Nov. 4th-Nov. 15th. During this time, a total of 2,993 inspections took place (Table 8). The most common type of watercraft was fishing boats (57% of total). The second most common was runabout/ski boats without ballasts (25%) (Figure 46).

Table 7: Lotus Lake Inspection Types

Inspection Type	Count
Entering	1,751
Exiting	1,229
Courtesy	1
Unclassified	12
TOTAL	2,993

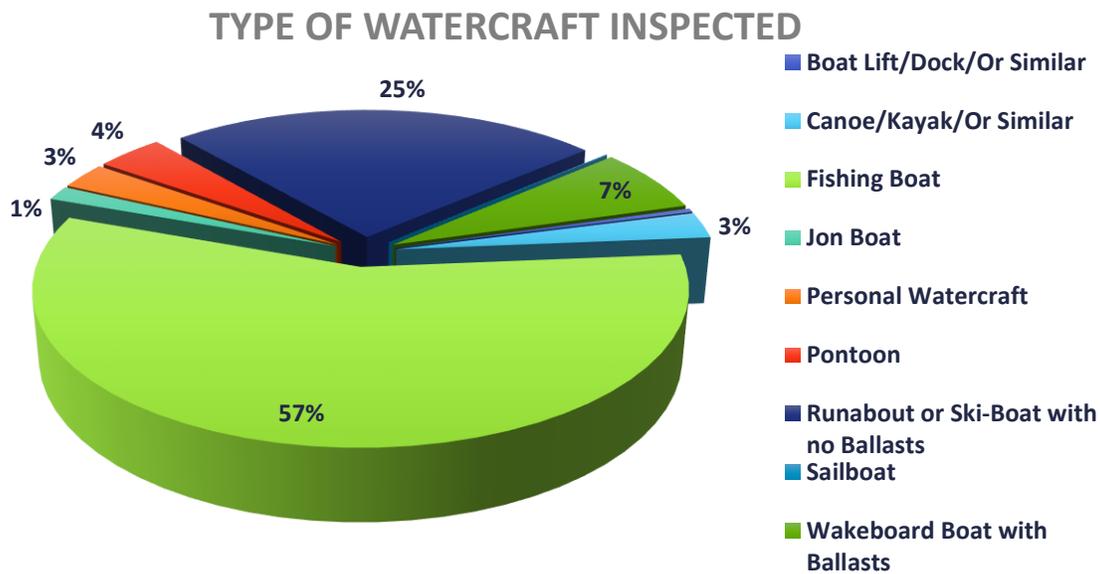


Figure 46: The above chart shows the type and percent of watercrafts that were inspected at Lotus Lake.

Of the entering watercrafts, 63% of boaters reported that the watercraft had been out of water for 5 days (the recommended dry time). However, most of the remaining responses were less than the recommended dry time (1-4 days out of water (27%) and less than 24 hours (8%) but 2% either did not know or preferred not to answer (Figure 47).

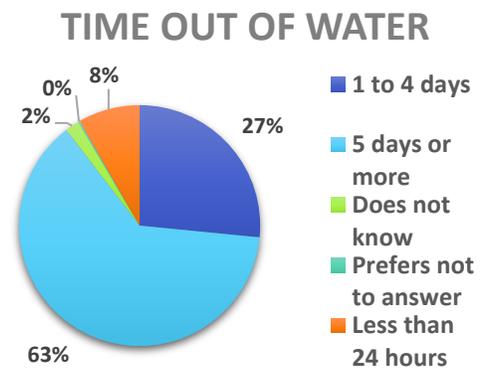


Figure 47: The above chart shows the reported amount of time out of water.

Almost 50% of boaters reported that Lotus Lake was the last lake the watercraft had been in. However, the other 50% comprises of over 160 different waterbodies including Lake Minnetonka, Waconia, Lake Minnewashta, and Riley all of which are infested with zebra mussels (Figure 48).

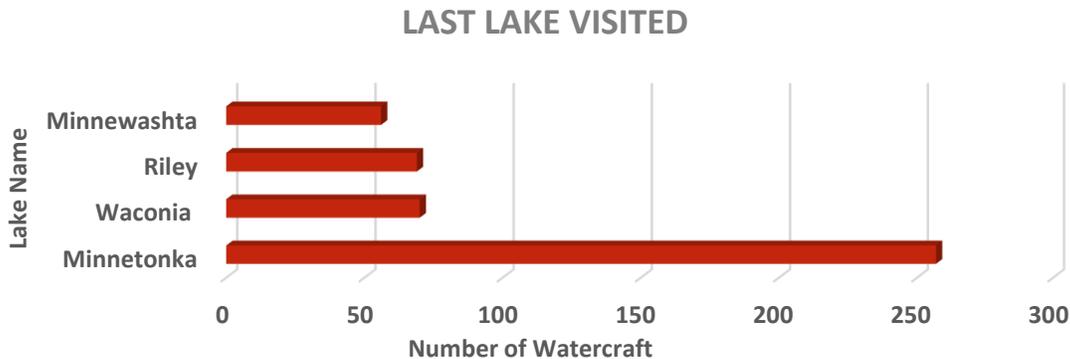


Figure 48: The above graph shows the top 4 responses by boaters when asked what lake/waterbody the watercraft had been in last. Red indicates the lake is infested with zebra mussels. NOTE: the chart does not include Lotus as a response, which was the top answer.

Lotus Lake is largely visited by Minnesota residents (98%). However, 50 out-of-state watercraft entered the lake throughout the season (Figure 49). Most of the states from which the watercraft originates have waterbodies infested with invasive mussels.

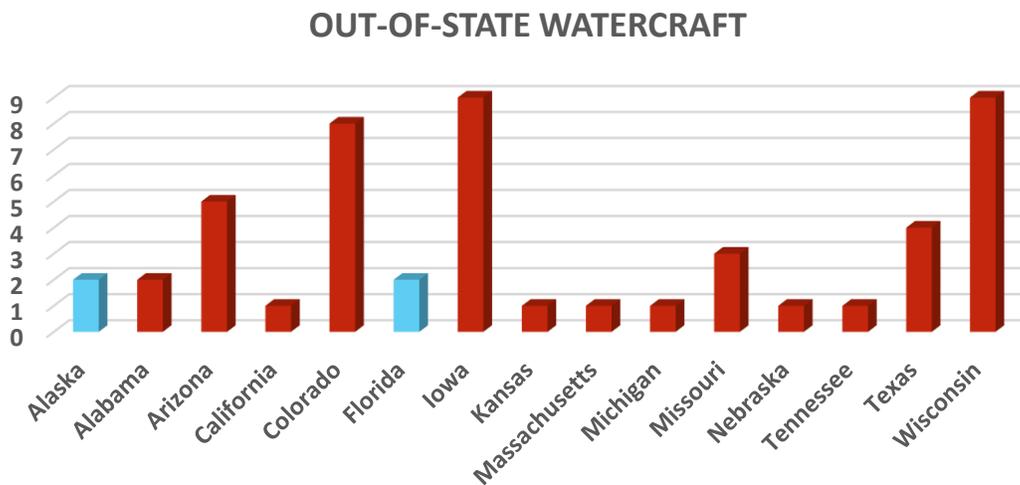


Figure 49: The above graph shows the number of out-of-state watercraft inspected. Red indicates that the state has waterbodies infested with invasive mussels.

Weekend inspections made up almost half of the total inspections at Lotus Lake (47%) (Figure 50). The busiest day of the week for inspectors at the Lotus access was Sunday with a total of 750 inspections. Saturday followed closely with 674.

To determine the busiest time of day for inspectors, the survey data was put into 1 of 3 timeframes: 6am-10:59am, 11am-3:59pm, or 4pm-8pm. Data shows that Sunday afternoons (11am-3:59pm) had the leading number of inspections followed by Saturday afternoons (Figure 51).

INSPECTIONS BY TIME OF DAY

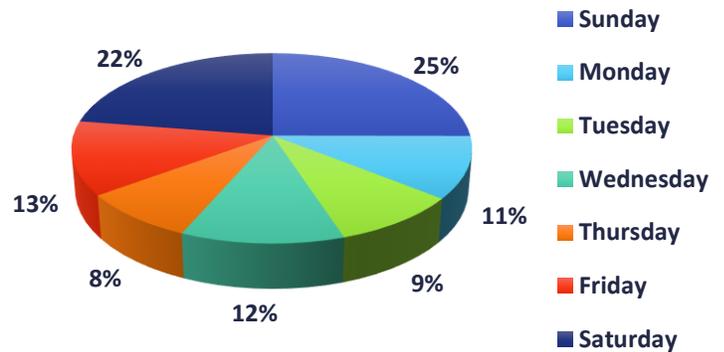


Figure 50: The above chart shows the distribution of inspections by day of the week.

INSPECTIONS BY TIME OF DAY

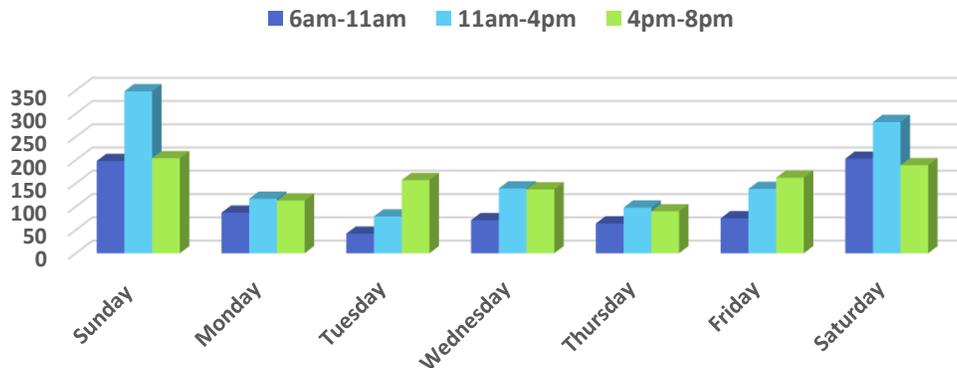


Figure 51: The above chart shows the number of inspections by time of day.

Inspection Findings and Violations

A total of 133 violations were found by inspectors at Lotus Lake. These violations made up 8% of all incoming inspections including 108 AIS findings and 25 watercrafts approaching the access with the drain plug still in. Of the 108 findings, standing water was the most common making up 56% of the violations, followed by plants at 37% (Figure 52). Two inspections resulted in zebra mussels found. Also, it is important to note that 3 Lake Service Providers

arrived with violations that are not included in these data. Two arrived with zebra mussels attached and 1 arrived with plants. All of which needed further decontamination.

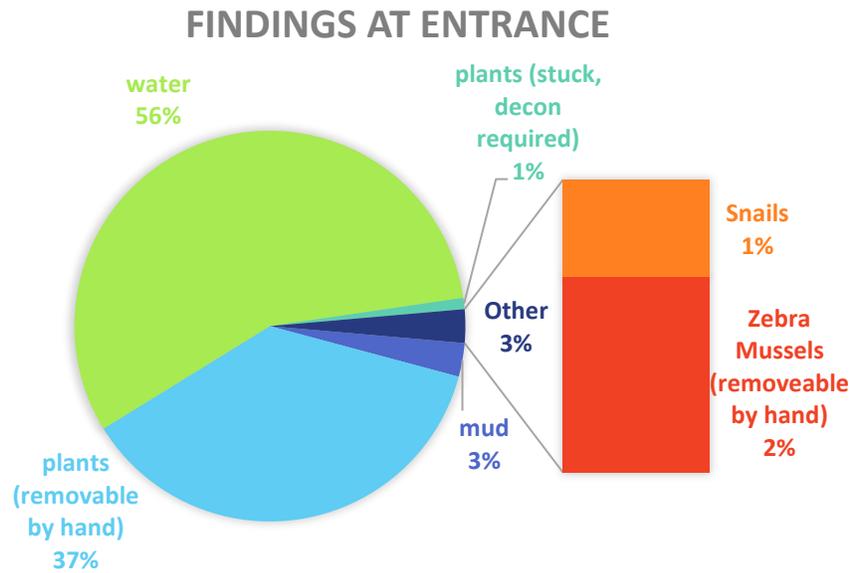


Figure 52: The above chart shows the variation of findings during entrance inspections.



Though exit inspection findings are not considered violations, it shows what is coming out of the lake that could potentially enter another. During the 1,229 exit inspections, there were 105 instances of plants found. Water was the next most common finding (Figure 53).

Figure 53: The above chart shows the Variation of findings during exit inspections only.

Lake Ann

General Inspection Information

Lake Ann was staffed 448 hours from May 28th to September 3rd. Generally, Lake Ann was staffed from either 6am or 7am until 8pm every Friday, Saturday, and Sunday and on holidays. During this time, 454 inspections took place (Table 8). In total, 229 (50%) were fishing boats. The next most common type of watercraft were canoes/kayaks at 194 (43%) (Figure 54).

Table 8: Lake Ann Inspection Types

Inspection Type	Count
Entering	262
Exiting	191
Courtesy	1
TOTAL	454

TYPE OF WATERCRAFTS INSPECTED

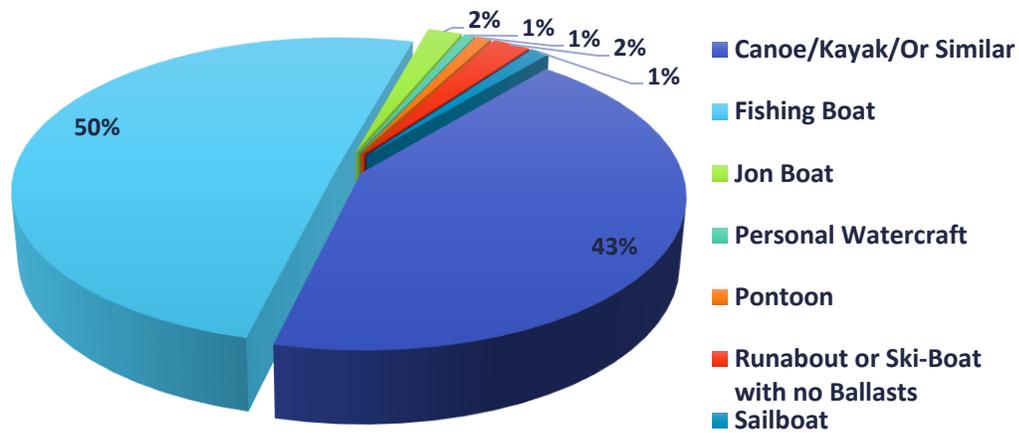


Figure 54: The above chart shows the type and percent of watercrafts that were inspected at Lake Ann.

A majority (61%) of people entering Lake Ann reported that the watercraft under inspection had been out of water for 5 days or more, the recommended time (Figure 55). However, 94 watercrafts had been out of water for less than the recommended 5-day dry time. A total of 70 people reported that the watercraft was out of water for 1-4 days while 21 people reported it had been less than 24 hours.

TIME OUT OF WATER

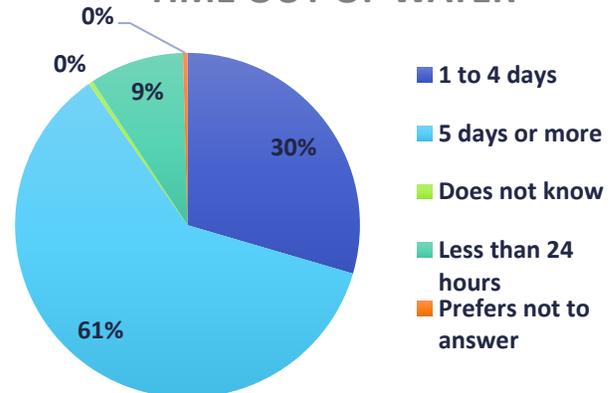


Figure 55: The above chart shows the reported amount of time out of water by incoming boaters only.

Forty one percent of boaters reported that Lake Ann was the last lake the watercraft had been in. Not including the 58 people who reported they were unsure what lake they had last been on, this leaves 134 boaters coming from other lakes. Of these 134 boaters, Lake Minnetonka was the most common lake last visited with a total of 16 reports (Figure 56).

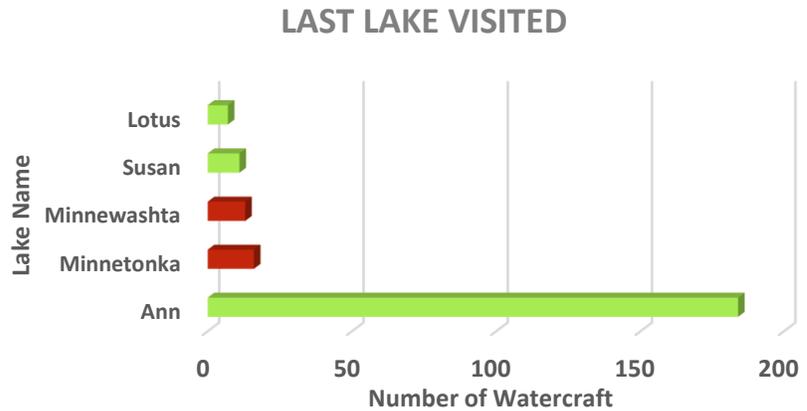


Figure 56: The above graph shows the top 5 responses from entering boaters who had previously been on a different lake. Red indicates that the lake is infested with zebra mussels.

OUT OF STATE WATERCRAFTS

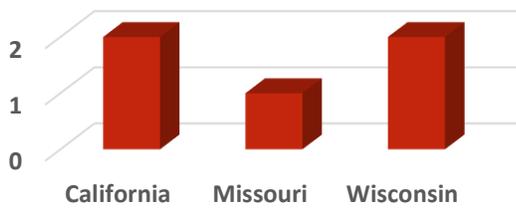


Figure 57: The above graph shows the number of watercraft that entered Lake Ann from out-of-state. The red bars indicate the state is infested with invasive mussels.

Over 98% of the watercrafts inspected at Lake Ann reside in Minnesota. However, there were 5 watercrafts that were from out-of-state with Wisconsin and California being the most common (Figure 57). Every state reported contains waterbodies that are infested with zebra mussels.

Lake Ann was visited most on Saturdays with a total of 196 inspections completed. Friday was a close second with 125 inspections completed. To compare traffic by time of day survey data was put into 1 of 3 timeframes: 6am-10:59am, 11am-3:59pm, or 4pm-8pm. Generally, Saturday and Sunday mornings were the busiest with roughly 125 inspections falling within that timeframe (Figure 58).

INSPECTIONS BY TIME OF DAY

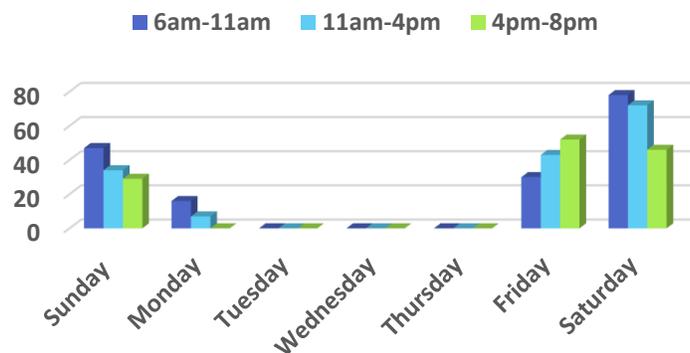


Figure 58: The above chart shows the distribution of inspections by time of day. Note: Lake Ann was not staffed during the week unless it was a holiday.

Inspection Findings and Violations

There was a total of 7 violations of MN AIS Laws at Lake Ann during the 2018 inspection season. Six of these were findings during entrance inspections while the remaining 1 was a drain plug violation. The violations were due to either standing water or plants removable by hand in/on the watercraft. Though not a violation, there were 24 exit inspections. All except one were plants removeable by hand, one was plants that required decontamination. Overall, plants were the most common finding on both entering and exiting watercrafts/trailers/water-related equipment (Figure 59).

FINDINGS AT ENTRANCE AND EXIT

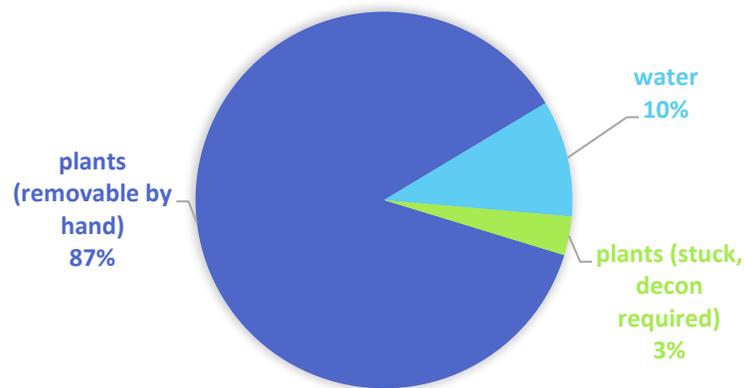


Figure 59: The above chart shows the variation of findings during both entrance and exit inspections.

Lake Susan

General Inspection Information

Lake Susan received 375 hours from May 28th to September 3rd. Inspectors were scheduled every Friday, Saturday, Sunday, and holidays from either 6am or 7am until 8pm. During this time there were 176 inspections (Table 9). Of the 176 inspections, 77% of them were conducted on fishing boats (Figure 60).

Table 9: Lake Susan Inspection Types

Inspection Type	Count
Entering	102
Exiting	74
TOTAL	176

According to the MN DNR Inspection data, a majority of entering lake users (63 or 62%) reported that the watercraft being inspected had been out of water for the recommended 5 days. However, a majority of the remaining incoming boaters that had been out of the water less than 5 days (8%- less than 24 hours and 27% from 1-4 days).

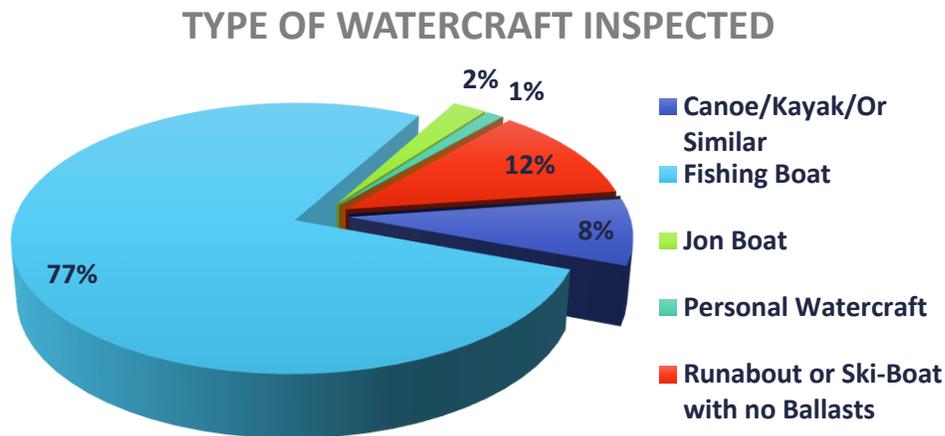


Figure 60: The above chart shows the percent of inspections that were conducted based on watercraft type.

Of the 176 inspections, 51 people reported that Lake Susan was the most recent lake that the watercraft had been in. Over 50% reported lakes other than Susan were visited last, some of which are infested with zebra mussels (Figure 61). Only Minnesota registered watercrafts were inspected at Susan in 2018.

LAST LAKE VISITED

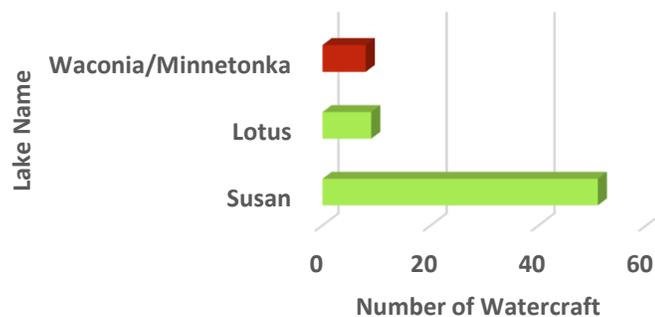


Figure 61: Top responses to last lake visited. The red bars indicate that the lake is infested with zebra mussels.

Inspection Findings and Violations

There was a total of 6 violations at Lake Susan, 3 drain plug violations and 3 instances of plants removable by hand on entrance.

Though not considered a violation of MN AIS Laws, there were findings during 9 exit inspections. All of which were plants removable by hand as well.

Trends: 2016-2018

Analyzing data from the past three years allows us to easily see trends within the inspection program. We can then use these trends to better the program by allocating the right amount of resources and attention accordingly. The percent of traffic at all inspected Carver County Lakes have stayed relatively the same over the past three years. Waconia, Minnewashta, and Lotus have remained the busiest lakes, while Reitz, Eagle and Hydes have remained the least busy (Figure 62).

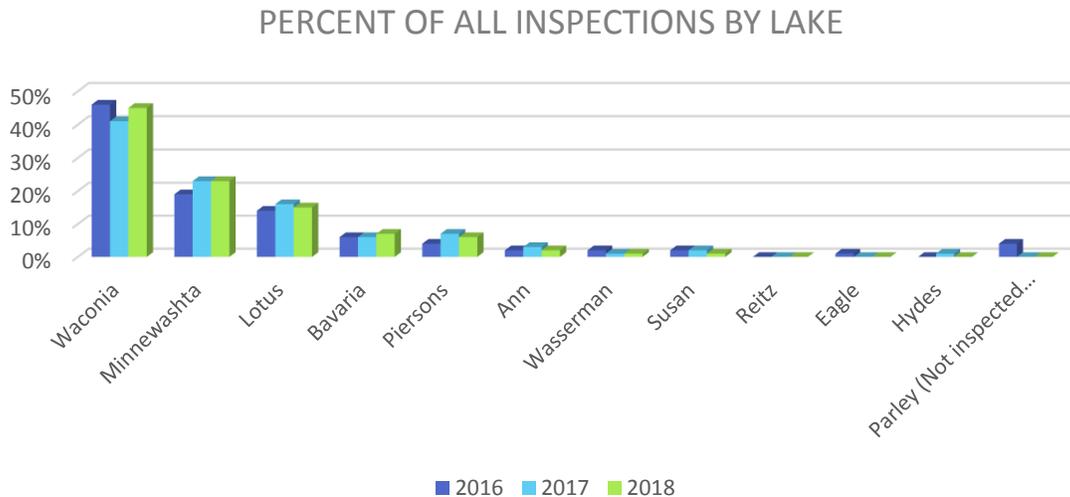


Figure 62

By comparing all the surveyed traffic at inspected Carver County Lakes, we can track where most of the traffic is coming from, and what is being transported to our lakes. Obviously most of the watercrafts are from Minnesota and are traveling mostly around Minnesota Lakes but there is a percentage of out-of-state water crafts and with that comes the risk of new invasive species (Figure 63).

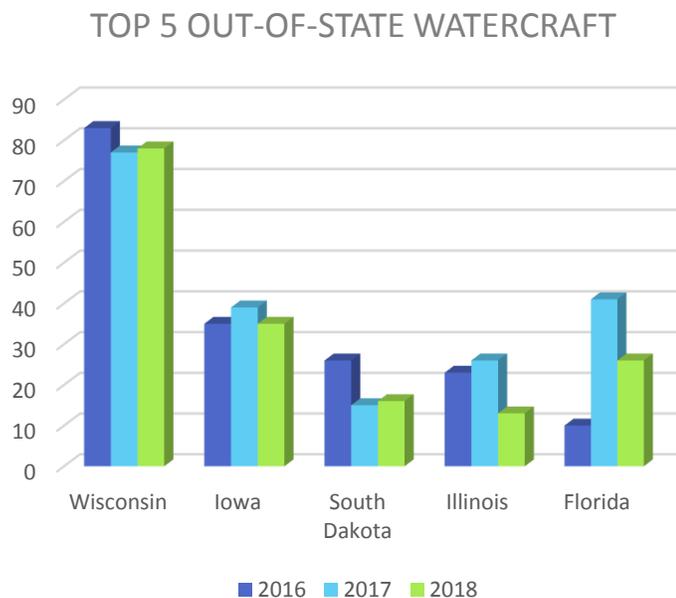


Figure 63

Of all the survey data over the last three years, the main findings on entering inspections have been plants that are removable by hand and standing water (Figure 64).

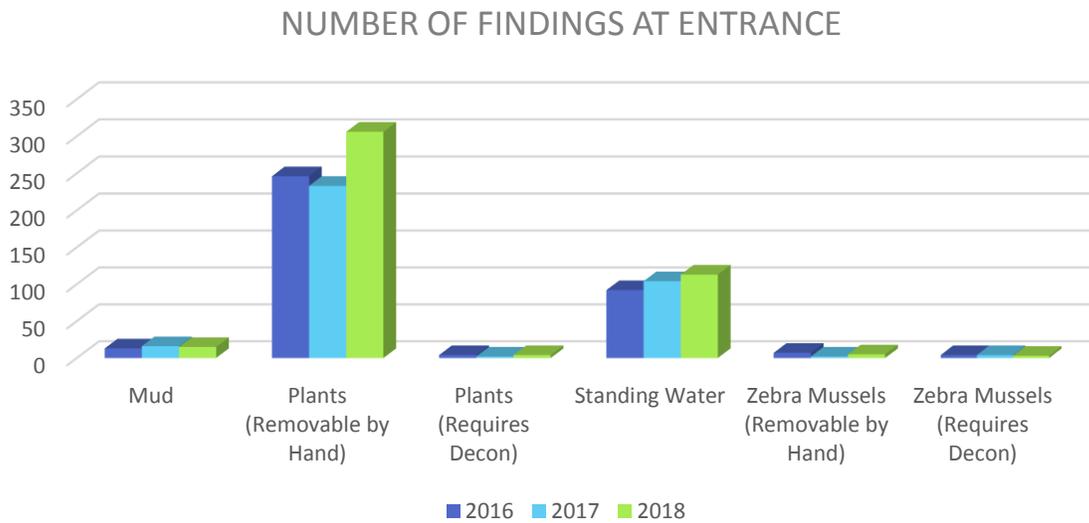
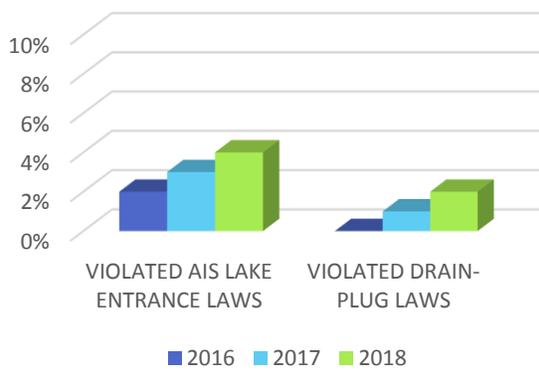


Figure 64

PERCENT OF TOTAL BOATERS WHO VIOLATED MN AIS LAWS



Entering watercraft who arrive at a lake access with their drain-plug in and/or arrive with aquatic plants or water in or on their watercraft are in violation of MN law. Figure 65 illustrates the low percentage of surveyed incoming boaters who violated MN AIS laws over the past 3 years.

Figure 65