Wisconsin Department of Natural Resources

2025 Lake Wisconsin and Wisconsin River Fall Walleye and Sauger Recruitment Assessment

Columbia and Sauk Counties, Wisconsin 2025

Photo Credit: Wisconsin DNR

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Introduction

Lake Wisconsin is a 7197-acre impoundment created in 1915 following the construction of the Prairie du Sac Dam on the Wisconsin River in Columbia and Sauk counties (Marshall et al. 1985). Lake Wisconsin and the Wisconsin River up to the Kilbourn Dam in Wisconsin Dells are popular angling and recreational destinations and see high usage annually.

Walleye and sauger are highly sought after species of fish that offer both recreational and harvest opportunities in Lake Wisconsin and the Wisconsin River. In general angling success is good, but it can vary based on population fluctuations that can be attributed to spawning success and early life stage survival.

Numerous abiotic and biotic factors influence walleye and sauger reproductive success and year class strength. In reservoirs, spring water temperature and relative abundances of potential prey, competitors and predators were key factors for walleye and sauger (Quist 2003). In rivers, spring and summer water or air temperatures were often positively related to reproduction success for both species (Pitlo 2002). Previous fish assessments have shown walleye and sauger recruitment can vary significantly from year to year.

The Wisconsin Department of Natural Resources (DNR) conducted fall electrofishing surveys targeting young of the year (YOY) walleye and sauger less than 1 year of age. Walleye <10 inches and sauger <8.5 inches were considered YOY in 2025. These surveys took place at six locations on Lake Wisconsin and two locations on the Wisconsin River near Wisconsin Dells. The goal of this survey was to determine relative abundance and recruitment success of YOY walleye and sauger. Other gamefish such as largemouth bass, smallmouth bass, northern pike, muskellunge and flathead catfish were also collected during this survey.

Methods

In 1993, electrofishing stations were established on Lake Wisconsin at six locations and two locations at the Kilbourn Dam tailwater. The six stations on Lake Wisconsin cover three different habitat types including riverine (Up River), open lake shore (Stoner's Bay and Okee) and embayments (Moon Valley, Weigand's Bay and Gruber's Grove). These stations are sampled annually after dark in late September to mid-October when water temperatures range between 50-65 degrees Fahrenheit.

In 2025, Lake Wisconsin was surveyed for three nights on Oct. 7, 8 and 9 and the Wisconsin River below the Kilbourn Dam tailwater was surveyed one night on Oct. 15 (Table 1). Both surveys were sampled according to fall electrofishing protocols as outlined in DNR Fisheries Monitoring Protocols (Simonson 2015).
Fall electrofishing surveys were conducted using a standard DNR maxiboom electrofishing boat used to sample 14.3 miles of shoreline along Lake Wisconsin and 3.4 miles of shoreline along the Wisconsin River at the Kilbourn Dam tailwater. The

sampling crew consisted of two members dipping fish with nets and one boat operator. During the surveys, the boat parallels the shoreline at each station moving at speeds between 1.5 and 2.0 miles per hour at depths less than six feet of water. At depths deeper than six feet of water the efficiency of the gear dramatically decreases. The two dip netters collected fish and placed them into a holding tank. Once the station was complete, all fish were measured to the nearest tenth of an inch and then released. Muskellunge and flathead catfish were scanned for a passive integrated transponder (PIT) tag and given one if absent. Distance in miles and minutes sampled were recorded for each station.

Results

WALLEYE

A total of 253 walleye were sampled on Lake Wisconsin which resulted in a catch rate of 17.7 fish per mile. The average length of walleye collected was 9.9 inches with sizes varying from 5.9 to 25.0 inches (Figure 1). A total of 183 YOY walleye were sampled with a catch rate of 12.8 fish per mile. The catch rate for walleye greater than 15 inches was 2.4 fish per mile.

A total of 92 walleye were sampled at the Kilbourn Dam tailwater with a catch rate of 27.4 fish per mile. The average length was 11.8 inches with sizes ranging from 6.2 to 20.5 inches (Figure 2). A total of 40 YOY walleye were sampled with a catch rate of 11.9 fish per mile. The catch rate for walleye greater than 15 inches was 3.0 fish per mile.

SAUGER

A total of 467 sauger were sampled on Lake Wisconsin which resulted in a catch rate of 32.7 fish per mile. The average length of sauger collected was 10.6 inches with sizes varying from 5.5 to 16.3 inches (Figure 1). A total of 138 YOY sauger were sampled with a catch rate of 9.7 fish per mile. The catch rate for sauger greater than 15 inches was 0.3 fish per mile.

A total of 56 sauger were sampled at the Kilbourn Dam tailwater with a catch rate of 16.7 fish per mile. The average length was 13.1 inches with sizes ranging between 6.9 to 15.5 inches (Figure 2). A total of 3 YOY sauger were sampled with a catch rate of 0.9 fish per mile. The catch rate for sauger greater than 15 inches was 1.2 fish per mile.

SMALLMOUTH BASS

A total of 187 smallmouth bass were sampled on Lake Wisconsin which resulted in a catch rate of 13.1 fish per mile. The catch rate for smallmouth bass over 14 inches was 1.6 fish per mile and for fish over 17 inches was 0.6 fish per mile. The average length of smallmouth bass collected was 11.0 inches with sizes varying from 4.7 to 20.1 inches. There were six smallmouth bass sampled that exceeded 18 inches in length.

A total of 236 smallmouth bass were sampled at the Kilbourn Dam tailwater which resulted in a catch rate of 70.2 fish per mile. The catch rate for bass over 14 inches was 8.3 fish per mile and for fish over 17 inches was 3.6 fish per mile. The average length of smallmouth bass collected was 10.8 inches with sizes varying from 3.1 to 20.3 inches. There were five smallmouth bass that exceeded 18 inches in length.

LARGEMOUTH BASS

A total of 120 largemouth bass were sampled on Lake Wisconsin which resulted in a catch rate of 8.4 fish per mile. The catch rate for fish over 14 inches was 0.7 fish per mile and no fish over 18 inches were sampled. The average length of largemouth bass collected was 11.1 inches with sizes varying from 3.6 to 17.4 inches.

A total of 3 largemouth bass were sampled at the Kilbourn Dam tailwater which resulted in a catch rate of 0.9 fish per mile. The average length of largemouth bass collected was 15.0 inches with sizes varying from 14.2 to 16.1 inches.

NORTHERN PIKE

A total of 9 northern pike were sampled on Lake Wisconsin which resulted in a catch rate of 0.6 fish per mile. The average length of northern pike collected was 23.4 inches with sizes varying from 10.8 to 31.8 inches. Of the nine northern pike sampled, three were over the minimum length limit of 26 inches.

A total of 7 northern pike were sampled at the Kilbourn Dam tailwater which resulted in a catch rate of 2.1 fish per mile. The average length northern pike collected was 28.1 inches with sizes varying from 24.5 to 37.6 inches. Of the seven northern pike sampled, three were over the minimum length limit of 26 inches.

MUSKELLUNGE

A total of 2 muskellunge were sampled on Lake Wisconsin which resulted in a catch rate of 0.1 fish per mile. The average length of muskellunge collected was 45.3 inches with sizes varying from 41.7 to 48.8 inches.

FLATHEAD CATFISH

A total of 4 flathead catfish were sampled on Lake Wisconsin which resulted in a catch rate of 0.3 fish per mile. The average length of flathead catfish collected was 14.9 inches with sizes varying from 12.2 to 17.1 inches. One flathead catfish was sampled at the Kilbourn Dam tailwater that measured 15.3 inches.

Discussion

In 2025 the Lake Wisconsin YOY walleye catch rate of 12.8 fish per mile fell below the median of 21.1 YOY walleye per mile since 1993 (Figure 3). Although the YOY catch rate in 2025 was below average, it had increased from 2024 (3.1 fish per mile), the lowest catch rate in the history of the survey. The catch rate for all walleye of 17.7 fish per

mile on Lake Wisconsin fell below the median of 44.4 fish per mile (Figure 5). Of the 253 walleyes sampled on Lake Wisconsin, 14% were greater than 15 inches and 2% were greater than 20 inches.

The YOY walleye catch rate of 11.9 fish per mile at the Kilbourn Dam tailwater was above the median of 7.7 YOY walleye per mile since 1993 (Figure 4). The catch rate for all walleye of 27.4 fish per mile fell below the median of 41.1 fish per mile for the Kilbourn Dam tailwater (Figure 6). Of the 92 walleye caught at the Kilbourn Dam tailwater, 11% were greater than 15 inches and 1% were greater than 20 inches.

The YOY sauger catch rate of 9.7 fish per mile on Lake Wisconsin in 2025 was below the median of 16.5 YOY sauger per mile since 1993 (Figure 7). Similar to walleye, YOY sauger catch rates did increase slightly from 2024 (4.7 fish per mile). The catch rate of all sauger in 2025 on Lake Wisconsin of 32.7 fish per mile falls below the median of 43.3 fish per mile (Figure 9). Of the 467 sauger sampled, 1% were greater than 15 inches.

The YOY sauger catch rate of 0.9 fish per mile at the Kilbourn Dam tailwater was slightly higher than the median of 0.8 YOY sauger per mile since 1993(Figure 8). The catch rate for all sauger at the Kilbourn Dam tailwater of 16.7 fish per mile falls below the median of 24.9 fish per mile (Figure 10). Of the 56 sauger sampled, 7% were greater than 15 inches.

Several factors could have influenced the low catch rates for walleye and sauger in 2025 including water temperatures during the survey being higher than normal, ranging from 62 to 70 degrees Fahrenheit. In recent years, fall weather has been unusually warm and could impact our overall walleye and sauger catch rates if young walleyes and saugers don't move into the shallows in greater numbers until later in the fall when water temperatures are cooler. This survey should be conducted 1-2 weeks later in October to ensure more suitable water temperatures for the survey. Another benefit to pushing the survey later in October would be the decreased chance of algal blooms that make visibility difficult when sampling.

Also, water temperatures during spawning and incubation are an important factor. Pitlo (2002) reported the rate of warming during spawning and incubation was strongly related to YOY walleye and sauger abundance in the fall. It is plausible that the reoccurrence of abnormal spring weather could affect walleye and sauger reproduction and recruitment. A past report noted that for Lake Wisconsin, the poor 2012 and 2013 year classes were likely results of environmental factors, specifically spring weather patterns (Nye 2020). Conditions in 2024 were similar to 2012 when abnormally warm spring weather arrived in early March, followed by a return to cold and wintry conditions in late March and early April. This probably affected survival of age-0 walleyes in 2024 that was reflected in the low fall catch rate of YOY fish.

For smallmouth bass, the catch rate of 13.1 fish per mile on Lake Wisconsin in 2025 ranks in the 75th percentile since 1993 (Figure 11). Catch rates of smallmouth bass have exceeded the median of 10.7 fish per mile in seven of the last eight years on Lake Wisconsin. Of the 187 smallmouth bass sampled, 12% were greater than 14 inches, and 5% were greater than 17 inches.

The smallmouth bass catch rate of 70.2 fish per mile at the Kilbourn Dam tailwater ranks above the 75th percentile since 1993 (Figure 12). Catch rates of smallmouth bass at the Kilbourn Dam tailwater have been over the median of 41.6 fish per mile in four of the last six years. Of the 236 smallmouth bass sampled, 12% were greater than 14 inches and 5% were greater than 17 inches. Smallmouth bass catch rates at the Kilbourn Dam tailwater can be impacted by water temperatures and river levels at the time of the survey, with higher water temperatures and lower river levels producing higher catch rates. Spring electrofishing surveys done in May/June give more accurate data regarding bass populations and spring catch rates are the metric most often used to compare lakes across Wisconsin. However, fall electrofishing surveys likely do accurately reflect abundances within the same waterbody through time. This section of Wisconsin River from the Kilbourn Dam downstream through Lake Wisconsin offers anglers a great smallmouth bass fishery with solid abundance and trophy potential.

The largemouth bass catch rate of 8.4 fish per mile on Lake Wisconsin in 2025 was right at the median of 8.4 fish per mile. Of the 120 largemouth bass sampled on Lake Wisconsin, 8% were greater than 14 inches. Data during fall electrofishing surveys indicate an overall trend of decreasing largemouth bass abundance since 1993, and an acceleration of the decline after 2006 (Figure 13). Losses in large woody habitat, increasing riparian development, declines in water clarity and quality due to excessive nutrient inputs, declines in aquatic macrophyte abundance and increases in gizzard shad abundance (competition with age-0 largemouth bass) have all likely contributed to the decline in abundance of largemouth bass (Nye 2020).

Northern pike, muskellunge and flathead catfish are typically sampled in low numbers during Lake Wisconsin and Wisconsin River fall electrofishing surveys. Northern pike and muskellunge can be difficult to capture with electrofishing equipment. Spring netting surveys following ice out is the preferred method of sampling to assess populations for those species. Summertime hoop netting surveys are the preferred method of sampling catfish.

Acknowledgements

Data collection for these surveys was completed by DNR staff Andrew Notbohm, Celeste Marlow, Greg Haak, Brady Greene, Cade Knaus and Casey Weber. Nathan Nye and Tim Simonson provided feedback and edits for this report.

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Figures

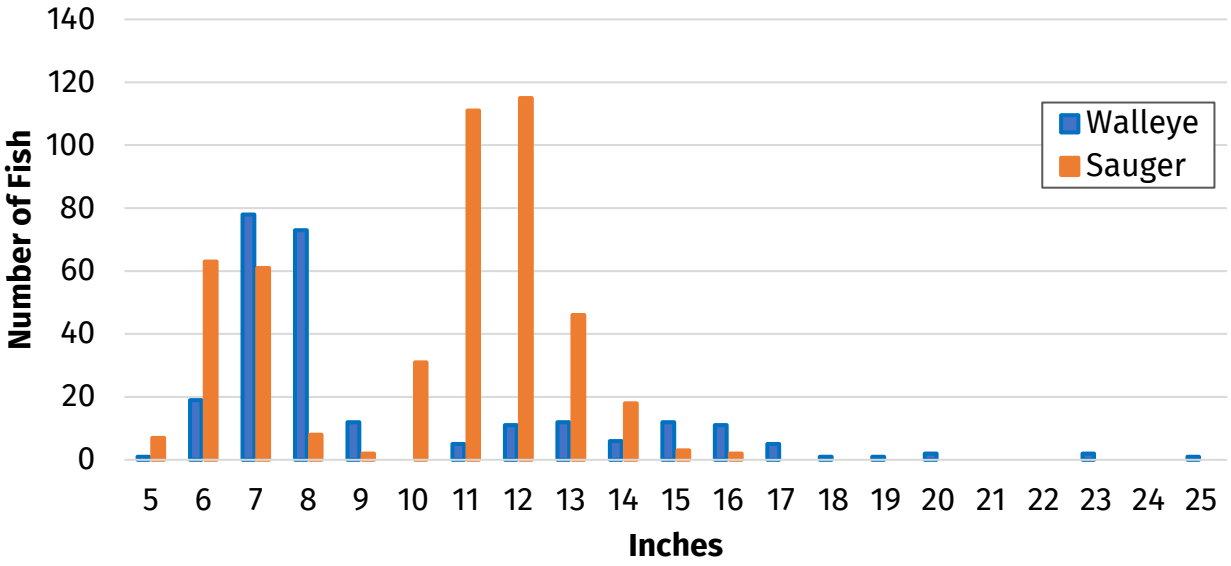

Figure 1. Length frequency distribution of walleye and sauger sampled during the 2025 fall electrofishing survey on Lake Wisconsin.

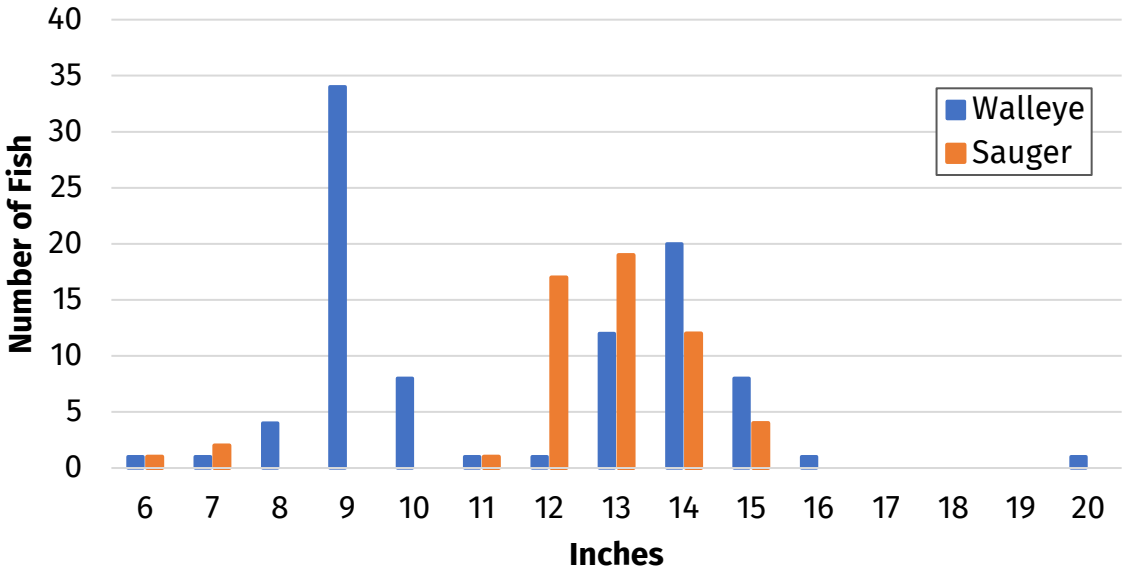

Figure 2. Length frequency distribution of walleye and sauger sampled during the 2025 fall electrofishing survey at the Kilbourn Dam tailwater.

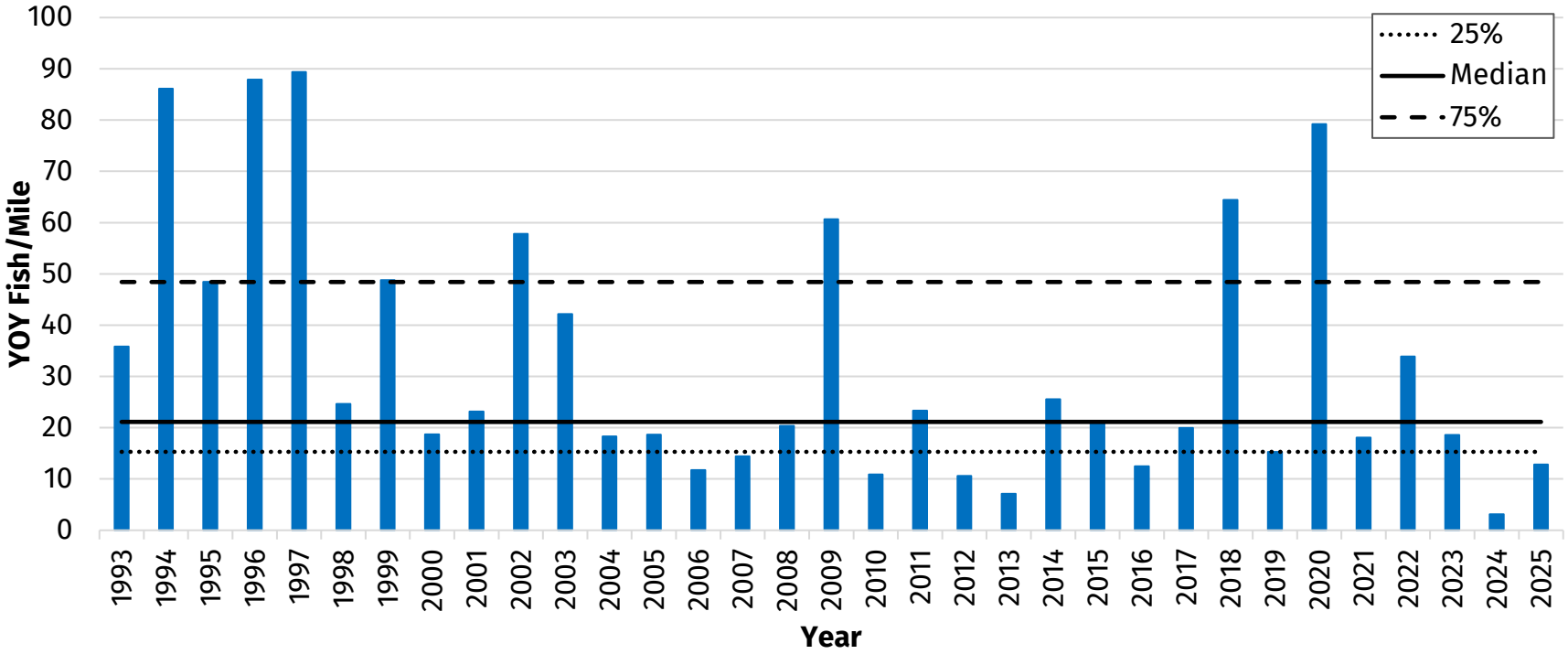

Figure 3. Young of year (YOY) walleye catch rates (fish/mile) on Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

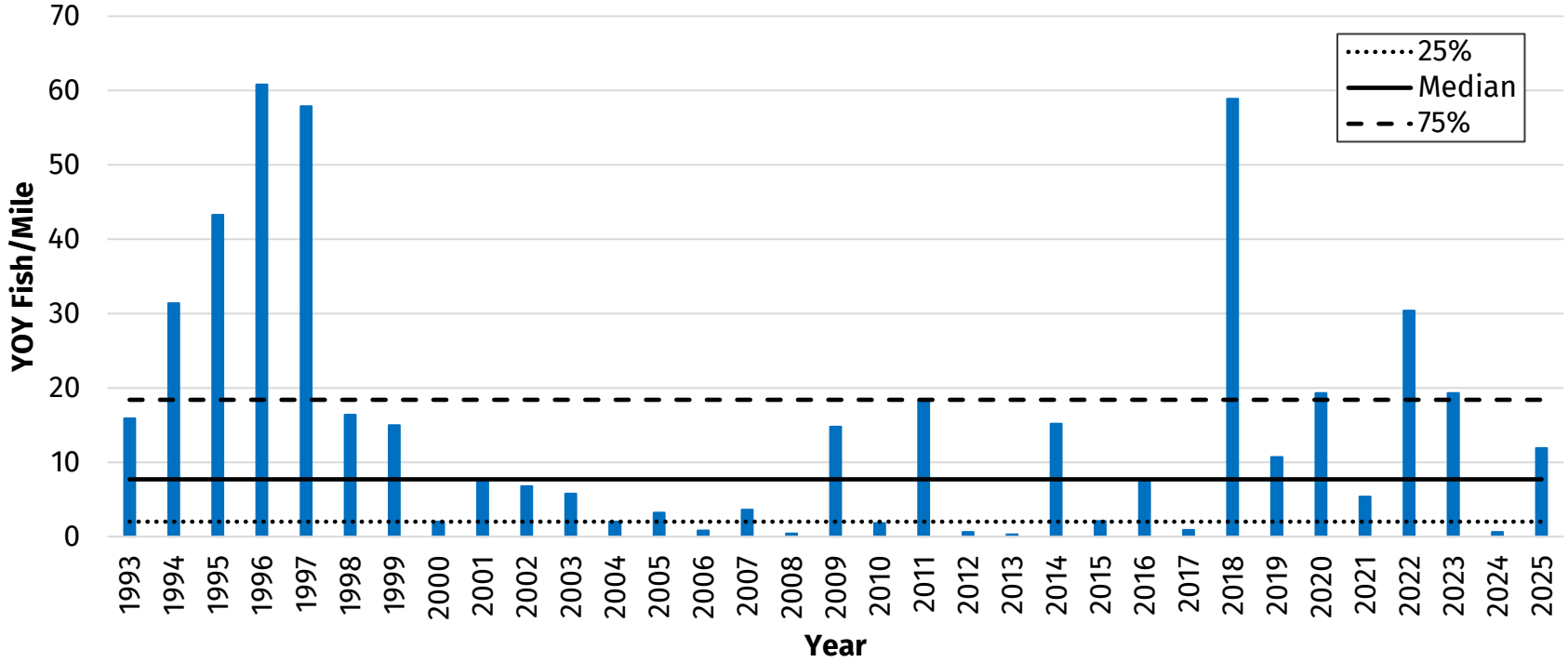

Figure 4. Young of year (YOY) walleye catch rates (fish/mile) at the Kilbourn Dam tailwater from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

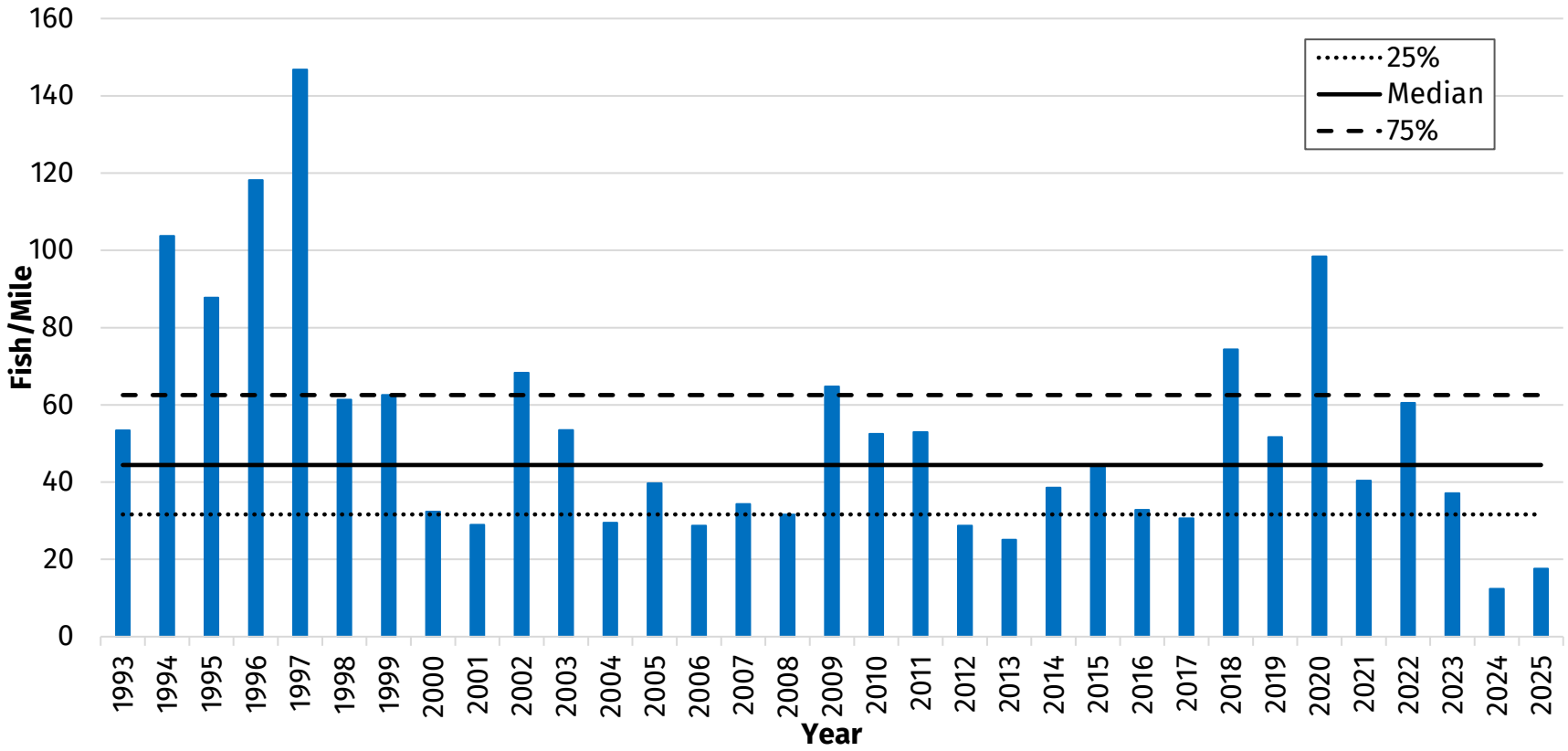

Figure 5. Walleye catch rates (fish/mile) at Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

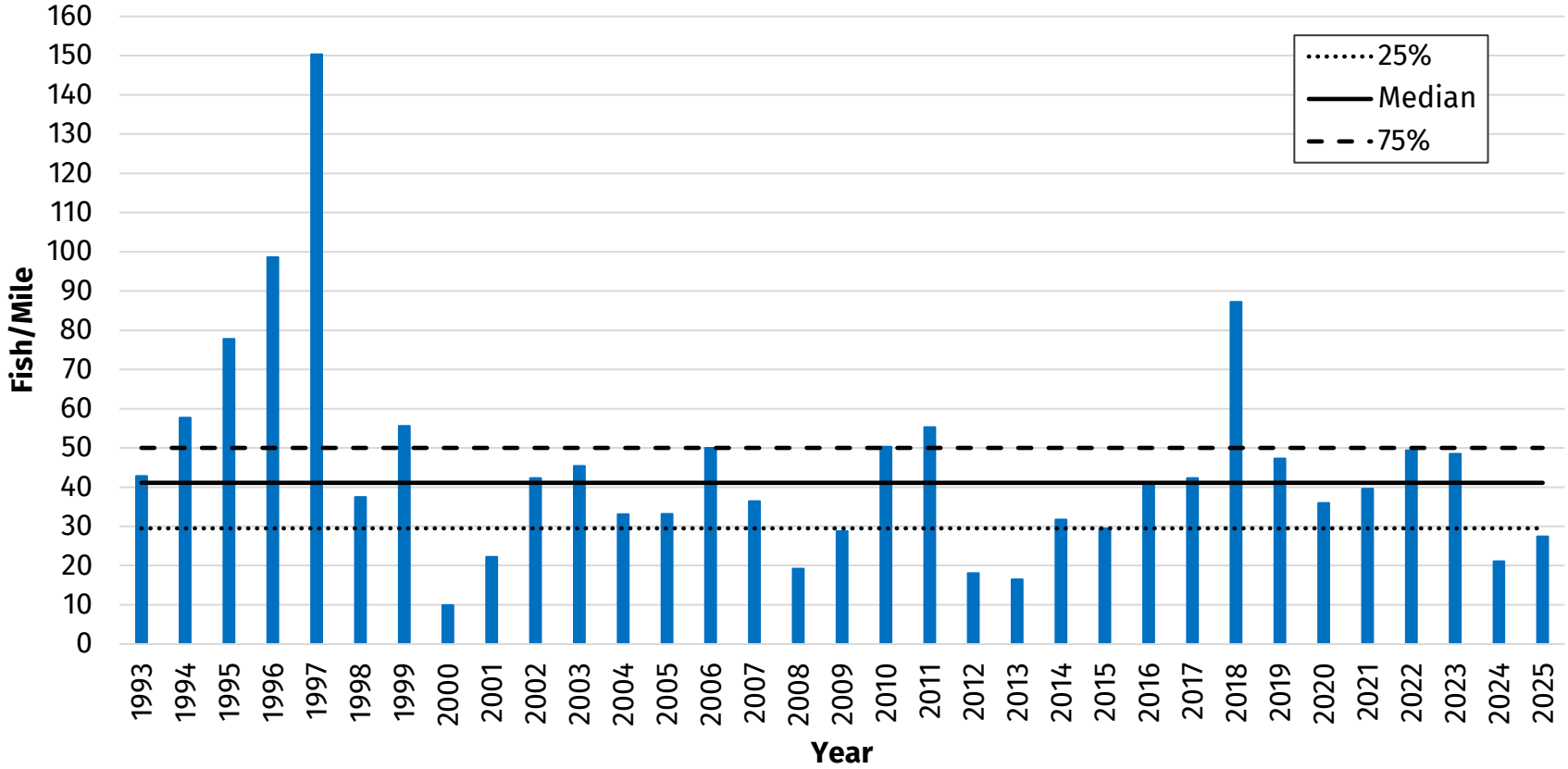

Figure 6. Walleye catch rates (fish/mile) at the Kilbourn Dam tailwater from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

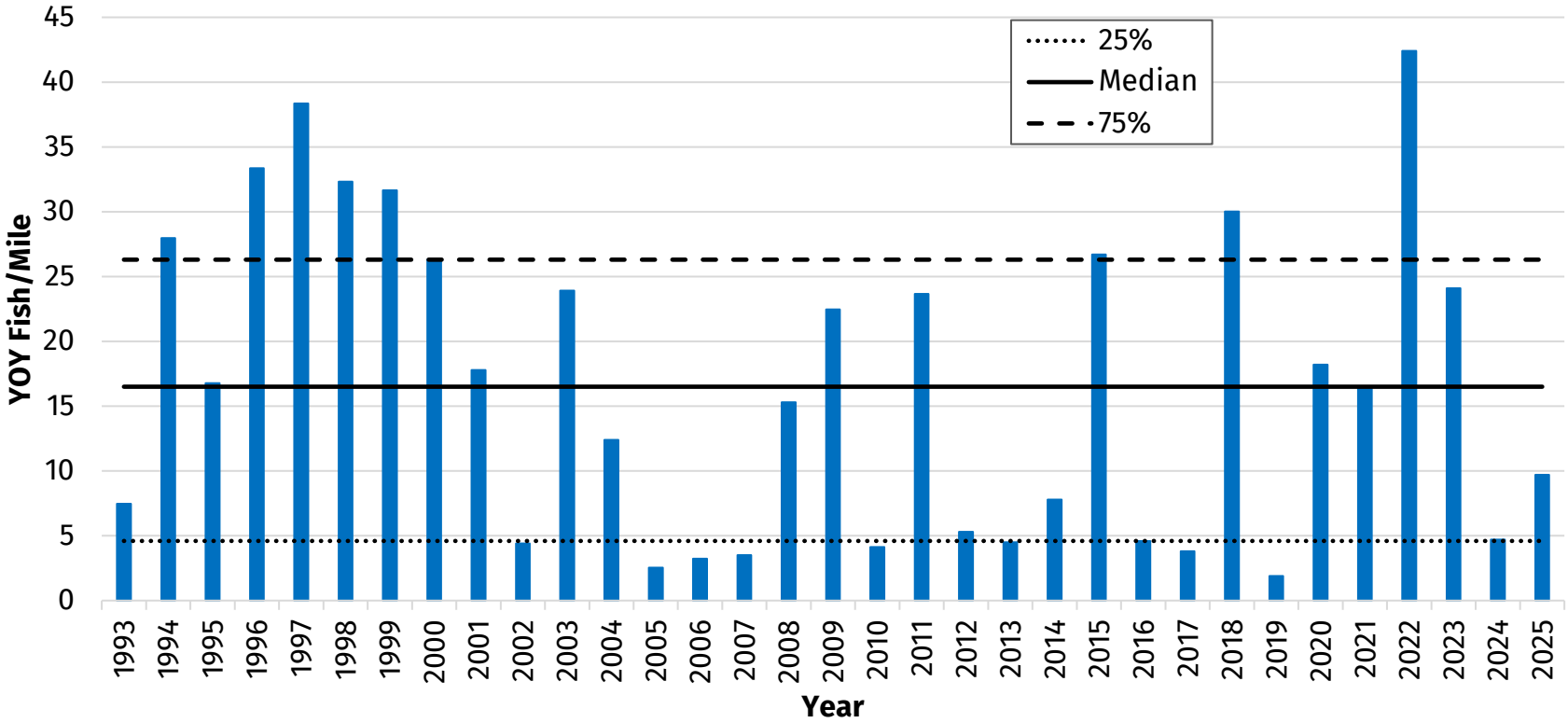

Figure 7. Young of year (YOY) sauger catch rates (fish/mile) on Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

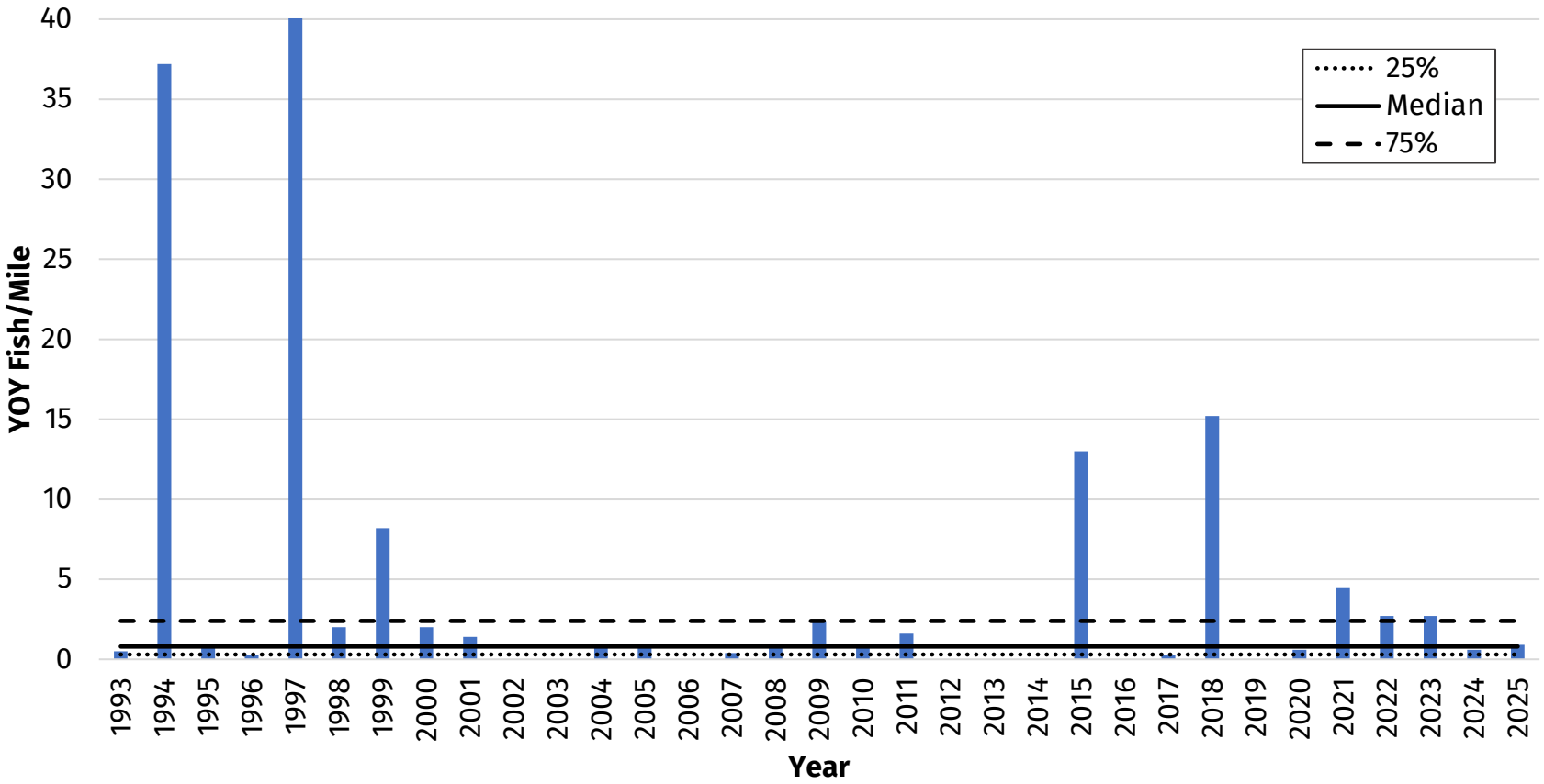

Figure 8. Young of year (YOY) sauger catch rates (fish/mile) at the Kilbourn Dam tailwater from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

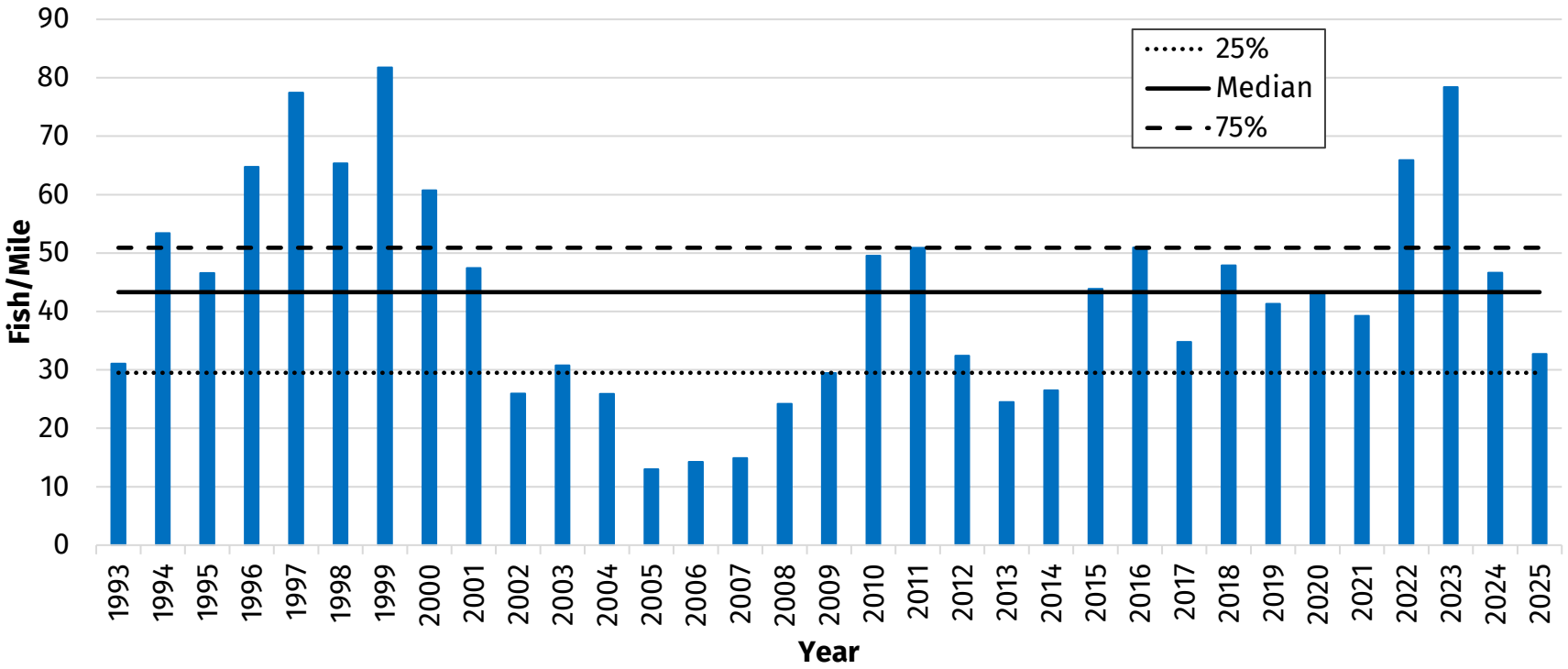

Figure 9. Sauger catch rates (fish/mile) at Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

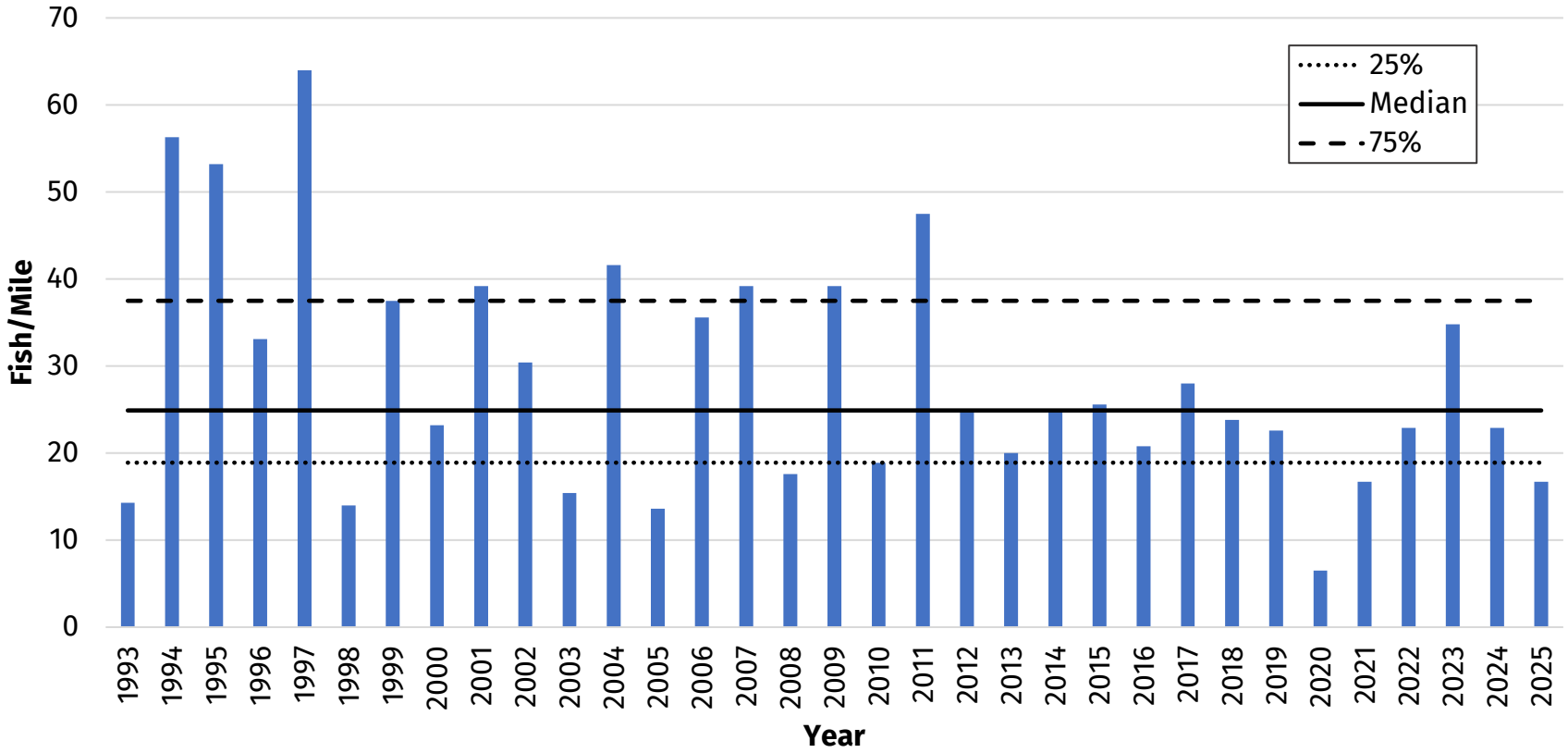

Figure 10. Sauger catch rates (fish/mile) at the Kilbourn Dam tailwater from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

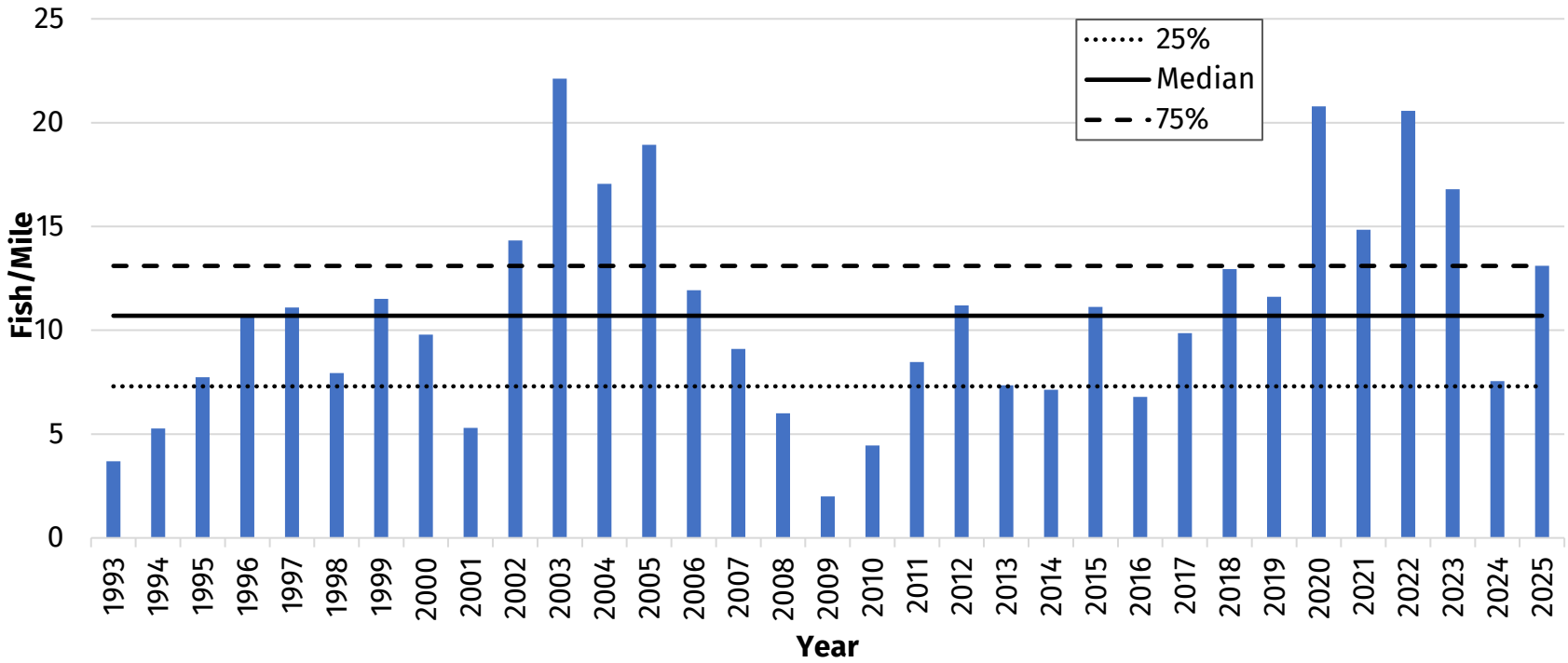

Figure 11. Smallmouth bass catch rates (fish/mile) at Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

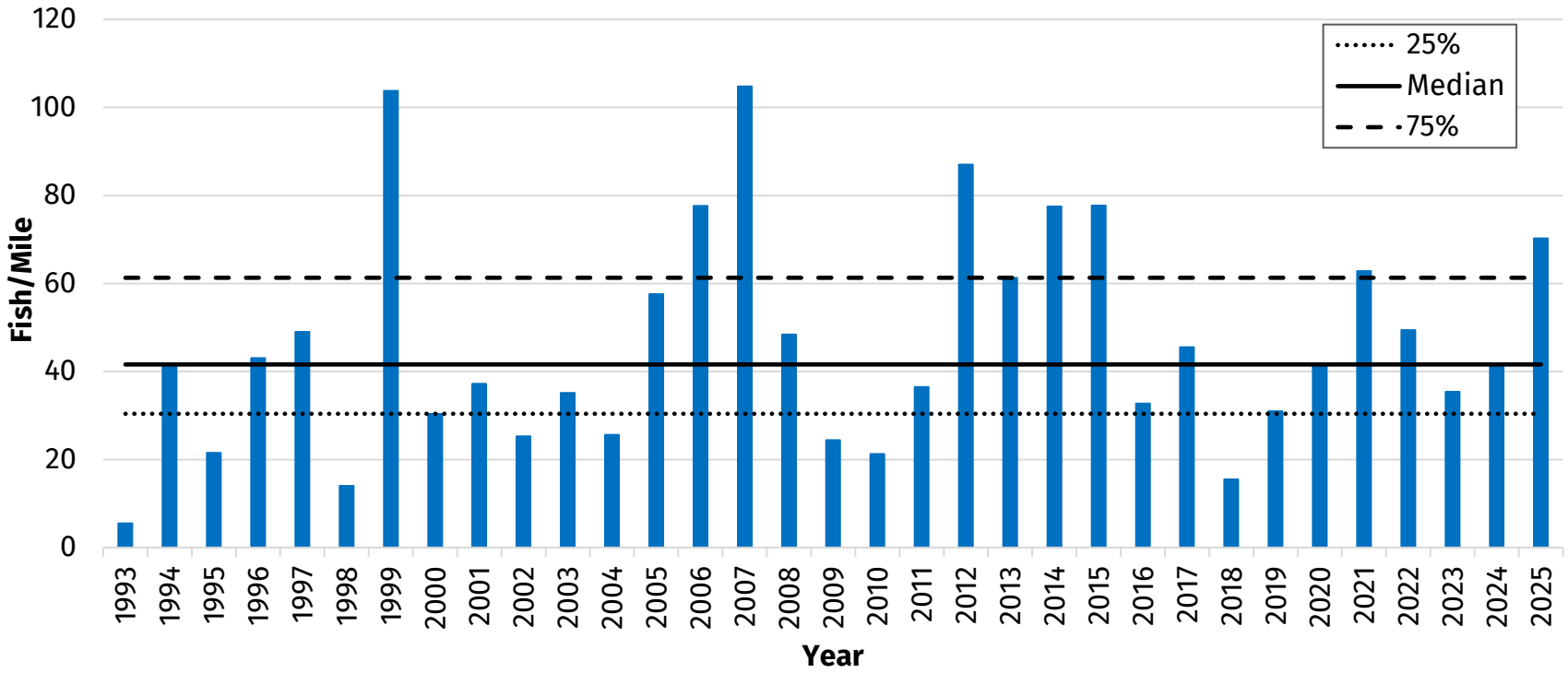

Figure 12. Smallmouth bass catch rates (fish/mile) at the Kilbourn Dam tailwater from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

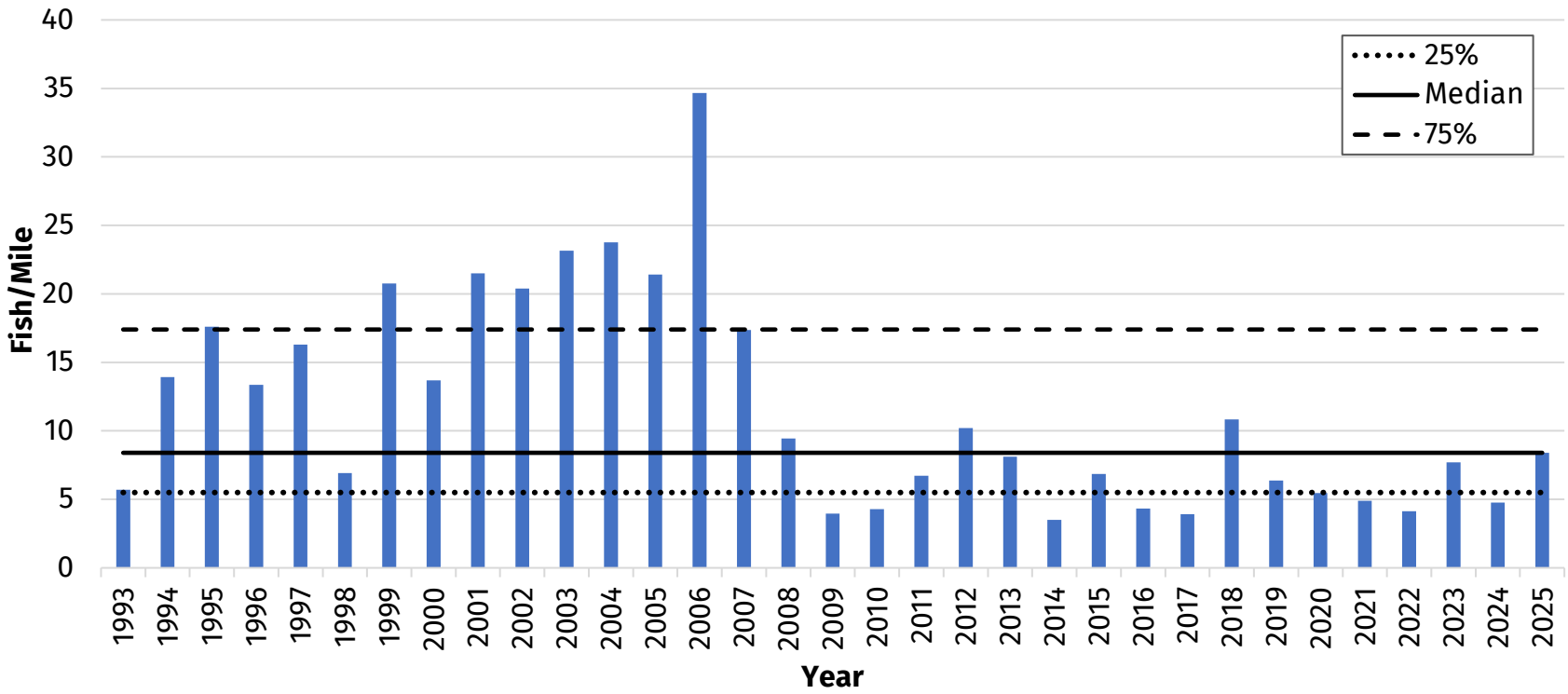

Figure 13. Largemouth bass catch rates (fish/mile) at Lake Wisconsin from 1993-2025. The dotted, solid and dashed lines represent the 25th, median and 75th percentiles.

Tables

Table 1. Latitude and longitude coordinates with survey dates for 2025 Lake Wisconsin and the Wisconsin River at the Kilbourn Dam tailwater fall recruitment surveys in Columbia and Sauk counties.

WATERBODY	STATION	DATE	START LATITUDE	START LONGITUDE	END LATITUDE	END LONGITUDE
Lake Wisconsin	Weigand's Bay	10/07/25	43.36209	-89.68103	43.35953	-89.68684
Lake Wisconsin	Gruber's Grove	10/07/25	43.3271	-89.71078	43.32184	-89.72305
Lake Wisconsin	Okee	10/08/25	43.36663	-89.61944	43.35795	-89.58293
Lake Wisconsin	Moon Valley	10/08/25	43.3625	-89.66497	43.36284	-89.67817
Lake Wisconsin	Up River	10/09/25	43.40632	-89.5288	43.40914	-89.54582
Lake Wisconsin	Stoner's Bay	10/09/25	43.39417	-89.57956	43.37915	-89.61616
Wisconsin River	River's Edge	10/15/25	43.6058	-89.76794	43.60545	-89.7576
Wisconsin River	Upper 3 Spots	10/15/25	43.60742	-89.76897	43.62352	-89.77969

Table 2. Catch rate (fish/mile) summary of walleye and sauger and young of year (YOY) walleye and sauger at each station on Lake Wisconsin and the Wisconsin River at the Kilbourn Dam tailwater fall recruitment surveys in 2025.

Waterbody	Station	Walleye/mile	Sauger/mile	Walleye YOY/mile	Sauger YOY/mile	Walleye >15"/mile	Sauger >15"/mile
Lake Wisconsin	Up River	11.2	24.8	7.0	4.2	0.5	0.5
Lake Wisconsin	Stoner's Bay	37.8	43.3	28.5	15.2	4.8	0.7
Lake Wisconsin	Okee	34.9	25.1	24.3	4.7	6.8	0.4
Lake Wisconsin	Moon Valley	9.4	41.2	7.3	9.8	0.8	0.0
Lake Wisconsin	Weigand's Bay	4.6	25.4	3.3	3.3	0.4	0.0
Lake Wisconsin	Gruber's Groove	4.4	33.8	3.1	20.0	0.9	0.4
Wisconsin River	River's Edge	34.7	0.6	16.2	0.6	3.6	0.6
Wisconsin River	Upper 3 Spots	20.1	1.2	7.7	1.2	2.4	1.8

Table 3. Catch rate (fish/mile) summary of young of year (YOY) walleye and sauger in southern and central Wisconsin flowages in 2025.

WATERBODY	YEAR	WALLEYE YOY/MILE	SAUGER YOY/MILE
Lake Wisconsin	2025	12.7	9.7
Castle Rock Lake	2025	46.7	NA
Petenwell Lake	2025	167.8	NA
Lake Koshkonong	2025	4.8	0.5

1. Sauger are not present upstream of the Kilbourn Dam on the Wisconsin River so there are no catch rates of sauger during fall electrofishing surveys at Castle Rock Lake and Petenwell Lake.

Table 4. Catch rate (fish/mile) summary of young-of-the-year (YOY) walleye and sauger in southern Wisconsin rivers.

RIVER	LOCATION	YEAR	YOY WALLEYE/MILE	YOY SAUGER/MILE
Wisconsin River	Kilbourn Dam	2025	11.9	0.9
Wisconsin River	Prairie Du Sac	2025	16.8	1.6
Rock River	Indianford	2025	22.0	6.0
Rock River	Fort Atkinson	2025	20.6	0.7

Table 6. General fishing regulations for Lake Wisconsin and the Wisconsin River in Columbia and Sauk counties.

SPECIES	SEASON DATES	DAILY BAG LIMIT	SIZE LIMIT
Largemouth bass and smallmouth bass	Open All Year	5	14” or larger
Northern pike	Open All Year	2	26” or larger
Panfish	Open All Year	25	None
Walleye, sauger and hybrids	Open All Year	3	15-20” and 1 fish over 28”
Muskellunge	1st Saturday in May through December 31	1	50” or larger
Lake sturgeon	1st Saturday in September through September 30	1	60” or larger
Channel and flathead catfish	Open All Year	10	None
Rock, yellow and white bass	Open All Year	Unlimited	None
Bullheads & rough fish	Open All Year	Unlimited	None