

# WISCONSIN DEPARTMENT OF NATURAL RESOURCES Lake Wisconsin and Wisconsin River Creel Survey Report

Columbia and Sauk Counties, Wisconsin 2022-2023



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## Introduction

Fish populations can fluctuate due to a variety of factors including natural forces like climate, reproductive success, predation and competition. Human activities such as fish harvest, stocking, habitat change and invasive species introduction can also have significant impacts. The Wisconsin Department of Natural Resources (DNR) fisheries crews regularly conduct fishery surveys on lakes and reservoirs to gather the information needed to monitor changes, identify concerns, evaluate past management actions and to prescribe fishery management strategies. Netting and electrofishing surveys are used to gather data on the status of fish populations and communities, measuring such parameters as species composition, population size, reproductive success, size and age distribution and growth rates. Harvest is another key component of fisheries that we need to measure.

We measure the sport angler harvest to assess its impact on the fishery. It would be highly impractical and very costly to conduct a complete census of every angler who fishes on a lake, so we conduct creel surveys instead.

A creel survey is an assessment tool used to sample the fishing activities of anglers on a body of water to make estimates of harvest and other fishery parameters. Creel survey clerks work on randomly-selected days and shifts, forty hours per week. This survey was conducted during daylight hours throughout the year-round open season for gamefish in Lake Wisconsin. Creel surveys were not conducted at Lake Wisconsin in December 2022 when fishing effort was low and ice conditions were unsafe for most of the month.

Creel survey clerks travel their lakes using a boat or snowmobile to count the number of anglers at predetermined times and to interview anglers who have completed their fishing trip. Data are collected on what species they fished for, catch, harvest, lengths of fish harvested, marks (fin clips or tags) and

hours of fishing effort. Collecting completed-trip data provides the most accurate assessment of angling activities and it avoids the need to disturb anglers while they are fishing.

Data collected during the creel surveys were used to estimate catch and harvest of each species, catch and harvest rates and fishing effort by month, as well as for the year in total. Keep in mind that these are estimates based on the best information available and not a complete accounting of effort, catch and harvest. Accurate estimates require that we sample a sufficient and representative portion of the angling activity on a lake. The accuracy of creel survey results depends on good cooperation and truthful responses by anglers when a creel clerk interviews them.

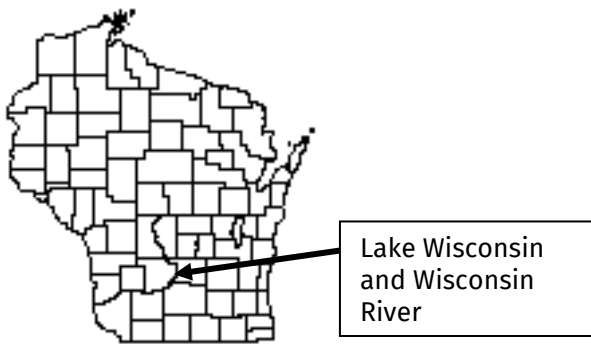
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a few minutes of your time and it gives the DNR valuable information needed for management of the fishery.

This report provides estimates of:

1. Overall fishing effort (pressure)
2. Fishing effort directed at each species
3. Numbers of fish caught and harvested
4. Catch and harvest rates

Also included are a physical description of Lake Wisconsin, discussion of results of the survey and detailed summaries by species of fishing effort, catch and harvest.

# General Lake Information



## LOCATION

Lake Wisconsin and the Wisconsin River segment included in this survey are located in Columbia County and Sauk County near the towns of Wisconsin Dells, Poynette, Lodi, Merrimac and Prairie du Sac.

## PHYSICAL CHARACTERISTICS

Lake Wisconsin includes a 7,200-acre main impoundment of the Wisconsin River formed by the Prairie du Sac Dam. Lake Wisconsin has a maximum depth of 24 feet. Littoral substrate consists primarily of sand, gravel and rock. Lake Wisconsin contains the tannic, stained waters characteristic of the Wisconsin River.

The Kilbourn Dam tailwater area of the Wisconsin River included in the creel survey stretches approximately 6.5 river miles from the Kilbourn Dam in Wisconsin Dells downstream to the Fox Run public access site, which equates to approximately 475 surface acres of water.

## SEASONS SURVEYED

The Lake Wisconsin creel survey ran from July 1, 2022 through June 30, 2023 and included open-water and ice fishing periods. The open-water portion of the creel survey ran from July 1, 2022 through Nov. 30, 2022 and Mar. 1, 2023 through June 30, 2023. The winter (ice) creel survey ran from Jan. 1, 2023 through Feb. 28, 2023. The creel survey was paused for all of December 2022 when conditions were unfavorable for fishing and effort was very low.

The Kilbourn Dam tailwater creel survey ran from Sept. 3, 2022 through Sept. 30, 2022 (lake

sturgeon hook and line season), and March 1, 2023 through May 30, 2023.

## WEATHER

Fishable ice formed on Lake Wisconsin in one location as early as mid-November 2022 but dissipated later in the fall before reforming in many locations by Jan. 1, 2023 when fishable ice was found in the many bays around the lake. The main river channel runs through the center of the lake and ice along the main channel is generally unsafe for fishing, rendering vast sections of the lake unfishable in winter. Fishable ice was gone from much of Lake Wisconsin by early March and open-water angling resumed at that time.

The Wisconsin River in the Kilbourn Dam tailwater area was ice-free and fishable by boat for the September 2022 creel and the entire spring creel from March 1, 2023 through May 30, 2023. Higher than normal spring flows in the Wisconsin River during much of April and parts of May produced difficult conditions for fishing and may have reduced fishing effort below what it would have been in a year with normal spring river flows.

## FISHING REGULATIONS

The following seasons, daily bag limits and length limits were in place on Lake Wisconsin during the 2022-23 fishing season:

Largemouth and smallmouth bass	Open all year	5*	14"
*Bass species have a combined bag limit of 5.			
Muskellunge	5/ 7 - 12/ 31	1	50"
Northern pike	Open all year	2	26"
Walleye, sauger and hybrids	Open all year	5	15"
			20" - 28" Protected Slot, 1 > 28"
Panfish	Open all year	25	None
White bass and Yellow bass	Open all year	None	None
Lake sturgeon	9/ 3 - 9/ 30	1	60"

## Species Catch and Harvest Information

Summaries of total angling effort, as well as directed effort, catch and harvest information for each of the most targeted species are in Tables 1-4 and Figures 1-21. Brief summaries of total effort, catch, and harvest of species with small amounts of directed effort, or no directed effort but small amounts of catch are found in Tables 5 and 6. Each species summary page has up to five graphs depicting the following:

- 1. DIRECTED FISHING EFFORT**  
Estimated number of hours during each month that anglers spent fishing for a species.
- 2. TOTAL CATCH AND HARVEST**  
Estimated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.
- 3. SPECIFIC CATCH AND HARVEST RATES**  
Estimated number of hours it takes an angler to catch or harvest a fish of the indicated species. Only information from anglers who were specifically targeting that species is reported.
- 4. LENGTH DISTRIBUTION OF HARVESTED FISH**  
All fish of a species that were measured by the clerk during the entire creel survey season.
- 5. LARGEST AND AVERAGE LENGTH OF HARVESTED FISH**  
Largest and average (mean) length of a species of fish harvested. Only fish measured by the creel survey clerk are reported.

## CREEL SURVEY RESULTS AND DISCUSSION

### SURVEY LOGISTICS

The creel survey likely underestimated lake sturgeon angling effort in Lake Wisconsin because most of the effort that occurs in the

impoundment happens at night and all creel survey work was done in daylight. We encountered no unusual problems conducting the survey or calculating the projections contained in the report. This was the second time the DNR conducted a creel survey on Lake Wisconsin. The last creel survey took place during 1997, but only included specific parts of the lake. It should be noted that during the 2022-23 creel survey there were a few instances of anglers possessing walleyes and saugers smaller than 15 inches during their creel interview. Fortunately, in all cases the fish were alive and through cooperation with the anglers the fish were all successfully released.

### GENERAL ANGLER INFORMATION

Anglers spent 102,822 hours, or 14.3 hours per acre, fishing Lake Wisconsin during the 2022-23 season (Table 1). The total included 94,040 hours of open water fishing (13.1 hours per acre) and 8,782 hours of ice fishing (1.2 hours per acre). June was the most heavily fished month (18,986.7 hours or 2.6 hours per acre). Creel clerks conducted 1,097 interviews throughout the Lake Wisconsin creel survey.

Anglers spent 59,824 hours, or 125.9 hours per acre, fishing the Kilbourn Dam tailwater in September 2022 and March-May 2023 (Table 2). March was the most heavily fished month (17,249.5 hours or 36.3 hours per acre). Creel clerks conducted 442 angler interviews throughout the Kilbourn Dam tailwater creel survey.

### RESULTS BY SPECIES

**WALLEYE** (Table 3 and 4, Figures 1 and 2)  
Walleye received the most directed fishing effort of any gamefish species during the Lake Wisconsin creel survey. Anglers spent 57,393 hours targeting walleye and 97.2% of walleye fishing effort occurred during open water fishing. Fishing effort for walleye was highest in May (11,754 hours). Total catch of walleye in Lake Wisconsin was 34,628 fish, and total harvest was 5,231 fish. The highest monthly catch (9,796 fish) occurred in June, and the highest harvest (2,218 fish) occurred in May. Anglers fished an estimated 1.7 hours

to catch, and 11.0 hours to harvest a walleye during the open water portion of the survey. Anglers fished an estimated 32.1 hours to catch a walleye during the ice fishing portion of the survey (no walleyes were harvested during ice season). Lengths of harvested walleyes ranged from 15.0 inches to 28.6 inches with all but one walleye between 15.0-19.9 inches. Mean length of harvested walleyes was 17.0 inches.

Walleye also received the most directed fishing effort of any gamefish species during the Kilbourn Dam tailwater creel survey in Sept. 2022 and March-May 2023. Anglers spent 46,247 hours targeting walleye in the Kilbourn Dam tailwater area, and 89.1% of walleye fishing effort occurred during March, April, and May. Fishing effort for walleye was highest in March (17,191 hours). Total catch of walleye in the Kilbourn Dam tailwater was 31,027 fish, and total harvest was 4,102 fish. The highest monthly catch (14,922 fish) occurred in March, and the highest harvest (2,265 fish) also occurred in March. Anglers fished an estimated 1.6 hours to catch, and 11.7 hours to harvest a walleye during the tailwater survey which closely matched values for Lake Wisconsin. Lengths of harvested walleyes ranged from 15.0-21.0 inches and included one fish in the protected slot which was not able to be released alive during the interview. Mean length of harvested walleyes was 16.4 inches.

**SAUGER** (Tables 3 and 4, Figures 3 and 4) Sauger received 35,324 hours of directed fishing effort during the Lake Wisconsin creel survey, and 98.6% of sauger fishing effort occurred during open water fishing. Sauger fishing effort was highest in June (8,988 hours). Total catch of sauger was 31,916 fish, and total harvest was 5,067 fish. The highest catch occurred in October (10,952 fish) as did the highest harvest (1,747 fish). Anglers fished an estimated 1.2 hours to catch, and 7.2 hours to harvest a sauger during open water fishing. Anglers fished an estimated 7.2 hours to catch, and 45.6 hours to harvest a sauger during ice fishing. Harvested saugers ranged from 15.0-19.5 inches. Mean length of

harvested saugers was 16.5 inches during open water fishing and 17.2 inches during ice fishing.

Sauger received 21,989 hours of directed fishing effort during the Kilbourn Dam tailwater creel survey, and 95.3% of sauger fishing effort occurred during March-May 2023. Sauger fishing effort was highest in March (12,105 hours). Total catch of sauger was 4,217 fish, and total harvest was 522 fish. The highest catch occurred in March (2,233 fish) and the highest harvest occurred in April (256 fish). Anglers fished an estimated 5.7 hours to catch, and 42.0 hours to harvest a sauger during the tailwater creel survey. Harvested saugers ranged from 15.0-18.8 inches. Mean length of harvested saugers was 15.9 inches.

**SMALLMOUTH BASS** (Tables 3 and 4, Figures 5 and 6)

Fishing effort directed at smallmouth bass was 22,404 hours during the Lake Wisconsin creel survey, and all smallmouth bass fishing effort occurred during open water fishing. Smallmouth bass fishing effort was greatest in June (5,836 hours). Total catch of smallmouth bass was 20,052 fish, with 53 fish harvested. The highest catch (5,608 fish) occurred in June. Anglers fished an estimated 1.4 hours to catch a smallmouth bass during the survey. Harvested smallmouth bass ranged from 14.5-17.6 inches. Mean length of harvested smallmouth bass was 15.6 inches.

Fishing effort directed at smallmouth bass was 4,385 hours during the Kilbourn Dam tailwater creel survey in September 2022 and March-May 2023. Smallmouth bass fishing effort was greatest in September (2,292 hours). Total catch of smallmouth bass was 3,754 fish, with 103 fish harvested. The highest catch (2,147 fish) occurred in September. Anglers fished an estimated 2.4 hours to catch a smallmouth bass during the survey. Harvested smallmouth bass ranged from 14.8-18.1 inches. Mean length of harvested smallmouth bass was 16.6 inches.

### **LARGEMOUTH BASS** (Tables 3 and 4, Figure 7)

Fishing effort directed at largemouth bass was 21,230 hours during the Lake Wisconsin creel survey, with 98.6% of effort occurring during open water fishing. Largemouth bass fishing effort was greatest in June (5,309 hours). Total catch of largemouth bass was 11,734 fish, and total harvest was 442 fish. The highest catch (3,741 fish) occurred in May. Anglers fished an estimated 2.0 hours to catch a largemouth bass during the open water portion of the survey. Harvested largemouth bass ranged from 14.0-18.2 inches. Mean length of harvested largemouth bass was 15.6 inches.

Fishing effort directed at largemouth bass was 419 hours during the Kilbourn Dam tailwater creel survey with most of the directed effort occurring in May. Total catch of largemouth bass was 23 fish, and total harvest was 12 fish. All largemouth bass catch and harvest occurred in September. Anglers fished an estimated 36.6 hours to catch a largemouth bass during the tailwater survey. The single largemouth bass measured by a creel clerk was 16.0 inches. Low largemouth bass effort, catch and harvest in the tailwater survey is not surprising considering the habitat in that portion of the Wisconsin River is best suited to smallmouth bass and the catch during DNR fishery surveys in the tailwater area is consistently dominated by smallmouth bass with few largemouth bass collected.

### **BLUEGILL** (Tables 3 and 4, Figures 8 and 9)

Bluegill was the most sought-after panfish species during the Lake Wisconsin creel survey. Fishing effort directed at bluegill was 16,012 hours. A greater percentage of bluegill fishing effort occurred during open water fishing (62.1%) compared to ice fishing (37.9%). Total catch of bluegill was 28,256 fish, and total harvest was 8,746 fish. Directed fishing effort for bluegill was highest in June (2,572 hours) and the highest catch (5,422 fish) and harvest (2,142 fish) also occurred in June. More bluegills were harvested during open water fishing (6,576) than during ice fishing (2,170). Anglers fished an estimated 0.5 hours

to catch, and 1.5 hours to harvest a bluegill during open water fishing. Anglers fished an estimated 0.5 hours to catch, and 1.3 hours to harvest a bluegill during ice fishing. Overall, harvested bluegills ranged from 5.0-9.6 inches. Mean length of harvested bluegills was 7.5 inches during open water fishing and 7.1 inches during ice fishing.

Directed angler effort for bluegill (and other panfish) was much lower in the Kilbourn Dam tailwater survey compared to Lake Wisconsin, as anglers were predominantly targeting walleye, sauger and white bass in the tailwater area. Bluegill fishing effort during the tailwater survey was 846 hours, and effort was highest in September (466 hours). No bluegill fishing effort was recorded in March and April 2023. Total catch of bluegill was 355 fish and total harvest was 126 fish. Anglers fished an estimated 4.8 hours to catch, and 8.7 hours to harvest a bluegill during the tailwater survey. Harvested bluegills ranged from 7.4-8.4 inches. Mean length of harvested bluegills was 7.8 inches.

### **CRAPPIES** (Tables 3 and 4, Figures 10-14)

During the Lake Wisconsin creel survey, black and white crappies collectively accounted for 24,472 hours of directed fishing effort (12.4% of all directed effort), which was third-most after walleye and sauger. Directed crappie fishing effort was evenly split between open water fishing (50.9%) and ice fishing (49.1%), although the ice fishing effort occurred in just two months (January and February) while the open water effort was spread over the remainder of the year. Total crappie catch was 18,204 fish which was 5<sup>th</sup> highest. Again, the catch was split evenly between open water fishing (50.2%) and ice fishing (49.8%). Total crappie harvest was 6,960 fish which was second highest after bluegill. Slightly more harvest occurred during ice fishing (52%) compared to open water fishing (48%).

In the Kilbourn Dam tailwater creel survey, black and white crappies collectively accounted for 2,175 hours of directed fishing effort (2.2% of all directed effort). Effort was highest in May (959 hours), and lowest in

March (0 hours). Anglers caught 1,958 crappies and harvested 768 crappies. For both the Lake Wisconsin and Kilbourn Dam tailwater creel surveys, crappie catch, harvest and harvest rates are broken down further for each crappie species below.

**BLACK CRAPPIE** (Tables 3 and 4, Figures 10 and 11)

Anglers caught 9,800 black crappies and harvested 4,288 fish from Lake Wisconsin. Black crappie catch (2,464 fish) and harvest (1,352 fish) were highest in February. More black crappies were harvested during ice fishing (2,380) than during open water fishing (1,908), and black crappie harvest was the highest by number of any species during ice fishing. Anglers fished an estimated 3.0 hours to catch, and 4.7 hours to harvest a black crappie during open water fishing. Anglers fished an estimated 1.4 hours to catch, and 2.7 hours to harvest a black crappie during ice fishing. Harvested black crappies ranged from 7.0-14.1 inches. Mean length of harvested black crappies was 10.7 inches during open water fishing and 9.1 inches during ice fishing.

In the Kilbourn Dam tailwater creel survey, total catch of black crappie was 1,767 fish and total harvest was 725 fish. Anglers fished an estimated 1.3 hours to catch, and 3.4 hours to harvest a black crappie during the tailwater survey. Harvested black crappies ranged from 8.3-12.9 inches. Mean length of harvested black crappies was 10.0 inches.

**WHITE CRAPPIE** (Tables 3 and 4, Figure 12)

Anglers caught 8,404 white crappies and harvested 2,672 fish from Lake Wisconsin. The highest catch (2,370 fish) occurred in January, while the highest harvest occurred in May (946 fish). More white crappies were harvested during open water fishing (1,434) than during ice fishing (1,238). Anglers fished an estimated 1.7 hours to catch, and 3.3 hours to harvest a white crappie during open water fishing. Anglers fished an estimated 1.3 hours to catch, and 4.7 hours to harvest a white crappie during ice fishing. Harvested white crappies ranged from 7.0-13.3 inches. Mean length of harvested white crappies was 10.2

inches during open water fishing and 10.0 inches during ice fishing.

Anglers caught 191 white crappies and harvested 43 fish during the Kilbourn Dam tailwater creel survey. The single white crappie measured during the survey was 8.1 inches.

**YELLOW PERCH** (Tables 3 and 4, Figures 13 and 14)

Yellow perch received 7,054 hours of directed fishing effort during the Lake Wisconsin creel survey. A greater percentage of yellow perch fishing effort occurred during open water fishing (63.1%) compared to ice fishing (36.9%). Anglers caught 6,291 yellow perch and harvested 2,008 fish. The highest catch (1,162 fish) occurred in August, as did the highest harvest (671 fish). More yellow perch were harvested during open water fishing (1,306 fish) than during ice fishing (703 fish). Anglers fished an estimated 2.2 hours to catch, and 4.8 hours to harvest a yellow perch during open water fishing. Anglers fished an estimated 1.7 hours to catch, and 4.3 hours to harvest a yellow perch during ice fishing. Harvested yellow perch ranged from 6.7-12.5 inches. Mean length of yellow perch harvested was 8.9 inches during open water fishing and 8.6 inches during ice fishing.

Yellow perch directed fishing effort during the Kilbourn Dam tailwater creel survey was 708 hours, and effort was highest in May (330 hours). Total catch of yellow perch was 513 fish and total harvest was 182 fish. Anglers fished an estimated 13.5 hours to catch, and 13.5 hours to harvest a yellow perch during the tailwater survey. Harvested yellow perch ranged from 7.1-10.0 inches. Mean length of harvested yellow perch was 8.2 inches.

**WHITE BASS** (Table 3 and 4, Figures 15 and 16)

White Bass received 2,939 hours of directed fishing effort during the Lake Wisconsin creel survey, with 92.1% of the directed effort occurring during open water fishing. Anglers caught 5,162 white bass and harvested 1,287 fish. Anglers fished an estimated 1.4 hours to catch, and 3.8 hours to harvest a white bass



during open water fishing. Anglers fished an estimated 1.8 hours to catch, and 2.4 hours to harvest a white bass during ice fishing. Harvested white bass ranged from 7.5-15.3 inches. Mean length of white bass harvested was 12.5 inches during open water fishing and 10.9 inches during ice fishing.

White Bass received 8,345 hours of directed fishing effort during the Kilbourn Dam tailwater creel survey. Anglers caught 9,683 white bass and harvested 7,386 fish which was the highest number of fish harvested of any species during the tailwater creel survey. The highest catch (7,439 fish) occurred in May, and the highest harvest also occurred in May (6,578 fish). Nearly all catch (93.2%) and harvest (97.9%) occurred during March-May 2023. Anglers fished an estimated 1.1 hours to catch, and 1.2 hours to harvest a white bass during the tailwater creel survey, and catch and harvest rates were highest during May 2023, coinciding with the white bass spawning run. Harvested white bass ranged from 10.6-17.5 inches. Mean length of harvested white bass was 13.1 inches.

**NORTHERN PIKE** (Table 3 and 4, Figure 17) Fishing effort directed at northern pike was 2,730 hours during the Lake Wisconsin creel survey. Northern pike fishing effort was greatest in June (537 hours). Total catch of northern pike was 940 fish, and total harvest was 17 fish. All harvest was recorded during the ice fishing portion of the creel survey. Harvested northern pike ranged from 28.0-32.2 inches. Mean length of harvested northern pike was 29.7 inches. The Lake Wisconsin creel survey likely underestimated northern pike fishing effort, catch, and harvest during the ice fishing portion of the survey. Anglers targeting pike with tip-ups were often observed during counts, and anglers were observed catching and keeping northern pike, however it proved difficult to catch those tip-up anglers for completed trip interviews because they were often gone by the time the clerk returned from scheduled counts.

Fishing effort directed at northern pike was

2,230 hours during the Kilbourn Dam tailwater creel survey in September 2022 and March-May 2023. Northern pike fishing effort was greatest in May (2,138 hours). Total catch of northern pike was 154 fish, and no harvest was recorded during the tailwater survey.

**CHANNEL CATFISH** (Tables 3 and 4, Figure 18) Fishing effort directed at channel catfish was 2,613 hours during the Lake Wisconsin creel survey. Channel catfish fishing effort was greatest in September (1,057 hours). Total catch of channel catfish was 1,251 fish, and total harvest was 92 fish. All directed effort, catch and harvest was recorded during the open water portion of the creel survey. Anglers fished an estimated 2.8 hours to catch, and 32.2 hours to harvest a channel catfish. Harvested channel catfish ranged from 19.7-24.5 inches. Mean length of harvested channel catfish was 21.5 inches.

Fishing effort directed at channel catfish was 1,410 hours during the Kilbourn Dam tailwater creel survey in September 2022 and March-May 2023. Channel catfish fishing effort was greatest in May (1,016 hours). Total catch of channel catfish was 158 fish, and total harvest was 10 fish. The single measured channel catfish was 20.6 inches.

**FLATHEAD CATFISH** (Tables 3 and 4, Figure 19) Fishing effort directed at flathead catfish was 1,677 hours during the Lake Wisconsin creel survey. Flathead catfish fishing effort was greatest in September (1,057 hours). Total catch of flathead catfish was 290 fish, and total harvest was 53 fish. All directed effort, catch and harvest was recorded during the open water portion of the creel survey. Anglers fished an estimated 99.5 hours to catch a flathead catfish. Harvested flathead catfish ranged from 17.0-30.8 inches. Mean length of harvested flathead catfish was 21.8 inches.

Fishing effort directed at flathead catfish was 334 hours during the Kilbourn Dam tailwater creel survey in September 2022 and March-May 2023. Flathead catfish fishing effort was greatest in May (220 hours). Total catch of

flathead catfish was 257 fish, and total harvest was 13 fish. Anglers fished 13.4 hours to catch, and 25.0 hours to harvest a flathead catfish. The single flathead catfish measured by a creel clerk was 22.9 inches.

**MUSKELLUNGE** (Table 3 and 4, Figure 20)  
Anglers spent 1,392 hours targeting muskellunge during the open season. Muskellunge fishing effort was greatest in October (376 hours). Total catch of muskellunge was 105 fish, and the highest catch (39 fish) occurred in June. Anglers fished an estimated 349.8 hours to catch a muskellunge, and there was no harvest documented during the survey.

No directed muskellunge fishing effort was recorded during the Kilbourn Dam tailwater creel survey. Total catch of muskellunge was 23 fish, all during September 2022. No muskellunge harvest was documented during the tailwater creel survey.

**LAKE STURGEON** (Tables 3 and 4, Figures 21-23)  
Lake Sturgeon received 143 hours of directed fishing effort during the Lake Wisconsin creel survey, all of which occurred during the open hook and line lake sturgeon fishing season in September. Anglers caught 83 lake sturgeon, which included fish caught during the open season as well as incidental catches reported in May and October. No lake sturgeon were harvested from Lake Wisconsin. It is likely that lake sturgeon fishing effort and catch were greatly underestimated in the Lake Wisconsin creel survey because much of the lake sturgeon fishing effort in the main impoundment occurs at night when creel clerks are not working.

Lake sturgeon received 7,090 hours of directed fishing effort during the Kilbourn Dam tailwater creel survey. All directed angling effort for lake sturgeon occurred during the open hook and line fishing season in September. Lake sturgeon fishing effort accounted for 40.2% of directed fishing effort in September in the Kilbourn Dam tailwater area. Anglers caught 5,112 lake sturgeon in

September, and no fish were harvested (in-person registration of all harvested lake sturgeon is mandatory). Anglers fished an estimated 1.5 hours to catch a lake sturgeon in September.

Anglers also caught 1,262 lake sturgeon during the spring 2023 portion of the tailwater creel survey. Springtime catch was highest in May (600 fish), followed by April (382 fish), and March (280 fish). Higher catches later in the spring coincided with large concentrations of lake sturgeon staging and spawning in the tailwater area. Spawning activity generally peaks in late April or early May. Lake sturgeon caught in spring were incidental catches by anglers targeting other species, and the general (not specific) lake sturgeon catch rate in spring was 0.03 fish per hour, or one lake sturgeon every 37.2 hours of fishing.

The fall hook and line lake sturgeon fishing season is very popular as indicated by high directed effort and catch during the September creel at the Kilbourn Dam tailwater. The lack of harvest is not surprising as the fishery has trended toward catch and release after a lengthy period of relatively high harvest in both Lake Wisconsin and the Kilbourn Dam tailwater areas (Figures 22 and 23). Partly this is due to the change to a 60-inch minimum length limit in 2007 after periods of 45 and 50-inch minimum length limits. It is also partly due to changing angler preferences, from being harvest oriented to more catch and release oriented. In-person registration of harvested lake sturgeon has been mandatory since 1983. Since 2007, only three total lake sturgeon have been harvested from Lake Wisconsin, and an average of less than one fish per year has been harvested from the Kilbourn Dam tailwater (11 fish total). However, legally harvestable fish are being caught by anglers. Anecdotal evidence noted by creel clerks during the tailwater creel survey in September 2022 indicated at least 4 legally harvestable lake sturgeon were caught and released during the season.

## **ADDITIONAL SPECIES**

Freshwater drum (Tables 3 and 4) received less than 1,000 hours of directed effort in both the Lake Wisconsin and Kilbourn Dam tailwater creel surveys but managed to rank 5<sup>th</sup> in both surveys in terms of the total number of fish caught. Despite high catches, few freshwater drum were harvested and mean lengths of harvested fish were 13.4 inches in Lake Wisconsin and 11.9 inches at the Kilbourn Dam tailwater. Several additional fish species either had small amounts of directed effort, catch and harvest reported during the creel, or were not targeted by anglers but had small amounts of catch reported. Summaries of directed effort, catch and harvest of those species can be found in Tables 5 and 6.

## **Acknowledgements**

The DNR would like to thank all the anglers who took the time to offer information about their fishing trips to the survey clerks. The survey would not have been possible without their cooperation.

Completion of this survey and report was possible because of the efforts of the following DNR fisheries management staff: primary creel clerks Clayton Roberts and Paul Stolen as well as David Rowe, Tim Parks, Casey Weber, Lloyd Meng, Dan Walchak, Mitch Trow, Jared Myers and Josh Jonet. Gene Hatzenbeler, Lawrence Eslinger and Eric Brown from the Treaty unit also provided valuable assistance with survey planning, data analysis and report writing.

Table 1. Sportfishing effort summary for Lake Wisconsin during the July 2022-June 2023 creel survey.

<b>MONTH</b>	<b>PERIOD</b>	<b>NUMBER OF ANGLER PARTY INTERVIEWS</b>	<b>TOTAL ANGLER HOURS</b>	<b>TOTAL ANGLER HOURS/ACRE</b>
July	Open Water	138	15,459	2.1
August	Open Water	72	8,196	1.1
September	Open Water	80	9,067	1.3
October	Open Water	261	11,096	1.5
November	Open Water	83	3,256	0.5
January	Ice Fishing	72	3,799	0.5
February	Ice Fishing	104	4,983	0.7
March	Open Water	31	2,324	0.3
April	Open Water	64	6,916	1.0
May	Open Water	101	18,741	2.6
June	Open Water	91	18,987	2.6
Open Water Total		921	94,040	13.1
Ice Fishing Total		176	8,782	1.2
Grand Total		1,097	102,822	14.3

Table 2. Sportfishing effort summary for the Wisconsin River, Kilbourn Dam tailwater during the September 2022 and March-May 2023 creel survey.

<b>MONTH</b>	<b>NUMBER OF ANGLER PARTY INTERVIEWS</b>	<b>TOTAL ANGLER HOURS</b>	<b>TOTAL ANGLER HOURS/ACRE</b>
September	144	14,446	30.4
March	126	17,250	36.3
April	93	13,865	29.2
May	81	14,263	30.0
Grand Total	444	59,824	125.9

Table 3. Synopsis of effort, catch, and harvest data for commonly targeted gamefish and rough fish during the July 2022-June 2023 creel survey of Lake Wisconsin.

SPECIES <sup>1</sup>	DIRECTED EFFORT (HOURS)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE-OPEN WATER (HRS/FISH)	SPECIFIC CATCH RATE-ICE FISHING (HRS/FISH) <sup>2</sup>	TOTAL HARVEST	SPECIFIC HARVEST RATE-OPEN WATER (HRS/FISH)	SPECIFIC HARVEST RATE-ICE FISHING (HRS/FISH)	MEAN LENGTH OF HARVESTED FISH <sup>3</sup>
Walleye	57,393	29.2%	34,628	1.7	32.1	5,231	11.0	*	17.0
Sauger	35,324	18.0%	31,916	1.2	7.2	5,067	7.2	45.6	16.5
Crappie-total	24,472	12.4%	18,204	*	*	6,960	*		
Black crappie			9,800	3.0	1.4	4,288	4.7	2.7	9.5
White crappie			8,404	1.7	1.3	2,672	3.3	4.7	10.1
Smallmouth bass	22,404	11.4%	20,052	1.4	*	53	*	*	15.6
Largemouth bass	21,230	10.8%	11,734	2.0	18.8	442	54.1	*	15.6
Bluegill	16,012	8.1%	28,256	0.5	0.5	8,746	1.5	1.3	7.2
Yellow perch	7,054	3.6%	6,261	2.2	1.7	2,008	4.8	4.3	8.7
White bass	2,939	1.5%	5,162	1.4	1.8	1,287	3.8	2.4	12.2
Northern pike	2,730	1.4%	940	17.8	10.3	17	*	55.4	29.7
Channel catfish	2,613	1.3%	1,251	2.8	*	92	32.2	*	21.5
Flathead catfish	1,677	0.9%	290	99.5	*	53	*	*	21.8
Muskellunge	1,392	0.7%	105	349.8	*	0	*	*	**
Freshwater drum	724	0.4%	18,114	3.6	*	416	6.4	*	13.4

1. Saugeye (walleye-sauger hybrid; 322 hours), common carp (207 hours), bigmouth buffalo (86 hours), smallmouth buffalo (86 hours), pumpkinseed (39 hours), hybrid sunfish (24 hours), and yellow bass (18 hours) all received small amounts of directed fishing effort but are not listed singly in the table. Effort for those species is included in the calculations for percentage of directed effort (percent of total).
2. \*Indicates that no fish of this species were caught or harvested (depending on the column) by anglers who specifically targeted this species.
3. \*\*Indicates that no fish were measured by the creel clerks for this species.

Table 4. Synopsis of effort, catch, and harvest data for commonly targeted gamefish and rough fish during the September 2022 and March-May 2023 creel survey of the Wisconsin River at the Kilbourn Dam Tailwater.

SPECIES <sup>1</sup>	DIRECTED EFFORT (HOURS)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (HRS/FISH)	TOTAL HARVEST	SPECIFIC HARVEST RATE (HRS/FISH) <sup>2</sup>	MEAN LENGTH OF HARVESTED FISH (INCHES) <sup>3</sup>
Walleye	46,247	47.7%	31,027	1.6	4,102	11.7	16.4
Sauger	21,898	22.6%	4,217	5.7	522	42.0	15.9
White bass	8,355	8.6%	9,683	1.1	7,386	1.2	13.1
Lake sturgeon	7,364	7.6%	6,374	1.5	0	0.0	**
Smallmouth bass	4,385	4.5%	3,754	2.4	103	67.9	16.6
Northern pike	2,230	2.3%	154	55.8	0	*	**
Crappie-total	2,175	2.2%	1,958	*	768	*	**
Black crappie	1,984	*	1,767	1.3	725	3.4	10.0
White crappie	191	*	191	1.4	43	*	8.1
Channel catfish	1,410	1.5%	158	142.4	10	*	20.6
Bluegill	846	0.9%	355	4.8	126	8.7	7.8
Freshwater drum	756	0.8%	3,809	2.0	380	2.7	11.9
Yellow perch	708	0.7%	513	13.5	182	13.5	8.2
Largemouth bass	419	0.4%	23	36.6	12	*	16.0
Flathead catfish	334	0.3%	257	13.4	13	25.0	22.9
Muskellunge	0	0.0%	0	0.0	0	0.0	**

1. Saugeye (walleye-sauger hybrid; 322 hours), common carp (207 hours), bigmouth buffalo (86 hours), smallmouth buffalo (86 hours), pumpkinseed (39 hours), hybrid sunfish (24 hours), and yellow bass (18 hours) all received small amounts of directed fishing effort but are not listed singly in the table. Effort for those species is included in the calculations for percentage of directed effort (percent of total).
2. \*Indicates that no fish of this species were harvested by anglers who specifically targeted this species.
3. \*\*Indicates that no fish were measured by the creel clerks for this species.

Table 5. Synopsis of effort, catch, and harvest data for fish species with little or no directed fishing effort reported during the July 2022-June 2023 creel survey of Lake Wisconsin.

<b>SPECIES<sup>1,2</sup></b>	<b>DIRECTED EFFORT (HOURS)</b>	<b>TOTAL CATCH</b>	<b>TOTAL HARVEST</b>	<b>MEAN LENGTH OF HARVESTED FISH (INCHES)</b>
Saugeye	322	77	0	*
Common carp	207	380	0	*
Bigmouth buffalo	86	0	0	*
Smallmouth buffalo	86	0	0	*
Pumpkinseed	39	118	44	6.3
Hybrid sunfish	24	6	6	7.2
Yellow bass	18	41	0	*
Brown bullhead	0	35	0	*
Gizzard shad	0	9	0	*
Golden shiner	0	59	0	*
Green sunfish	0	21	0	*
Quillback	0	11	11	20.6
Rock bass	0	205	0	*
Shorthead redhorse	0	94	0	*
White sucker	0	6	0	*

1. Saugeye is a hybrid between a sauger and a walleye. Hybrid sunfish is a pumpkinseed-bluegill hybrid.

2. One angler reported catching a mooneye which are not found upstream of Prairie du Sac Dam; the fish was probably a gizzard shad.

Table 6. Synopsis of effort, catch, and harvest data for fish species with little or no directed fishing effort reported during the September 2022 and March-May 2023 creel survey of the Wisconsin River at the Kilbourn Dam tailwater.

<b>SPECIES<sup>1</sup></b>	<b>DIRECTED EFFORT (HOURS)</b>	<b>TOTAL CATCH</b>	<b>TOTAL HARVEST</b>	<b>MEAN LENGTH OF HARVESTED FISH (INCHES)</b>
Saugeye	230	50	12	19.0
Carp suckers	226	659	108	18.8
Yellow bass	130	0	0	
Shorthead redhorse	86	375	20	16.5
Common carp	55	439	0	
Bigmouth buffalo	0	16	0	
Bowfin	0	23	0	
Brown trout	0	31	0	
Rock bass	0	154	0	
Redhorses	0	22	0	
Smallmouth buffalo	0	312	94	19.4
White sucker	0	52	0	

1. Saugeye is a hybrid between a sauger and a walleye.



# WALLEYE

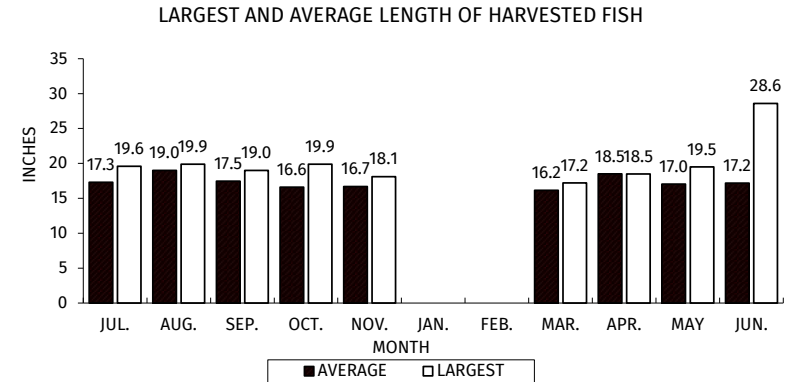
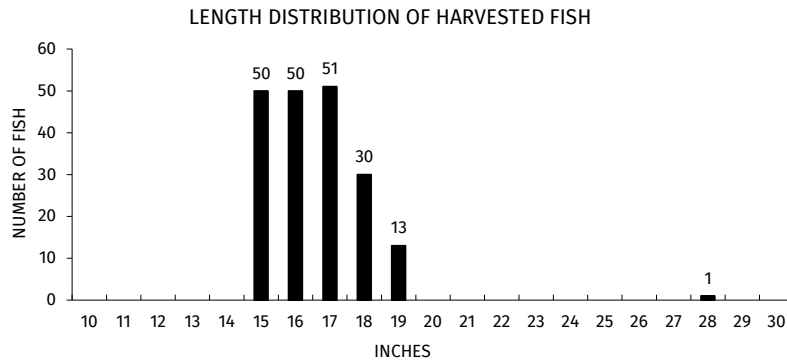
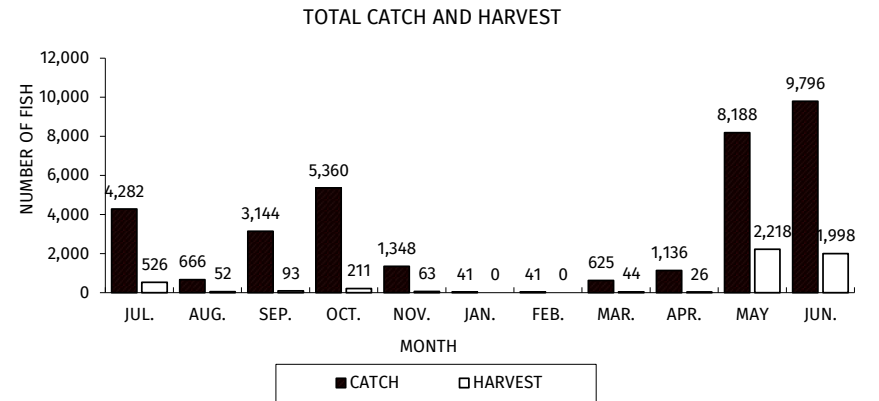
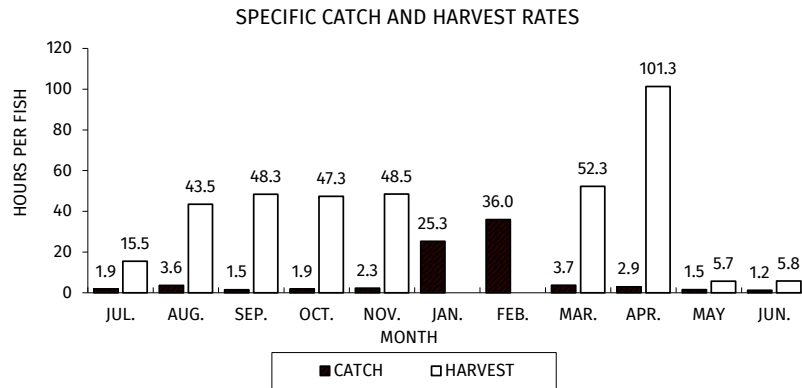
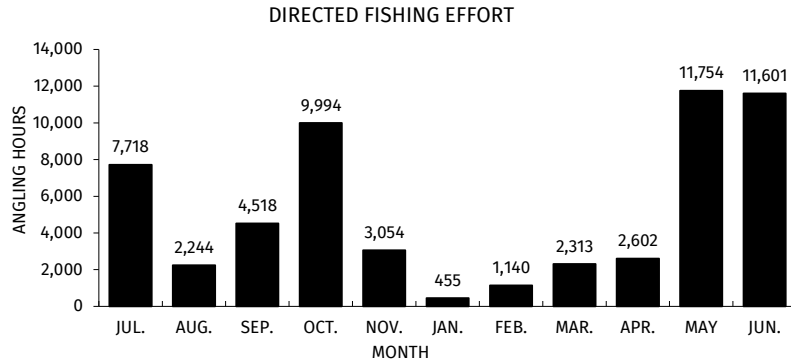
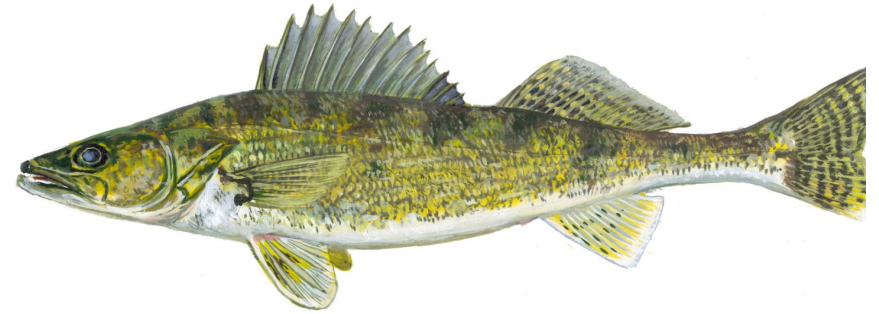


Figure 1. Walleye fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# WALLEYE

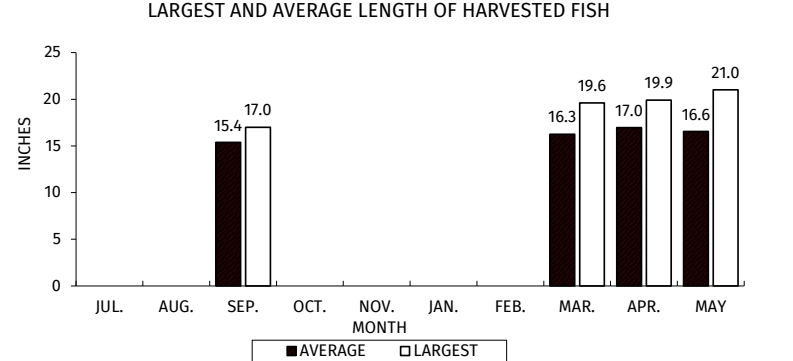
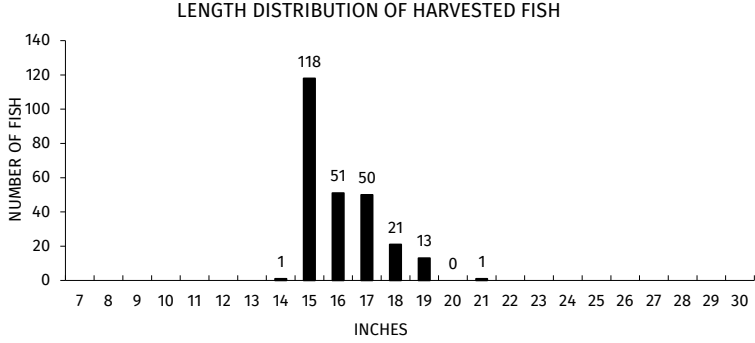
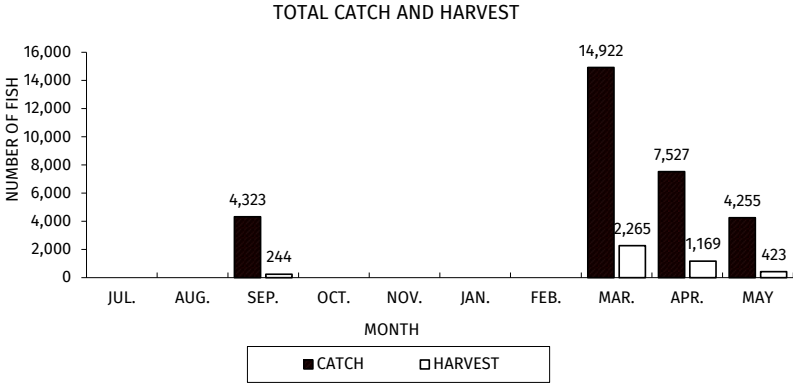
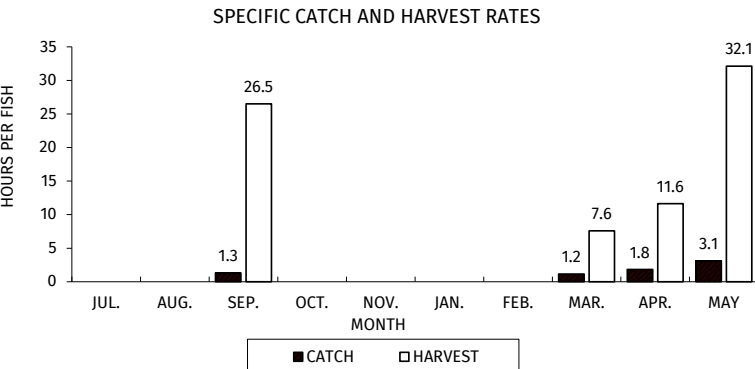
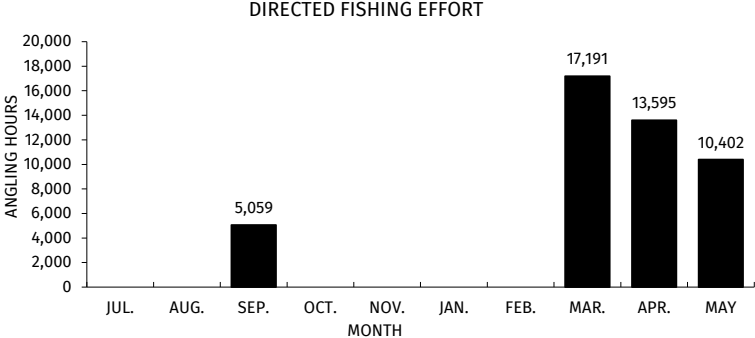
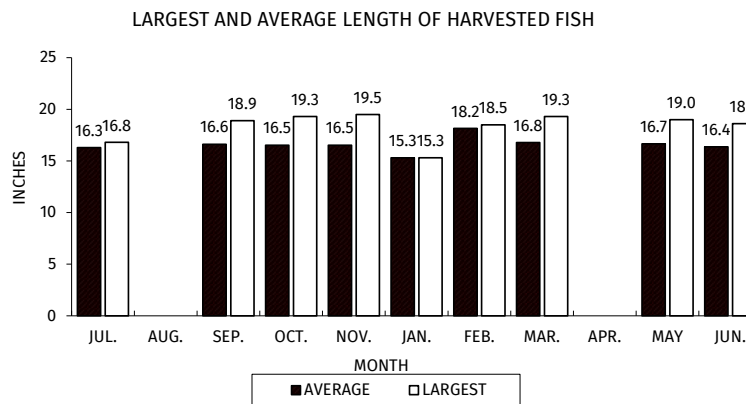
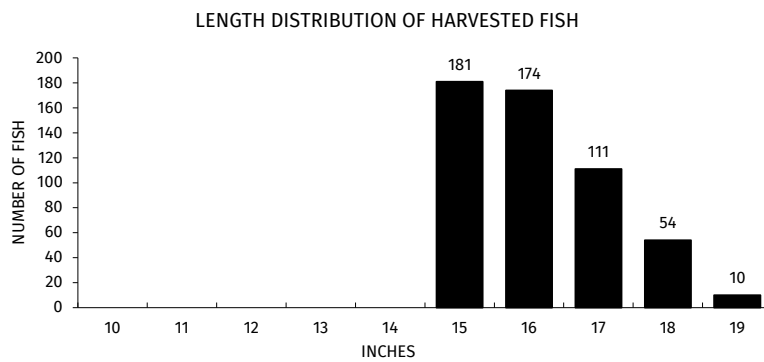
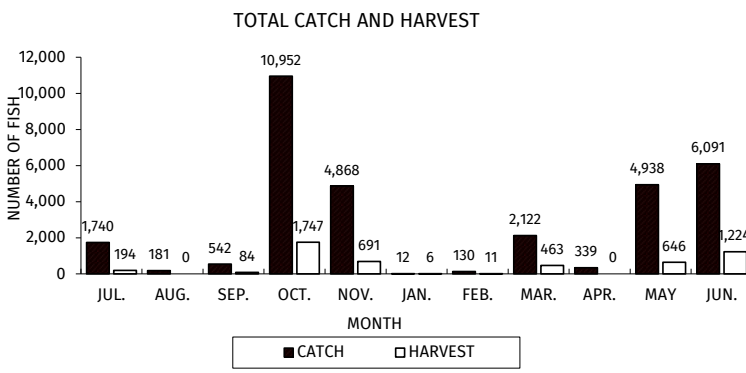
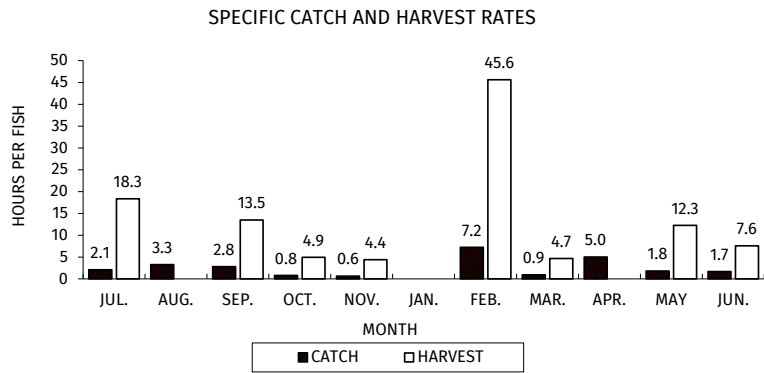
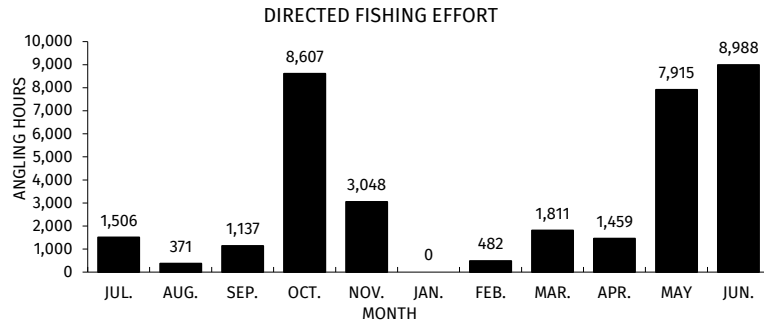
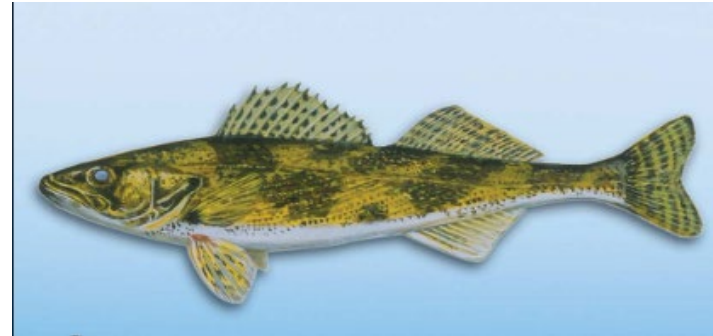


Figure 2. Walleye fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

# SAUGER



19

Figure 3. Sauger fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# SAUGER

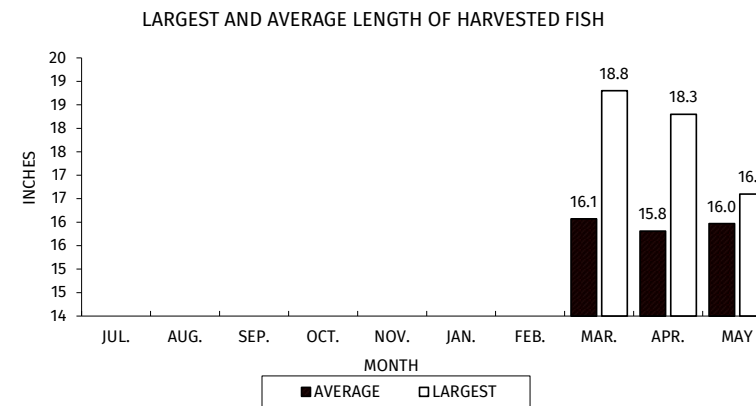
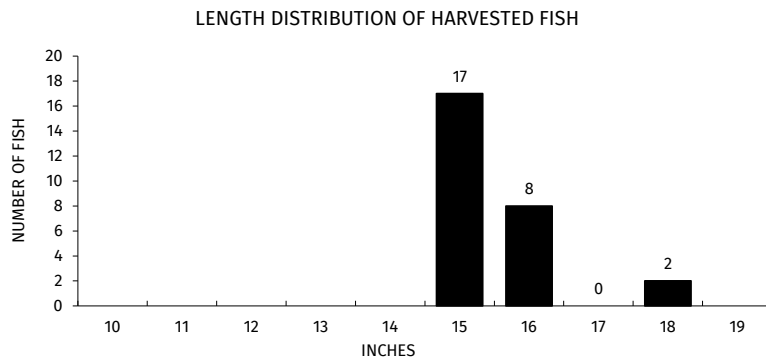
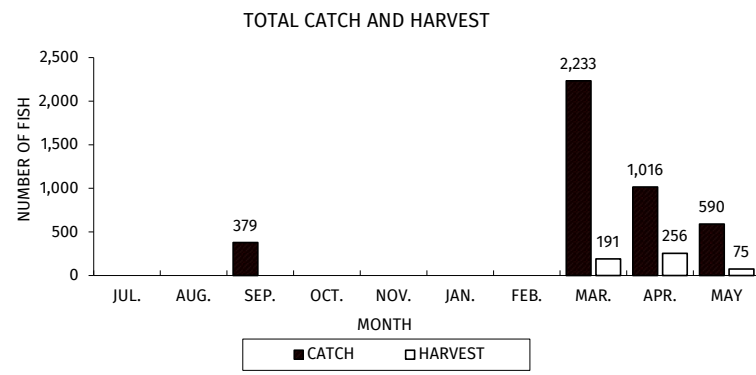
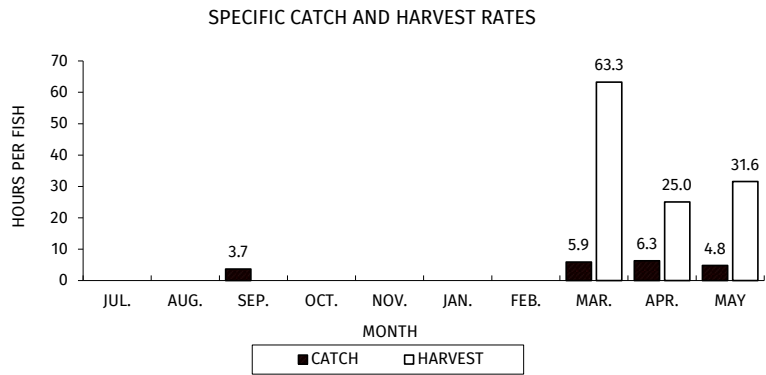
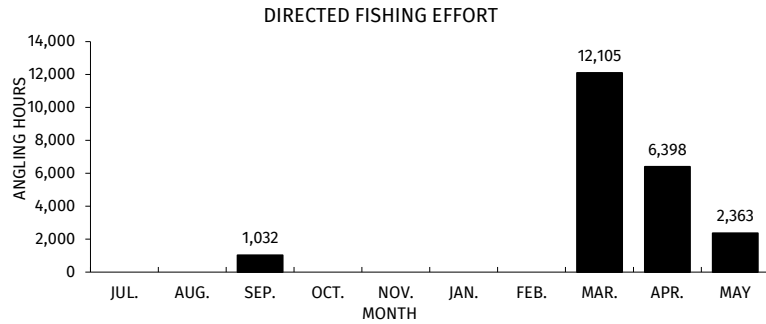
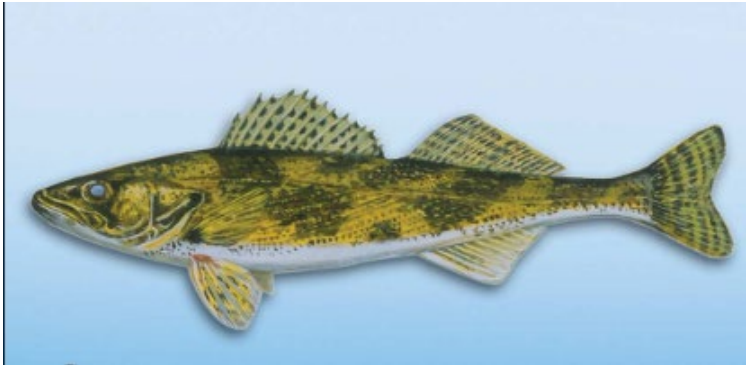


Figure 4. Sauger fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

# SMALLMOUTH BASS

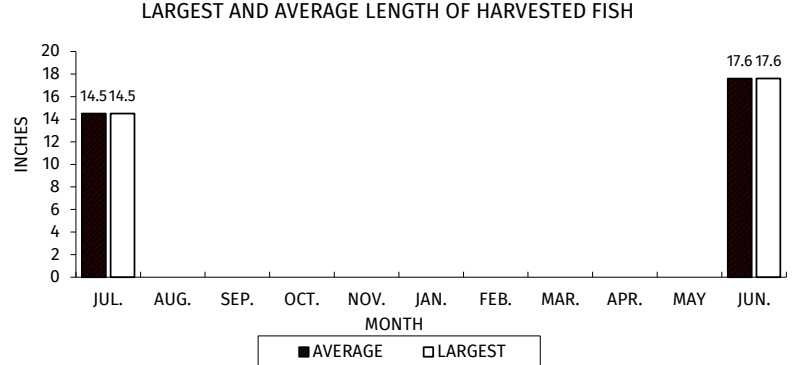
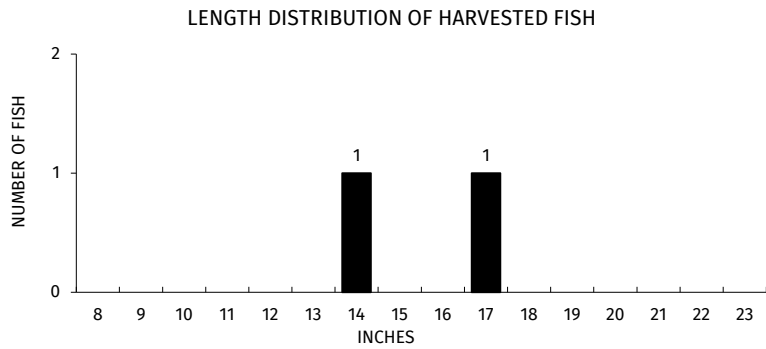
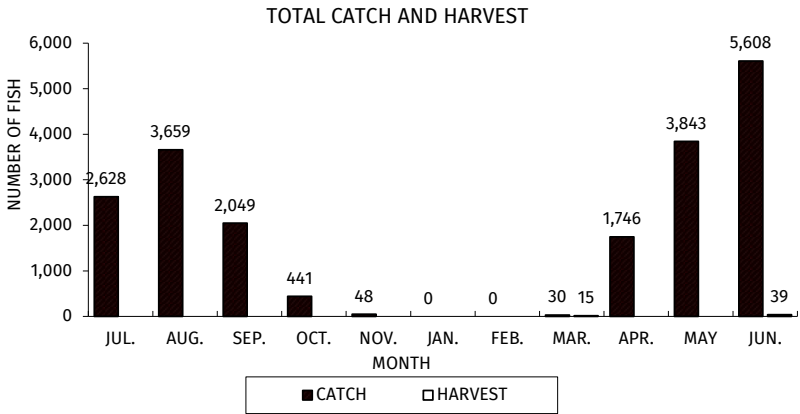
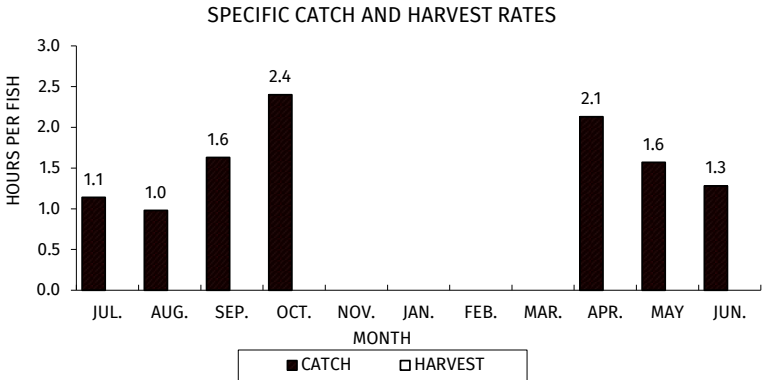
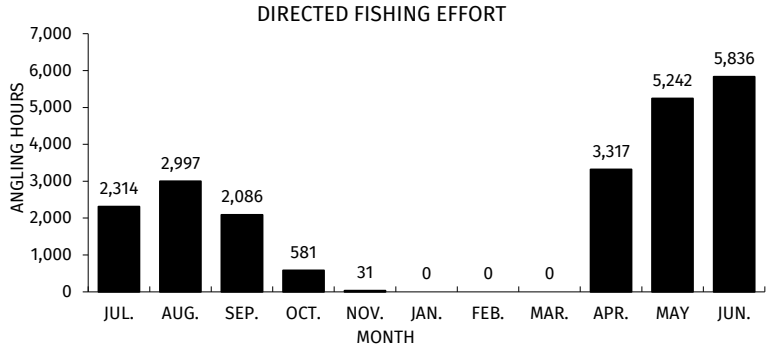


Figure 5. Smallmouth Bass fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# SMALLMOUTH BASS

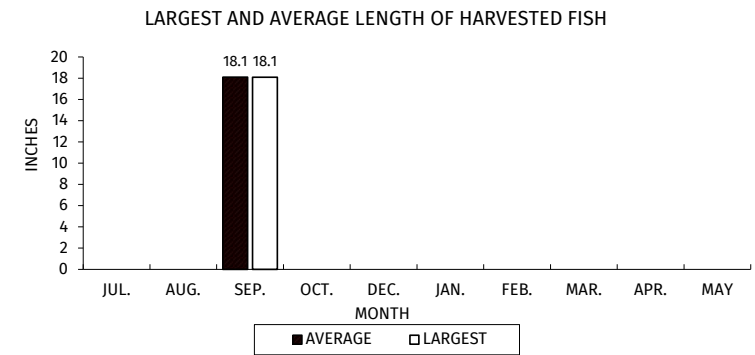
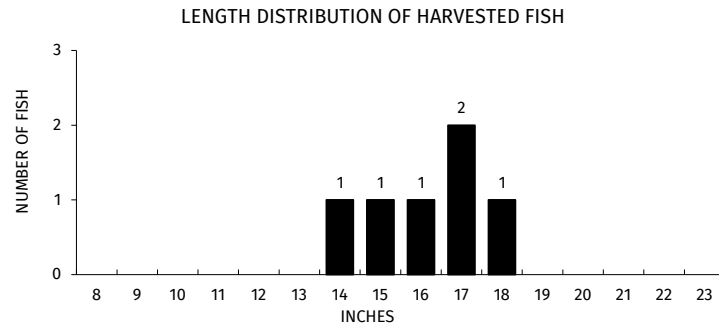
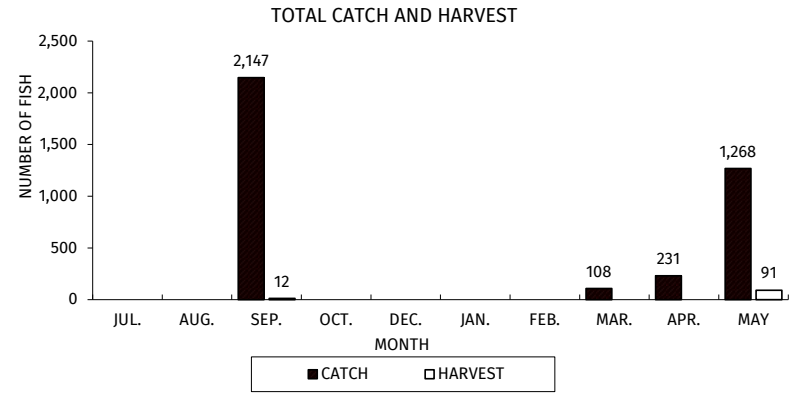
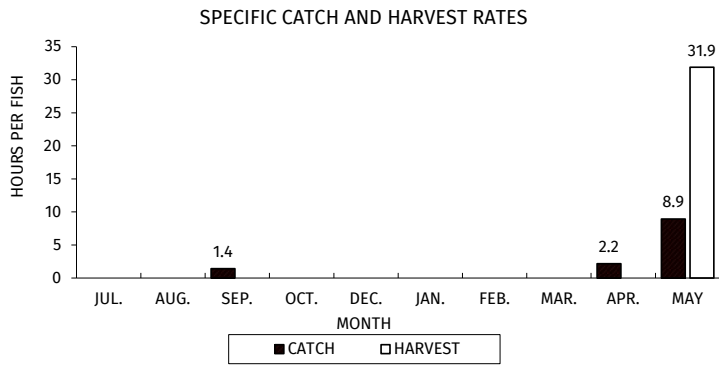
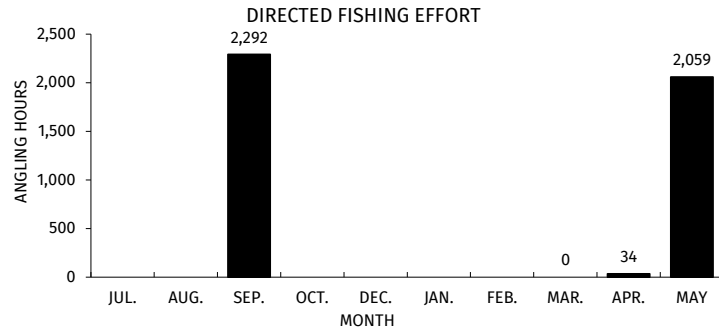


Figure 6. Smallmouth bass fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

# LARGEMOUTH BASS

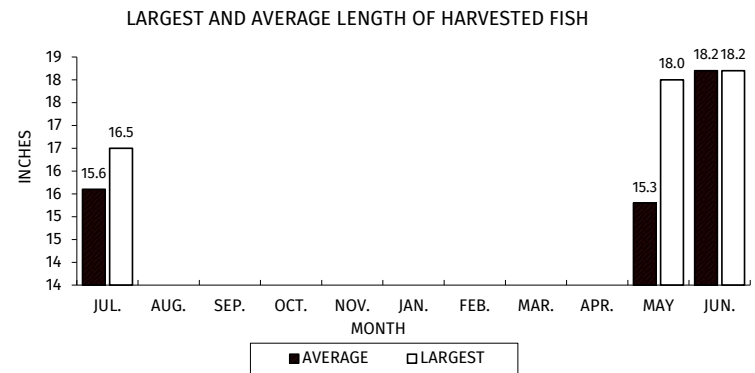
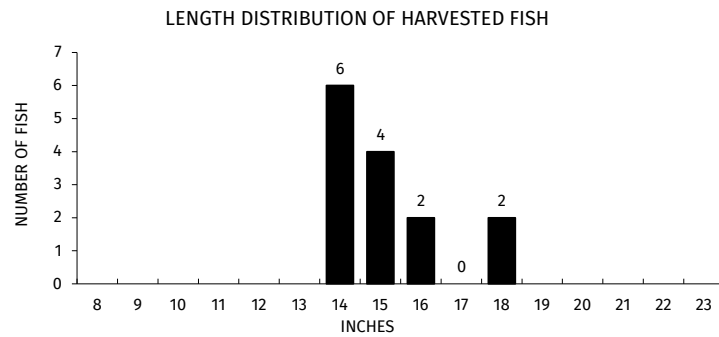
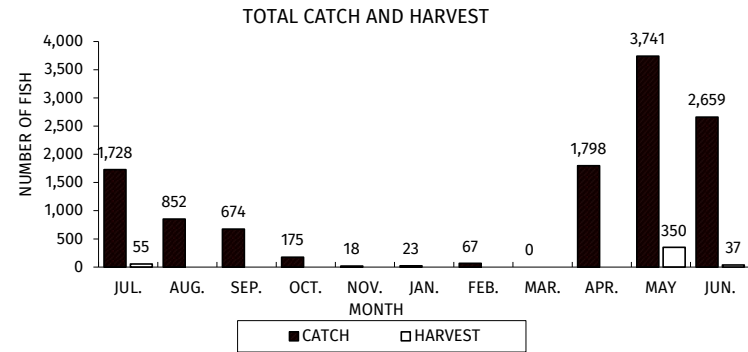
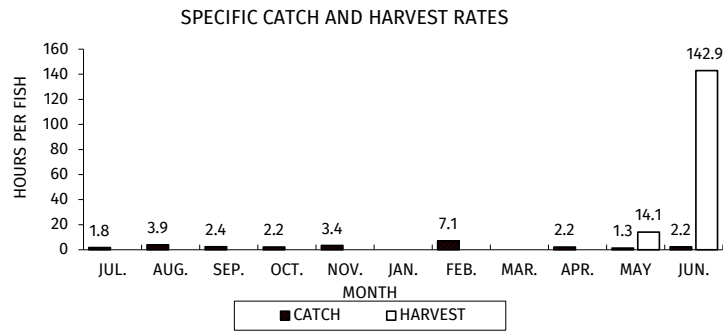
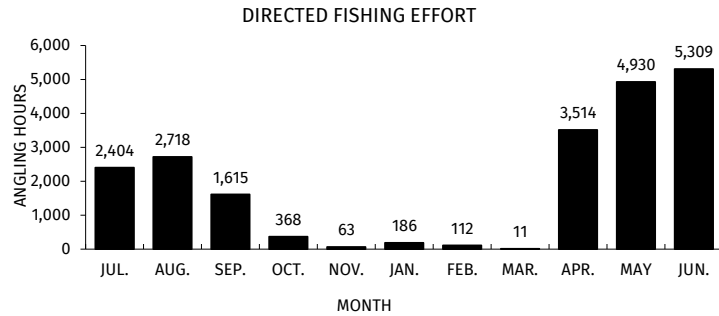


Figure 7. Largemouth Bass fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# BLUEGILL

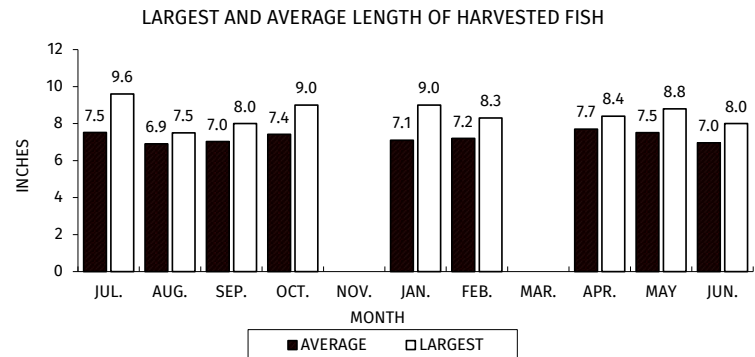
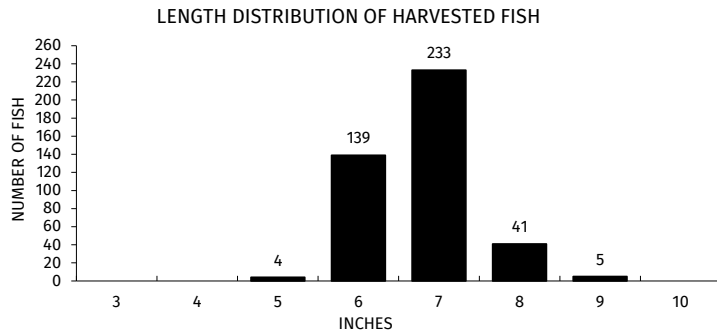
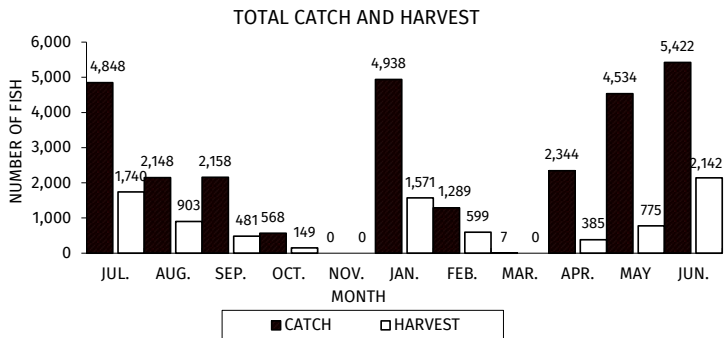
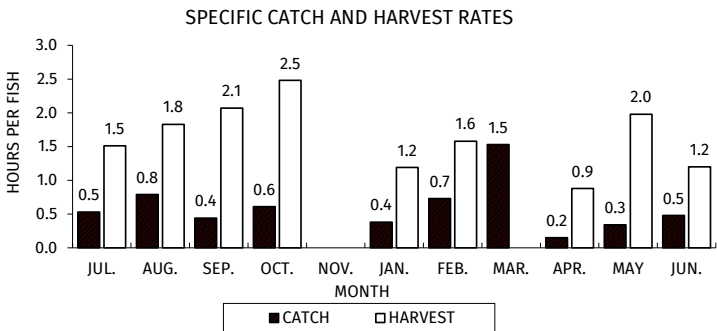
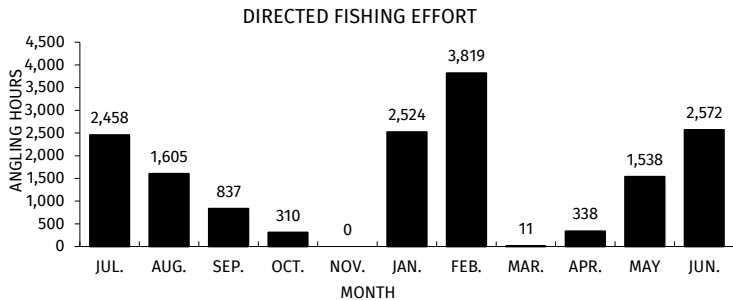


Figure 8. Bluegill fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.



# BLUEGILL

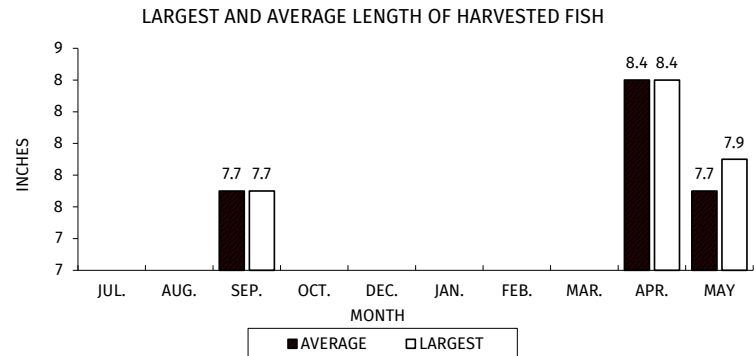
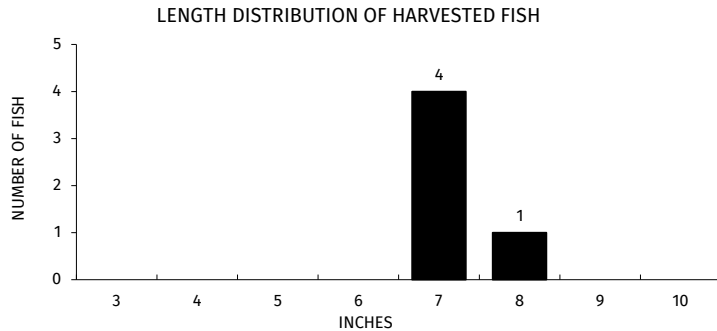
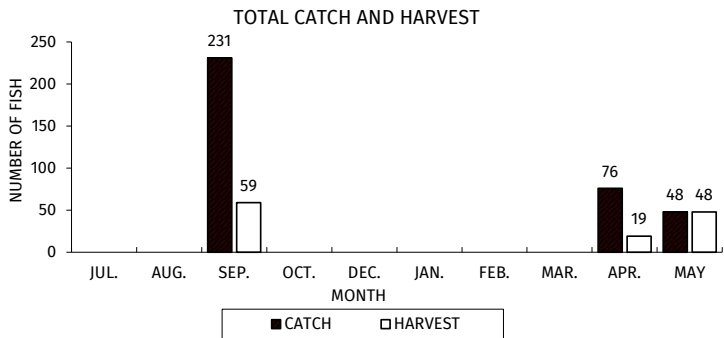
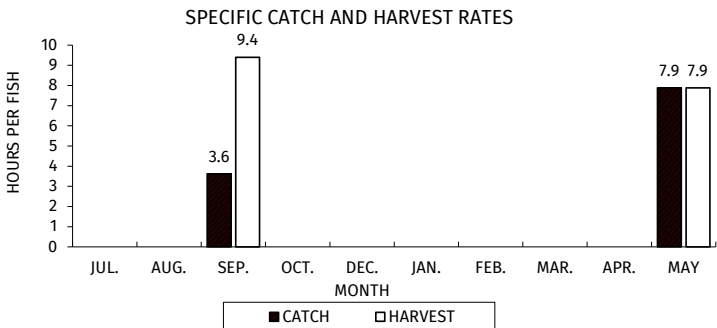
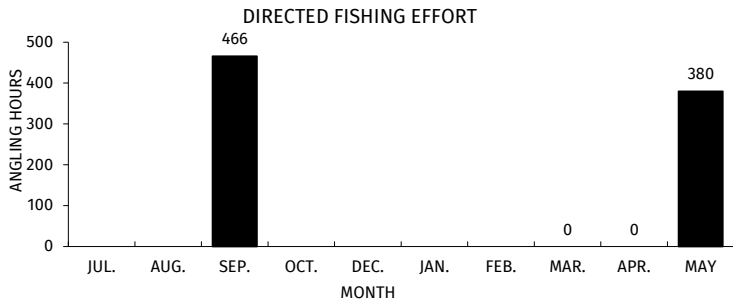


Figure 9. Bluegill fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater during 2022-23.

# BLACK CRAPPIE

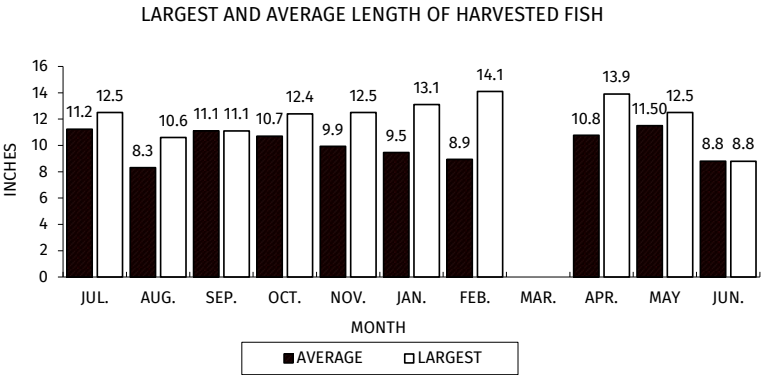
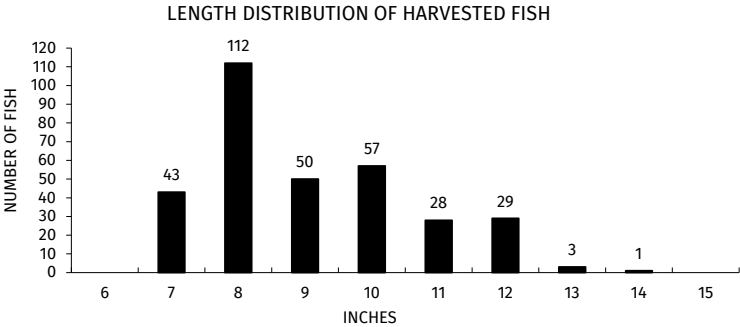
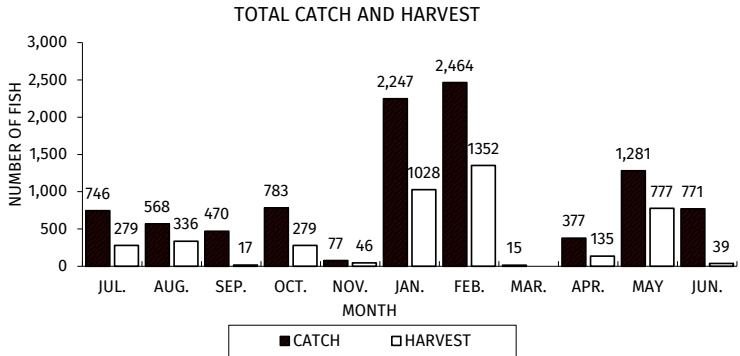
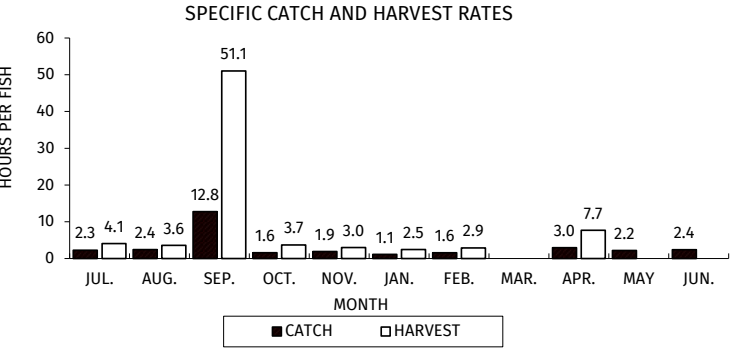
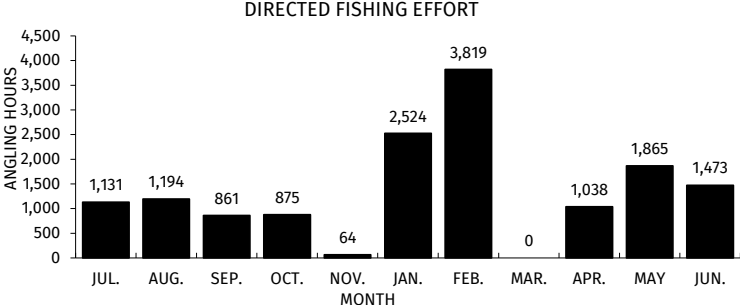
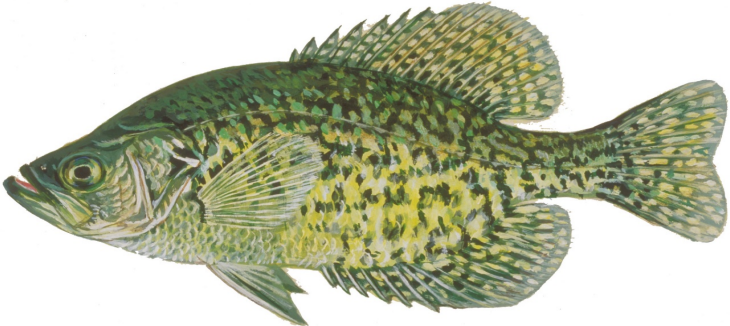


Figure 10. Black crappie fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# BLACK CRAPPIE

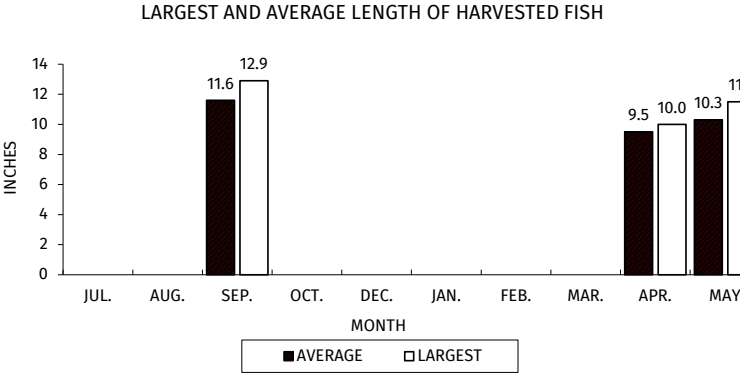
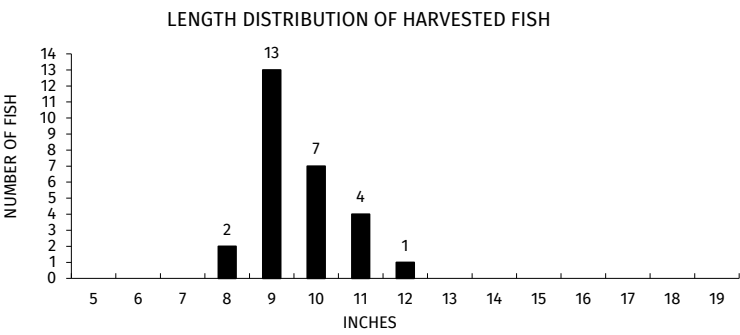
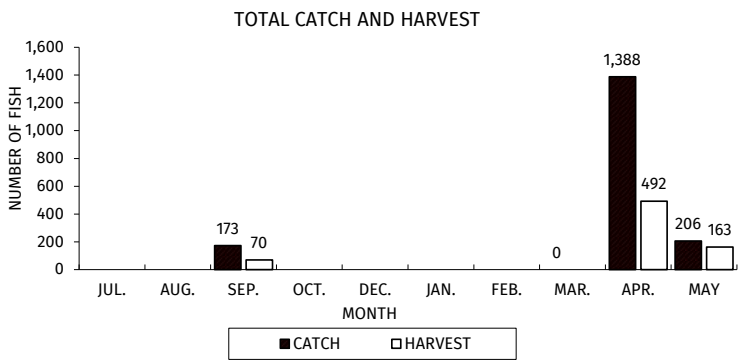
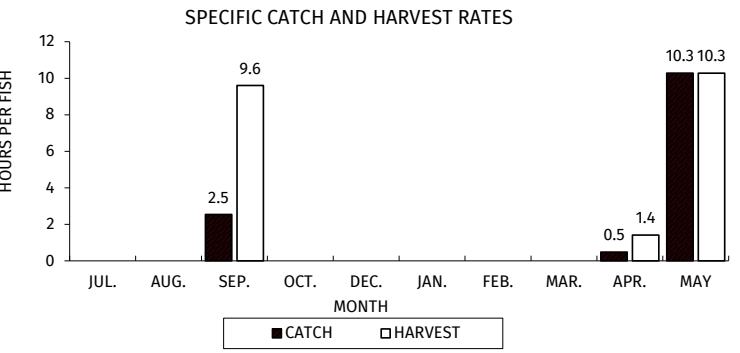
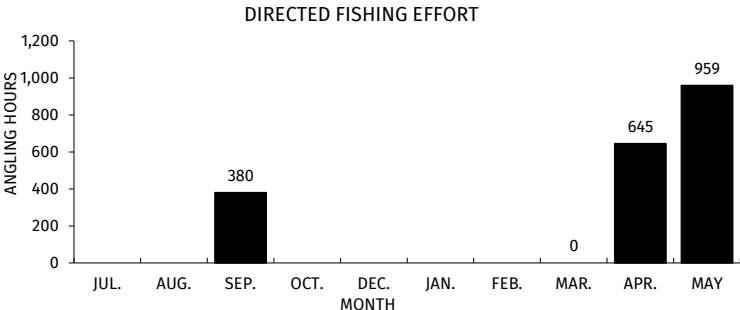
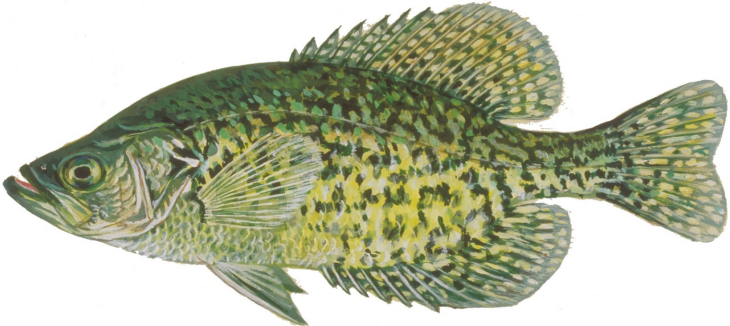


Figure 11. Black crappie fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

# WHITE CRAPPIE

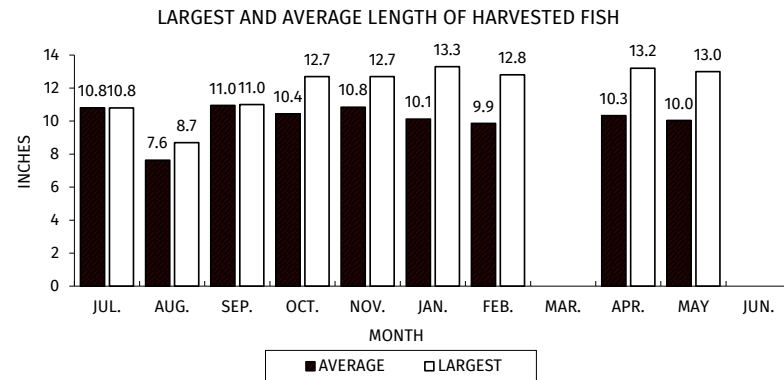
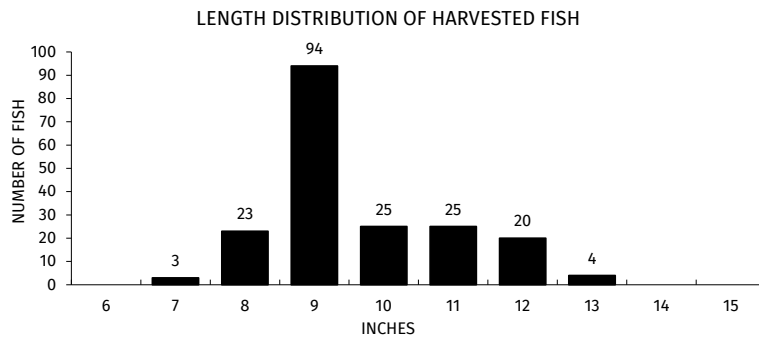
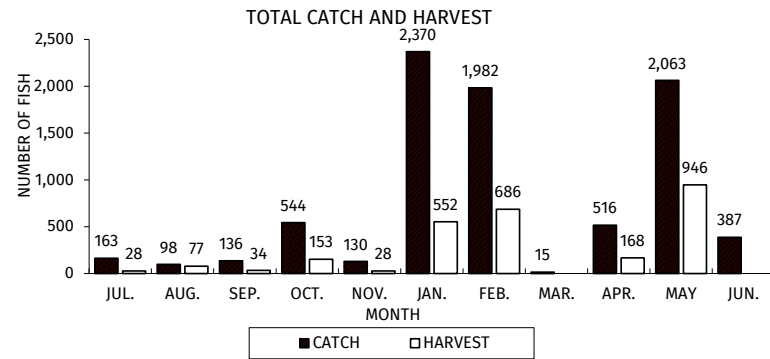
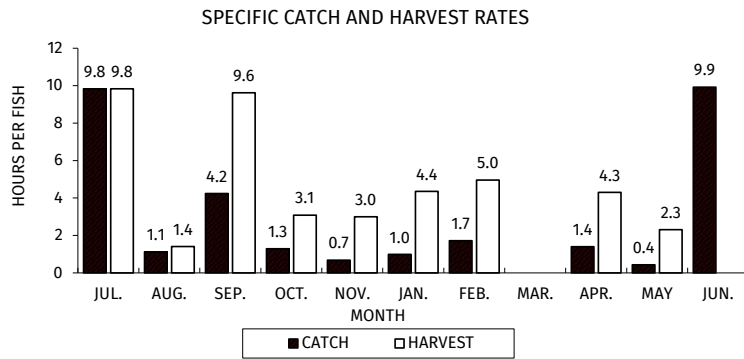
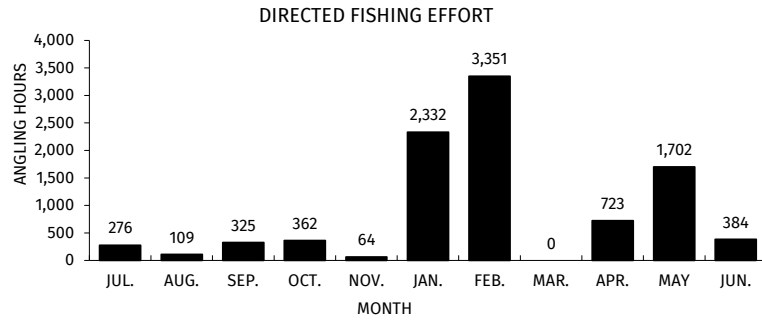


Figure 12. White crappie fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# YELLOW PERCH

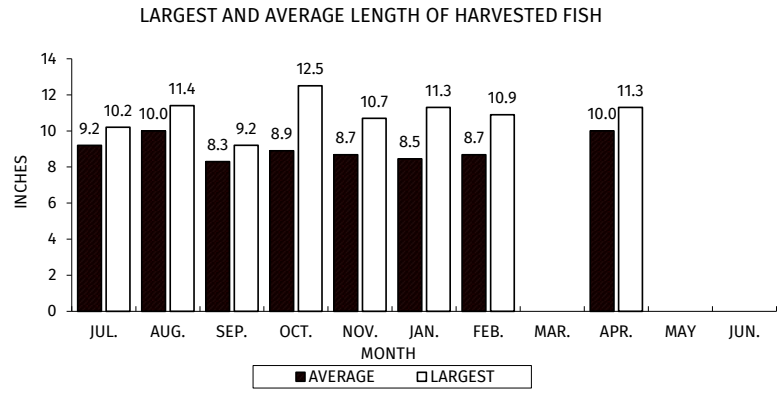
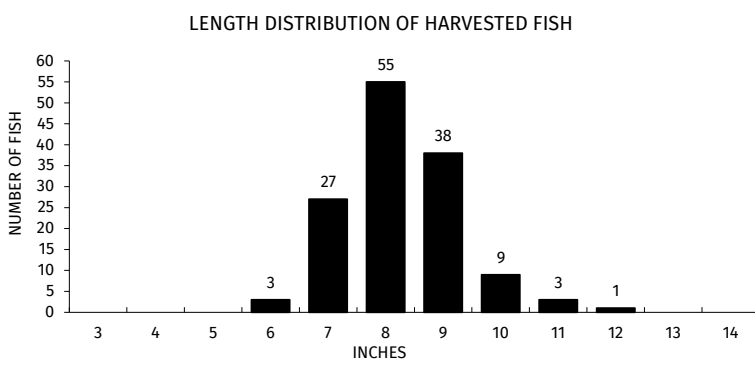
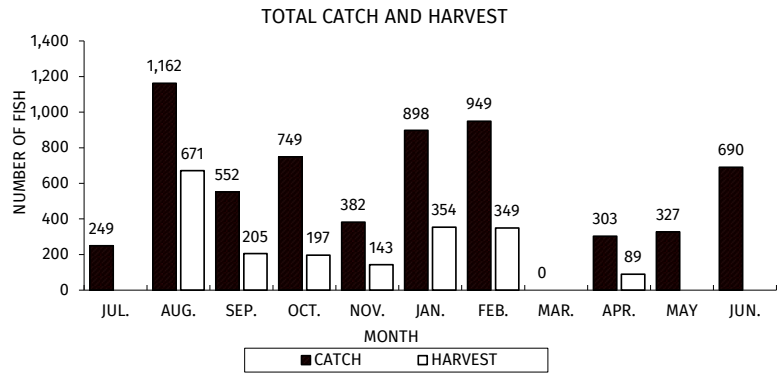
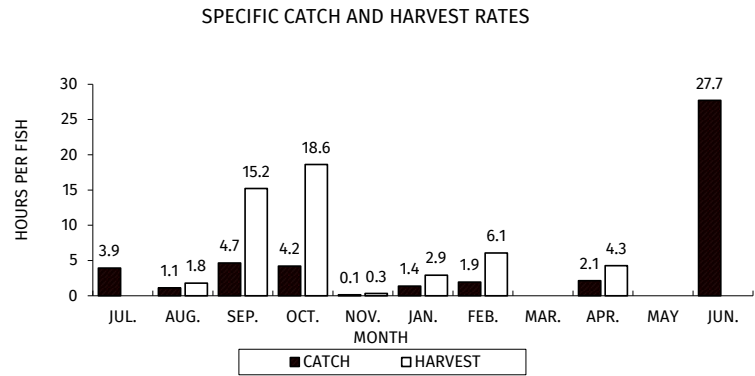
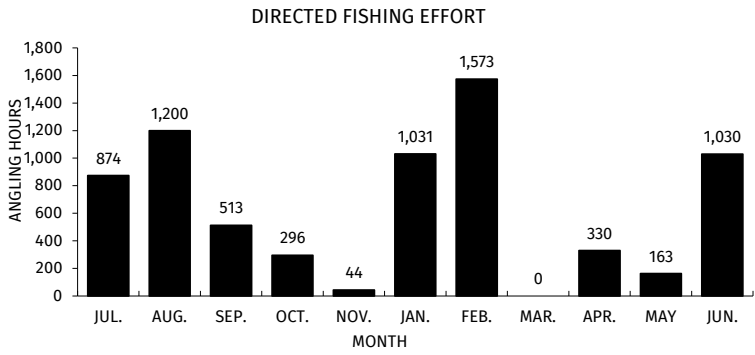
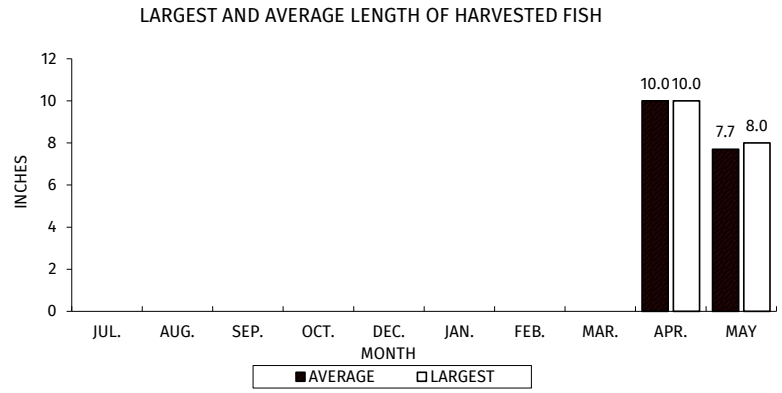
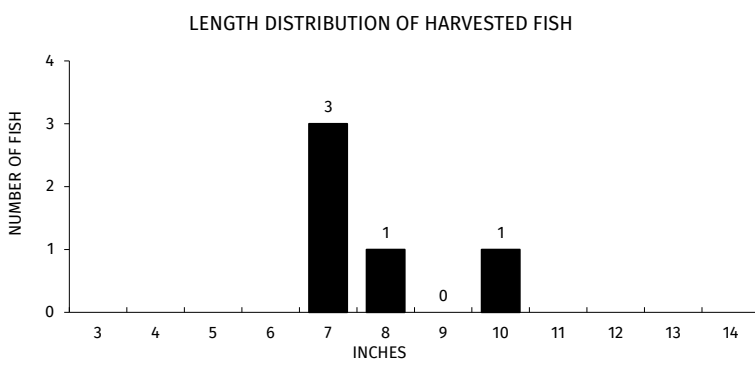
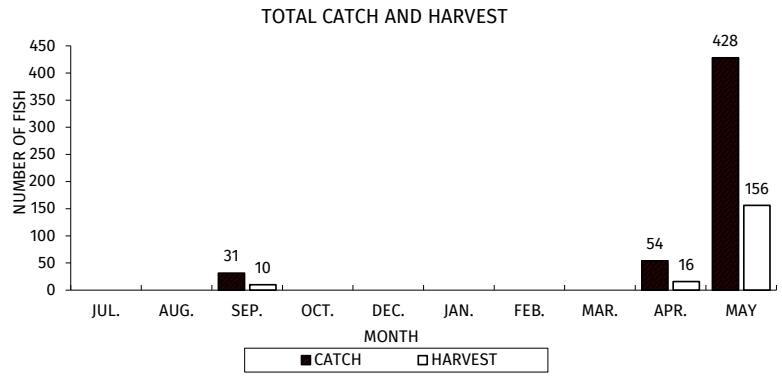
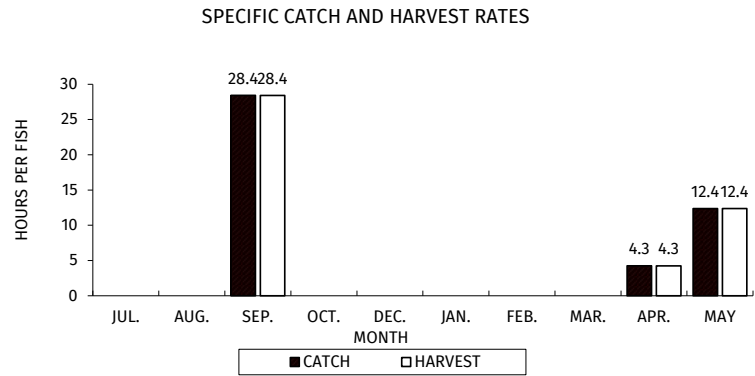
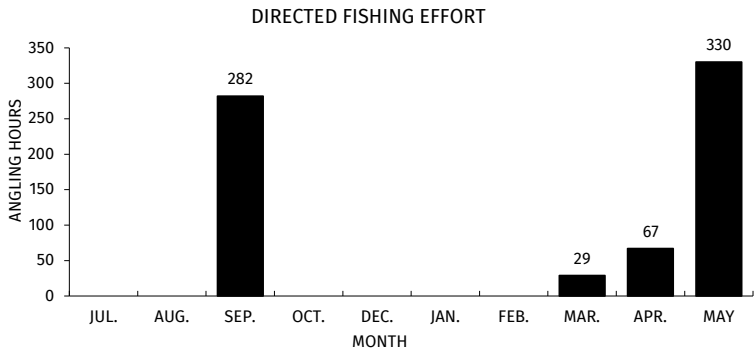


Figure 13. Yellow perch fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# YELLOW PERCH



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Figure 14. Yellow perch fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

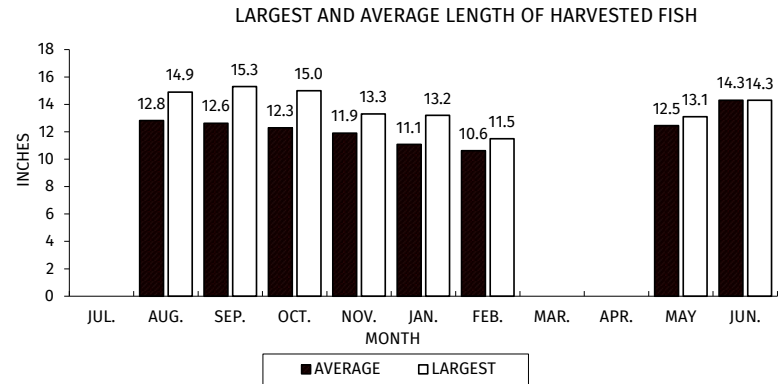
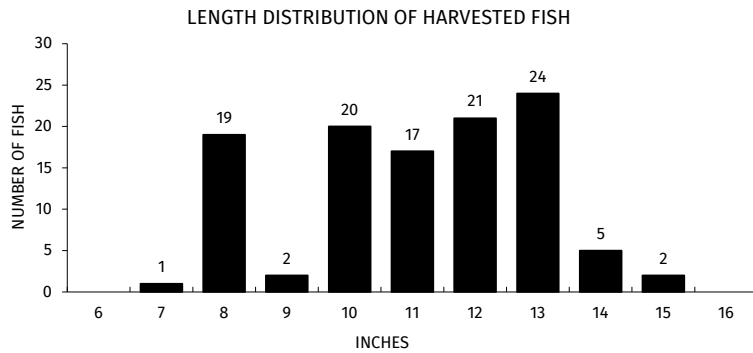
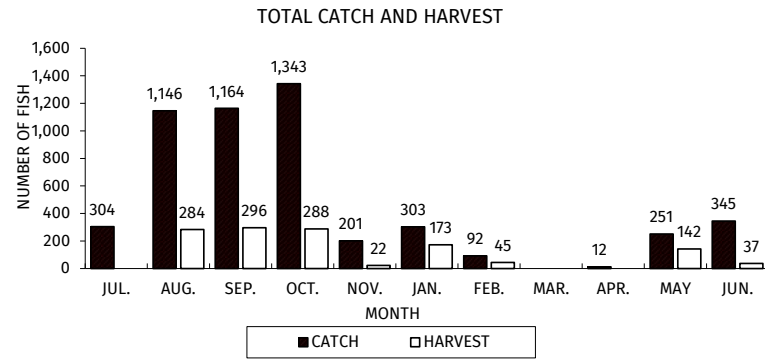
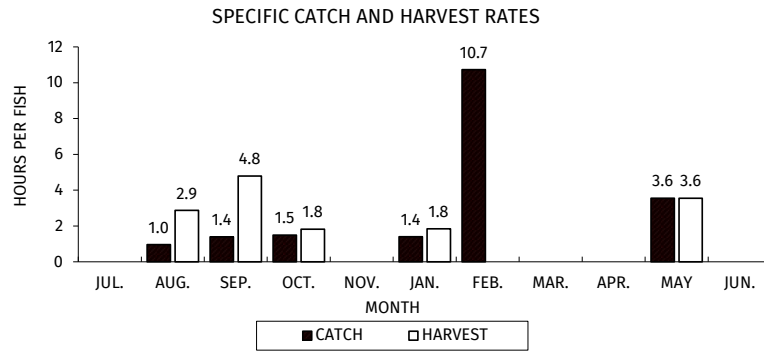
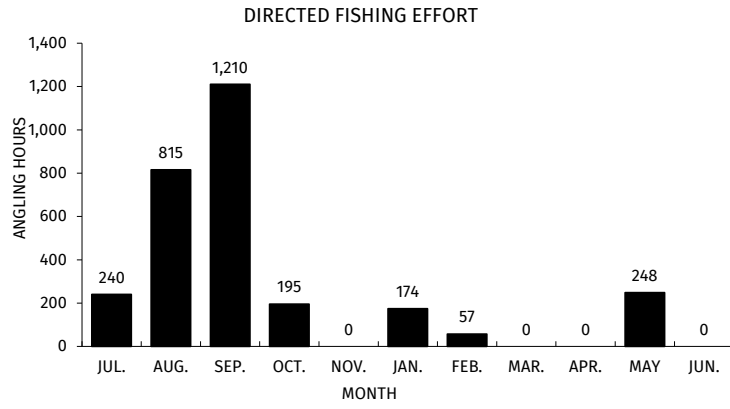


Figure 15. White bass fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

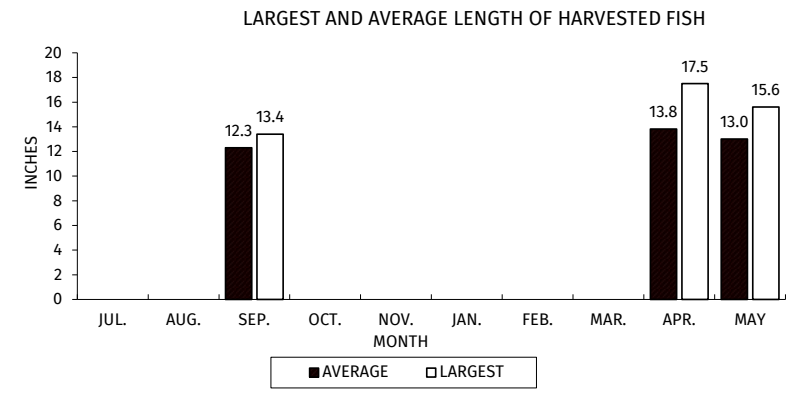
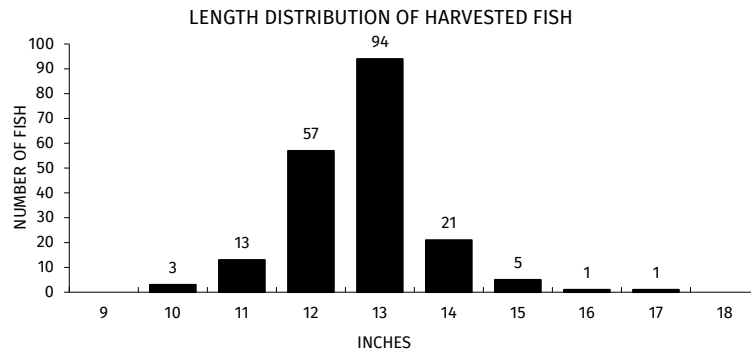
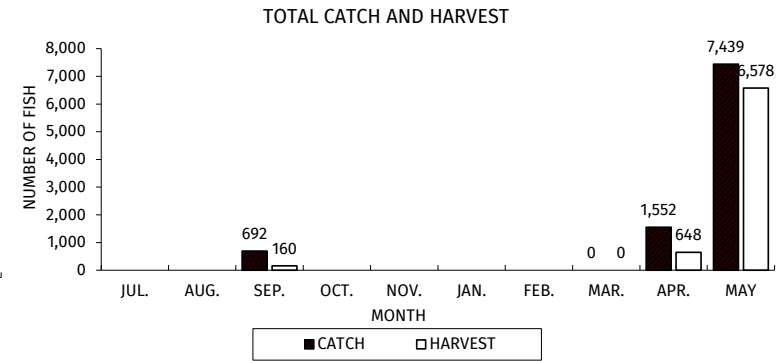
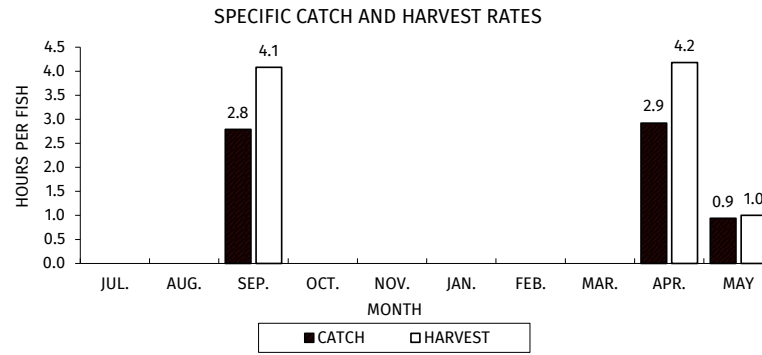
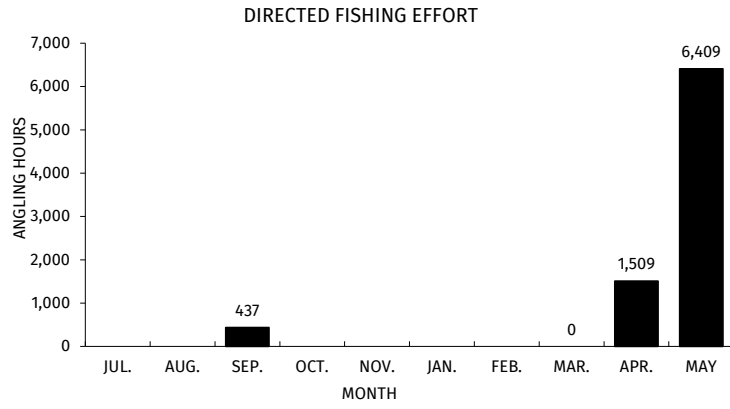


Figure 16. White bass fishing effort, catch, harvest and length distribution, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.



# NORTHERN PIKE

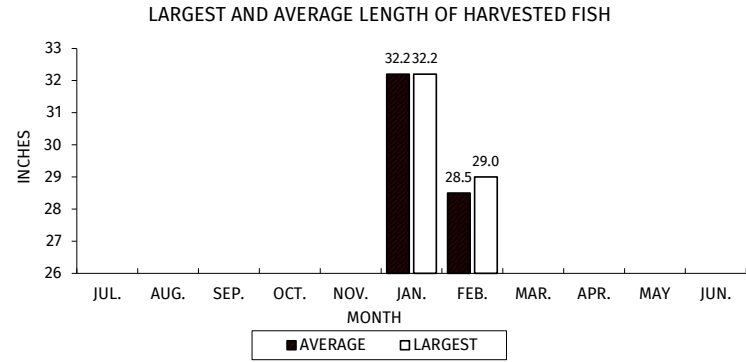
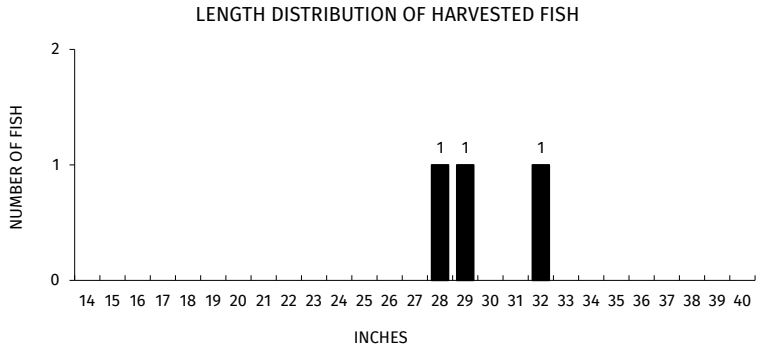
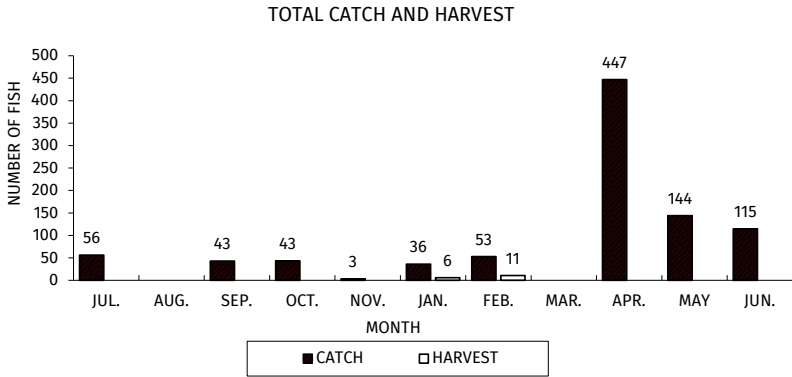
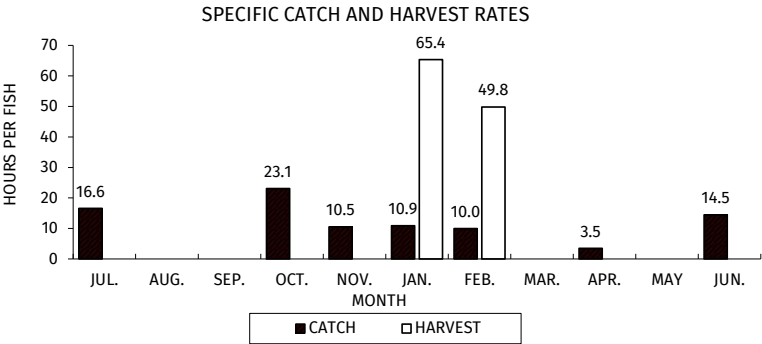
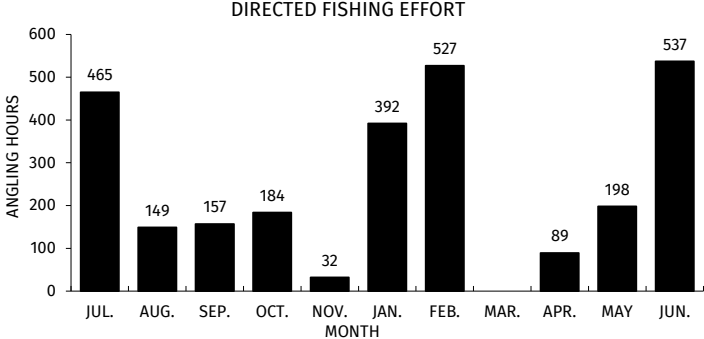


Figure 17. Northern pike fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# CHANNEL CATFISH

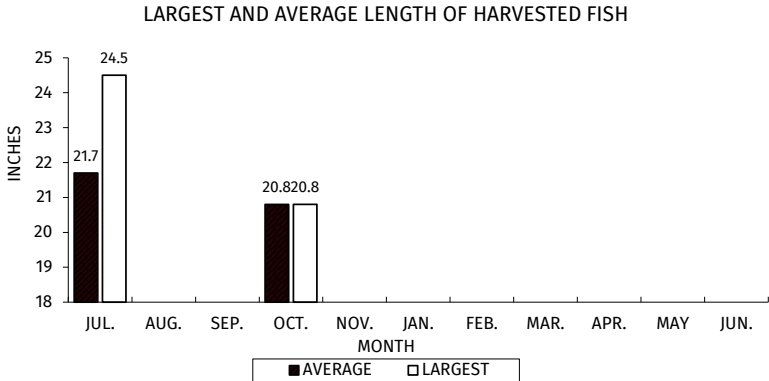
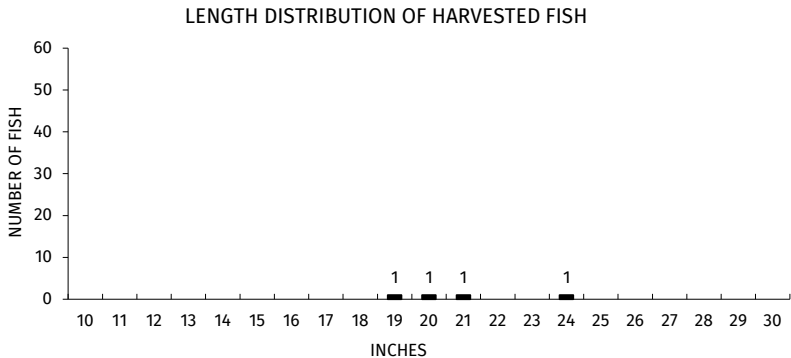
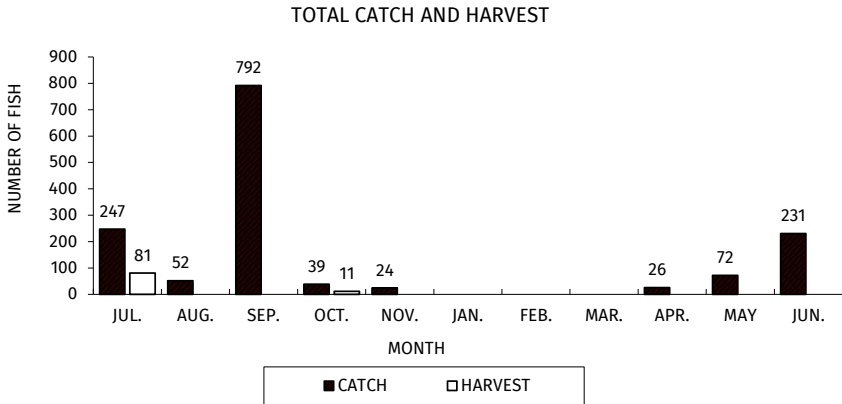
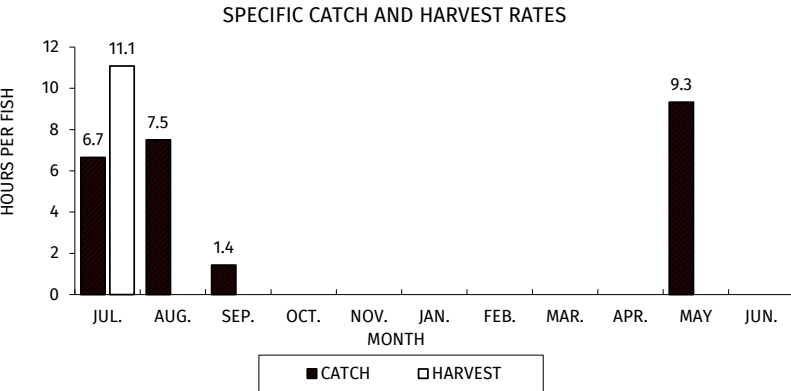
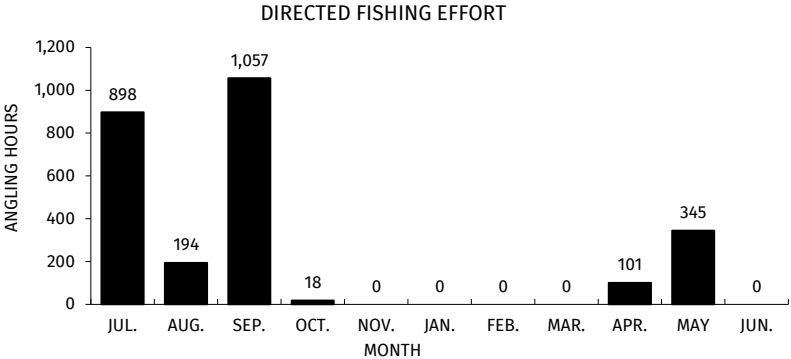


Figure 18. Channel catfish effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.

# FLATHEAD CATFISH

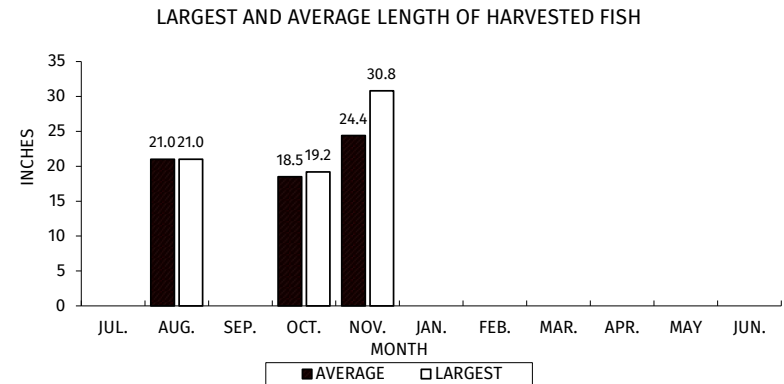
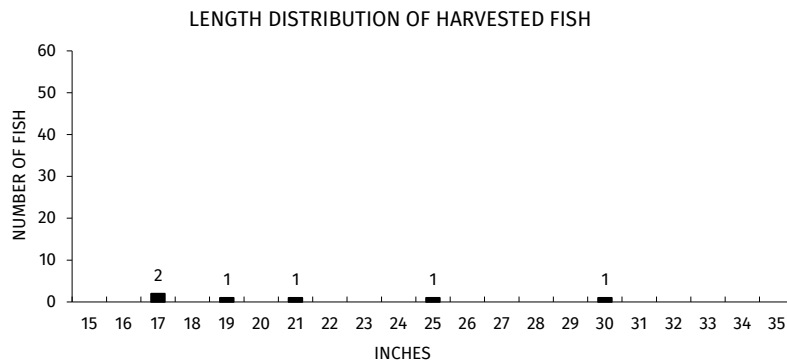
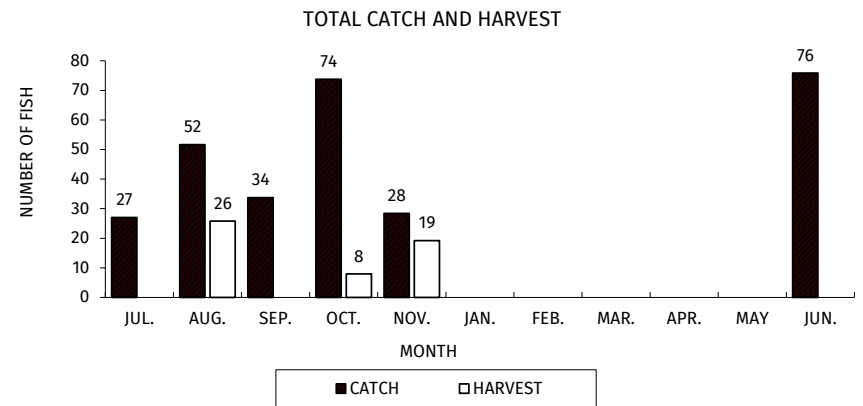
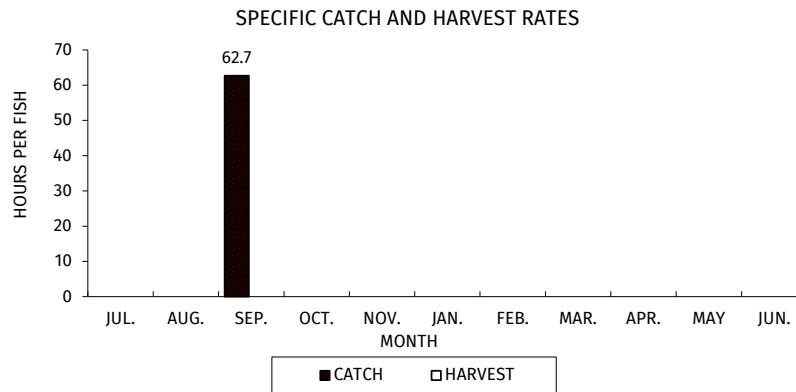
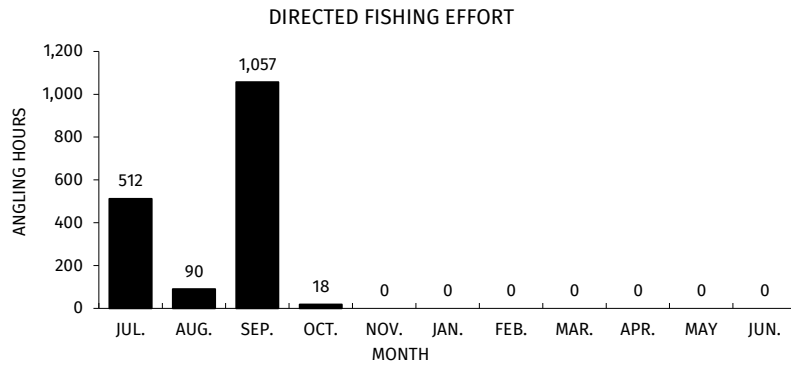
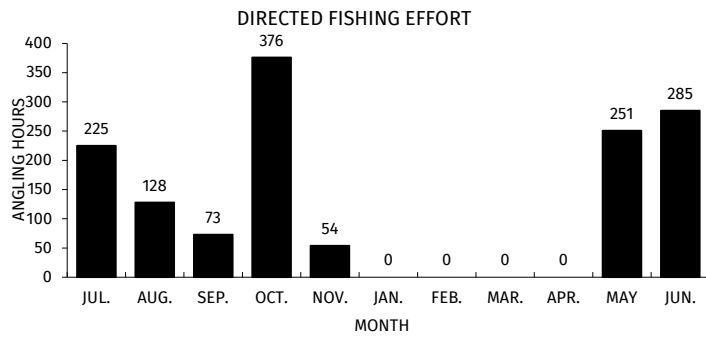


Figure 19. Flathead catfish fishing effort, catch, harvest and length distribution, Lake Wisconsin, during 2022-23.



## MUSKELLUNGE

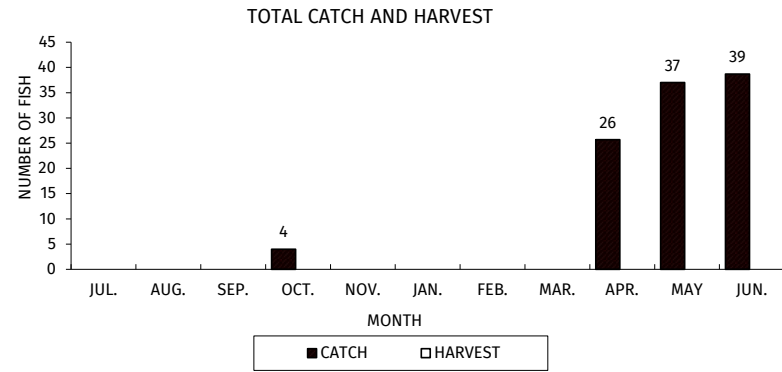
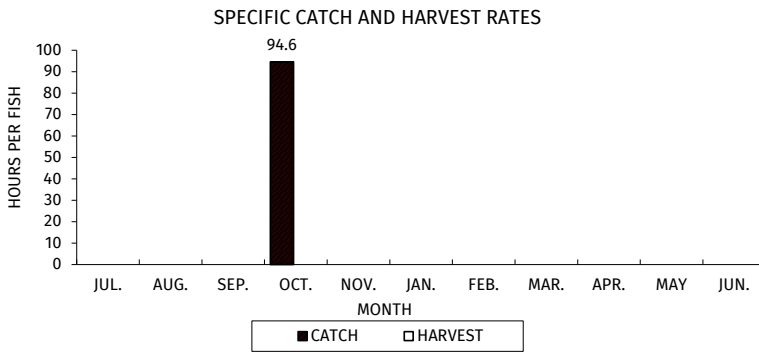


Figure 20. Muskellunge fishing effort, catch and harvest, Lake Wisconsin, during 2022-23.

## LAKE STURGEON

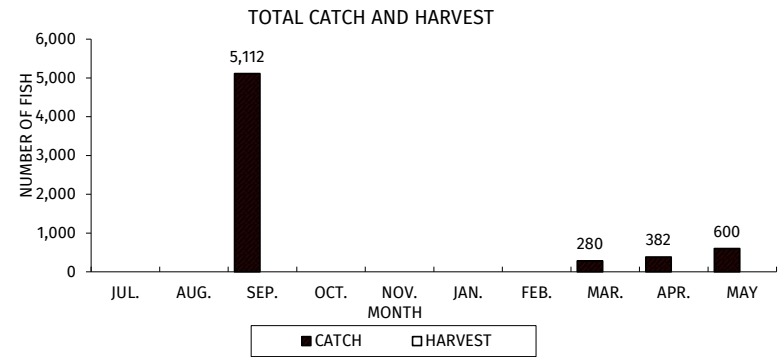
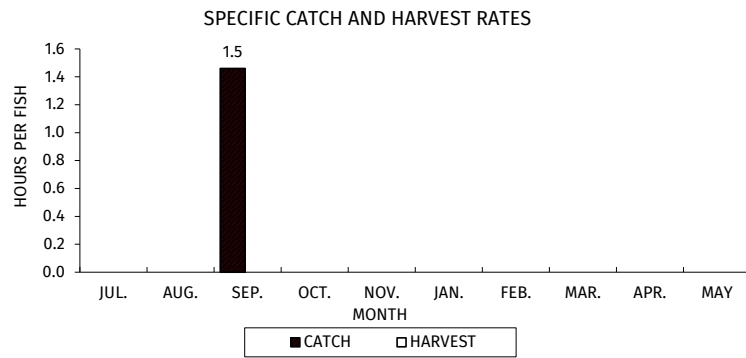
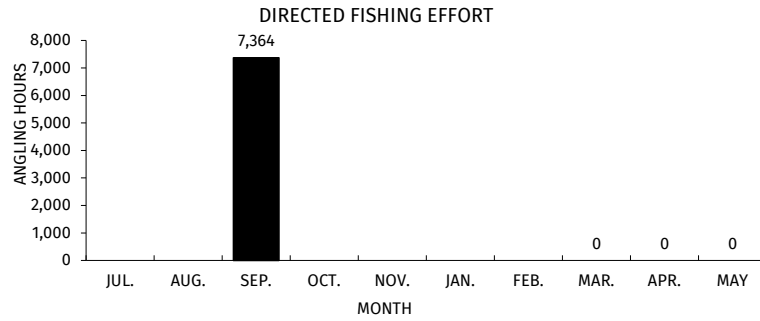


Figure 21. Lake sturgeon fishing effort, catch and harvest, Wisconsin River, Kilbourn Dam tailwater, during 2022-23.

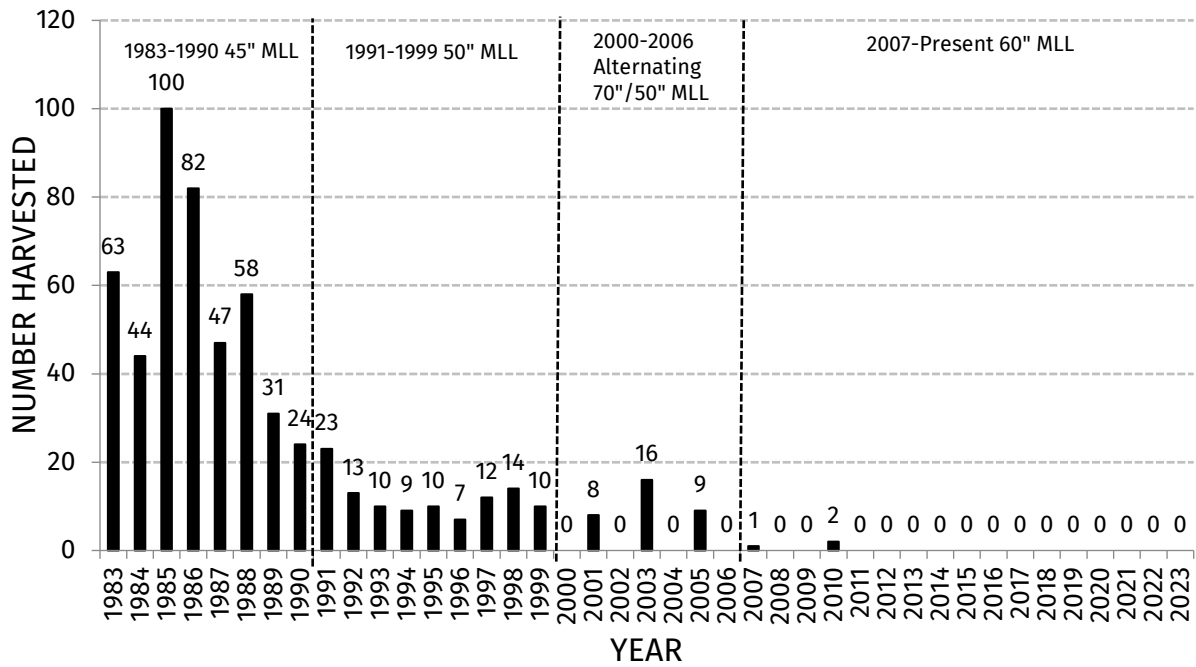


Figure 22. Annual lake sturgeon harvest totals for Lake Wisconsin, 1983-2023.

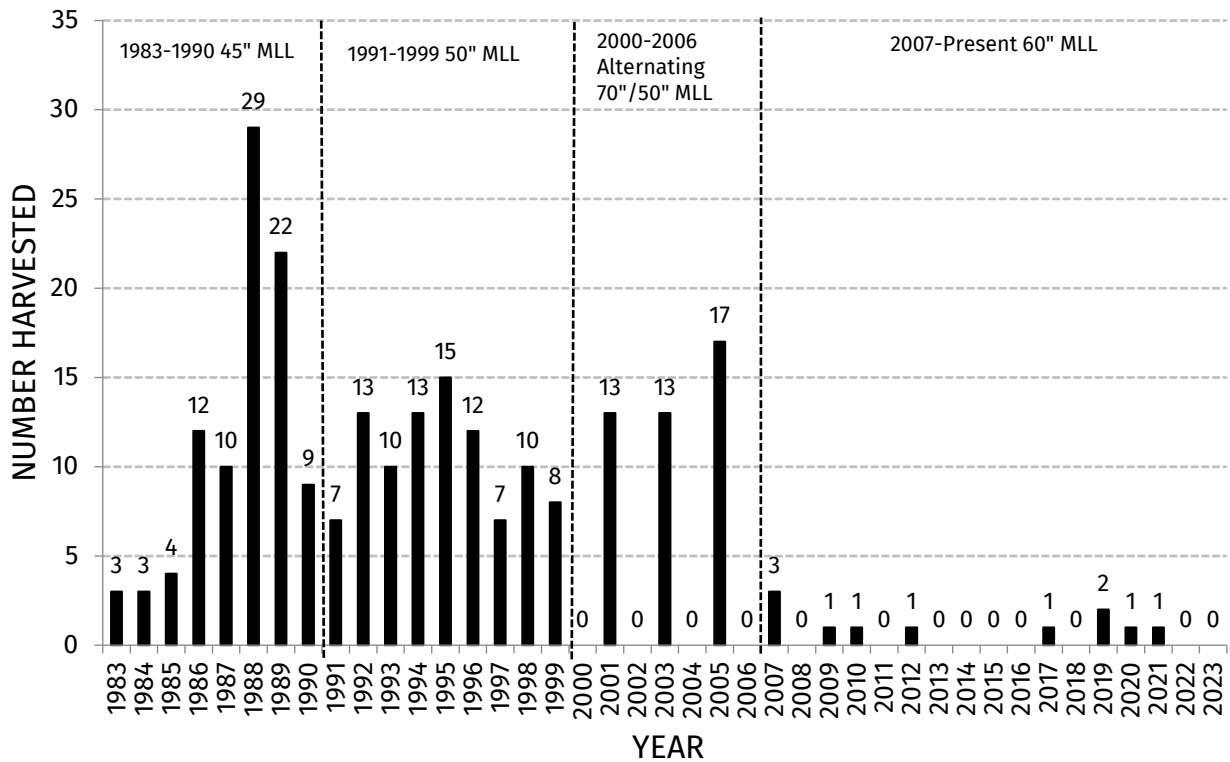


Figure 23. Annual lake sturgeon harvest totals for the Kilbourn Dam tailwater area of the Wisconsin River, 1983-2023.