WISCONSIN DEPARTMENT OF NATURAL RESOURCES

KENTUCK LAKE

2021 – 2022 CREEL SURVEY REPORT

VILAS COUNTY

Treaty Fisheries Publication

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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.

On many lakes in the Ceded Territory of northern Wisconsin, harvest of fish is divided between sport anglers and the six Ojibwe bands who harvest fish under rights reserved by federal treaties. The tribes harvest fish primarily using spearing, a highly efficient method, during a relatively short time in the spring. Every fish in the spear harvest is counted and reported, creating a complete census of the harvest.

We also 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. The survey is conducted during daylight hours throughout the open season for gamefish from the first Saturday in May through the first Sunday in March. Creel surveys are not conducted in November when fishing effort is low and ice conditions are often unsafe.

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.

A computer program is 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.

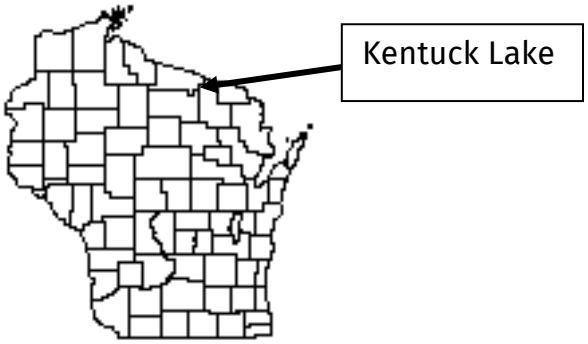
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a few minutes of your time and it gives the DNR valuable information needed for management of the fishery.

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 Kentuck Lake, discussion of results of the survey and detailed summaries by species of fishing effort, catch and harvest.

GENERAL LAKE INFORMATION



LOCATION

Kentuck Lake is located in Vilas and Forest Counties near the town of Eagle River.

PHYSICAL CHARACTERISTICS

Kentuck Lake is a 958-acre drainage lake with a maximum depth of 40 feet. The littoral substrate consists mostly of sand, with gravel and rock. Kentuck Lake contains soft, slightly alkaline, light brown water of low transparency.

SEASONS SURVEYED

The period referred to in this report as the 2021-22 fishing season ran from May 1, 2021 through March 6, 2022. The open-water creel survey ran from May 1 through Oct. 31, 2021 and the ice fishing creel survey ran from Dec. 1, 2021 through March 6, 2022.

WEATHER

Ice-out on Kentuck Lake was around mid-April 2021. Fishable ice formed on Kentuck Lake in early December 2021.

FISHING REGULATIONS

The following seasons, daily bag limits and length limits were in place on Kentuck Lake during the 2021-22 fishing season:

SPECIES	SEASON	BAG LIMIT	MIN. SIZE
Largemouth Bass	5/ 1-3/ 6	1	18"
Smallmouth Bass	5/ 1-6/ 18	Catch&Release	
	6/ 19-3/ 6	1	18"
Only one Largemouth or Smallmouth may be kept			
Musky	5/ 29-12/ 31	1	40"
	On open water		
Northern Pike	5/ 1-3/ 6	5	None
Walleye	5/ 1-3/ 6	3	15"
	20"-24" Protected Slot, 1>24"		
Panfish	Open all year	25	None
	25 panfish may be kept, but only 10 of any one species.		
Rock Bass	Open all year	None	None

SPECIES CATCH AND HARVEST INFORMATION

Summaries of angling effort, catch and harvest information for each species are in Table 2 and Figures 1-10, along with a comparison of these statistics with the previous creel survey in Table 2. Information about species with fishing seasons extending beyond March 6 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

1. **DIRECTED FISHING EFFORT**
   The estimated number of hours during each month that anglers spent fishing for a species.

2. **TOTAL CATCH AND HARVEST**
   The estimated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.

3. **SPECIFIC CATCH AND HARVEST RATES**
   The 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**
The 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

We encountered no unusual problems conducting the survey or calculating the projections contained in the report. This was the fourth time the DNR conducted a creel survey on Kentuck Lake. The last creel survey took place in 2015-16.

GENERAL ANGLER INFORMATION

Anglers spent 30,084 hours, or 31.4 hours per acre, fishing Kentuck Lake during the 2021-22 season (Table 1). That was similar to the Vilas County average of 33.8 hours per acre and the fishing effort documented during the 2015-16 creel survey (30.5 hours per acre). June was the most heavily fished month (6,266 hours) and fishing effort was lightest in February (808 hours). The creel clerks were able to conduct 636 interviews throughout the survey.

RESULTS BY SPECIES

WALLEYE (Table 2, Figure 1)
Anglers spent 6,693 hours targeting Walleye. The greatest fishing effort for Walleye was in May (1,642 hours). February had the least amount of Walleye fishing effort (267 hours). The total catch of Walleye was 2,514 fish, with a harvest of 324. The highest catch (601 fish) and harvest (181 fish) occurred in May. Anglers fished an estimated 3.2 hours to catch and 21.3 hours to harvest a Walleye during the survey. The mean length of harvested Walleye was 16.6 inches and the largest measured was 26.0 inches.

NORTHERN PIKE (Table 2, Figure 2)
Fishing effort directed at Northern Pike was 197 hours during the season. Northern Pike fishing effort was greatest in January (110 hours). There was no documented catch or harvest of Northern Pike during the survey.

MUSKELLUNGE (Table 2, Figure 3)
Anglers spent 8,141 hours targeting Muskellunge during the season. Muskellunge fishing effort was greatest in September (1,909 hours). The total catch of Muskellunge was 298 fish and the highest catch (70 fish) occurred in July. Anglers fished an estimated 34.1 hours to catch a Muskellunge and there was no documented harvest during the survey.

SMALLMOUTH BASS (Table 2, Figure 4)
Fishing effort targeted at Smallmouth Bass was 5,688 hours during the season. Smallmouth Bass fishing effort was greatest in June (1,901 hours). The total catch of Smallmouth Bass was 8,953 fish, with 10 harvested. The highest catch (3,424 fish) occurred in June. Anglers fished an estimated 0.8 hours to catch a Smallmouth Bass during the survey.

LARGEMOUTH BASS (Table 2, Figure 5)
Fishing effort directed at Largemouth Bass was 3,969 hours during the season. Largemouth Bass fishing effort was greatest in June (1,491 hours). Total catch of Largemouth Bass was 2,554 fish, with zero harvest documented. The highest catch (1,020 fish) occurred in June. Anglers fished an estimated 2.3 hours to catch a Largemouth Bass during the survey.

PANFISH (Table 2, Figures 6-10)
YELLOW PERCH received 7,426 hours of directed fishing effort. The total catch of Yellow Perch was 3,194 fish, with 736 harvested. The mean length of Yellow Perch harvested was 8.0 inches.

BLUEGILL Fishing effort directed at Bluegill was 7,414 hours. The total catch of Bluegill was 15,620 fish, with 3,115 harvested. The mean length of Bluegill harvested was 6.8 inches.

BLACK CRAPPIE was the most sought-after panfish species during the survey. Black Crappie received 8,086 hours of directed

fishing effort. Anglers caught 2,584 Black Crappie and harvested 1,001 fish. The mean length of Black Crappie harvested was 10.0 inches.

PUMPKINSEED Fishing effort directed at Pumpkinseed was 2,926 hours. The total catch of Pumpkinseed was 7,027 fish, with 1,628 harvested. The mean length of Pumpkinseed harvested was 6.9 inches.

ROCK BASS received only 93 hours of directed fishing effort. However, anglers caught 2,741 Rock Bass and harvested 76. The mean length of Rock Bass harvested was 6.5 inches.

OTHER

BROOK TROUT were not targeted by anglers in this survey, but six fish were caught and harvested. Brook trout can be found in Kentuck Creek and sometimes come into the lake.

WHITE SUCKER were not targeted by anglers, but five fish were caught and zero were harvested.

ACKNOWLEDGMENTS

The DNR would like to thank all the anglers who took the time to offer information about their fishing trip to the survey clerk. Without their cooperation, the survey would not have been possible.

We also thank our cooperators, Richard Bukowski and the USDA Forest Service, who generously allowed the DNR to keep a boat or snowmobile on their property during this survey.

Completion of this survey was possible because of the efforts of the following fisheries management and treaty fisheries staff: John Kubisiak, Lawrence Eslinger, Joelle Underwood, Jason Halverson, Eric Brown and Bob Consolo. Creel clerks on Kentuck Lake during the survey period were Shannon Morrell, Evan Priebe and Richard Cechal.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger and Eric Wegleitner of the DNR.

Additional copies of this report and those covering other local lakes can be obtained from the DNR Woodruff Service Center or online at: http://dnr.wisconsin.gov/topic/Fishing/north/trtycrlsrvys.html

Table 1. Sportfishing effort summary, Kentuck Lake, 2021-22 season; compared to 2015-16 creel results, Vilas County averages, and Ceded Territory averages.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	2015-16 Total Angler Hours/Acre	Vilas County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	94	4,436	4.6	6.7	5.2	4.8
June	144	6,266	6.5	6.7	6.7	6.2
July	105	5,956	6.2	5.0	7.1	6.6
August	86	4,412	4.6	3.4	6.2	5.2
September	74	4,026	4.2	3.0	4.1	3.2
October	62	2,070	2.2	1.4	1.9	1.4
December	16	938	1.0	0.0	0.6	1.1
January	32	1,098	1.1	1.4	0.9	1.7
February	22	808	0.8	2.1	1.0	1.6
March	1	75	0.1	0.8	0.2	0.2
Summer Total	565	27,166	28.4	26.1	31.3	27.3
Winter Total	71	2,918	3.0	4.4	2.7	4.6
Grand Total	636	30,084	31.4	30.5	33.8	31.5

Note: Summer is May-October; Winter is December-March

Number of Angler Party Interviews is the number of groups of anglers interviewed by the creel clerk. A party is considered the members of a group who fish together in the same boat, ice shanty or from shore. The clerk fills out one interview form for each group of anglers. The number of individual anglers actually contacted by the clerk is usually much greater than the number of groups listed in this table since most groups consist of more than one angler.

Total Angler Hours is the estimated total number of hours that anglers spent fishing on Kentuck Lake during each month surveyed.

Total Angler Hours/Acre is the total angler hours divided by the area of the lake in acres. This is useful in order to compare effort on Kentuck Lake to other lakes.

2015-16 Total Angler Hours/Acre is the total angler hours divided by the area of the lake in acres. This is from the previous creel survey that took place on Kentuck Lake.

County Average Hours/Acre is the average angler effort in hours per acre for county lakes that have been surveyed since 1990. This value is useful for fishing pressure comparisons with other waters.

Ceded Territory Average Hours/Acre is the average angler effort in hours per acre for inland lakes in the Ceded Territory that have been surveyed since 1990. This value can be used to compare Kentuck Lake to other lakes in northern Wisconsin.

Table 2. Comparison of creel survey synopses, Kentuck Lake, 2021-22 and 2015-16 fishing seasons.

CREEL YEAR: 2021-22

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	6,693	13.2%	2,514	3.2	324	21.3	16.6
Northern Pike	197	0.4%	0	*	0	*	**
Muskellunge	8,141	16.1%	298	34.1	0	*	**
Smallmouth Bass	5,688	11.2%	8,953	0.8	10	*	17.2
Largemouth Bass	3,969	7.8%	2,554	2.3	0	*	**
Yellow Perch	7,426	14.7%	3,194	2.8	736	10.6	8.0
Bluegill	7,414	14.6%	15,620	0.5	3,115	2.5	6.8
Black Crappie	8,086	16.0%	2,584	3.3	1,001	8.2	10.0
Pumpkinseed	2,926	5.8%	7,027	0.6	1,628	2.1	6.9
Rock Bass	93	0.2%	2,741	0.5	76	1.2	6.5
Brook Trout	0	0.0%	6	*	6	*	10.3
White Sucker	0	0.0%	5	*	0	*	**

CREEL YEAR: 2015-16

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	2,749	4.7%	162	26.4	31	222.2	24.9
Northern Pike	154	0.3%	14	*	0	*	**
Muskellunge	7,790	13.2%	244	41.5	0	*	**
Smallmouth Bass	3,703	6.3%	2,448	1.8	27	149.3	18.6
Largemouth Bass	3,046	5.2%	2,669	1.4	6	500.0	18.3
Yellow Perch	10,348	17.5%	30,046	0.4	9,157	1.2	7.6
Bluegill	12,473	21.1%	39,548	0.4	11,525	1.1	6.8
Black Crappie	10,482	17.7%	5,886	1.9	3,803	2.9	9.5
Pumpkinseed	7,774	13.2%	43,469	0.2	12,877	0.6	6.8
Rock Bass	559	0.9%	6,664	0.4	941	1.0	8.0

Note: If a species is not shown in a table, no data was collected by the creel clerks for that species.
* Indicates that no fish of this species were caught or harvested (depending on the column) by anglers who specifically targeted this species.
** Indicates that no fish were measured by the creel clerks for this species.

WALLEYE

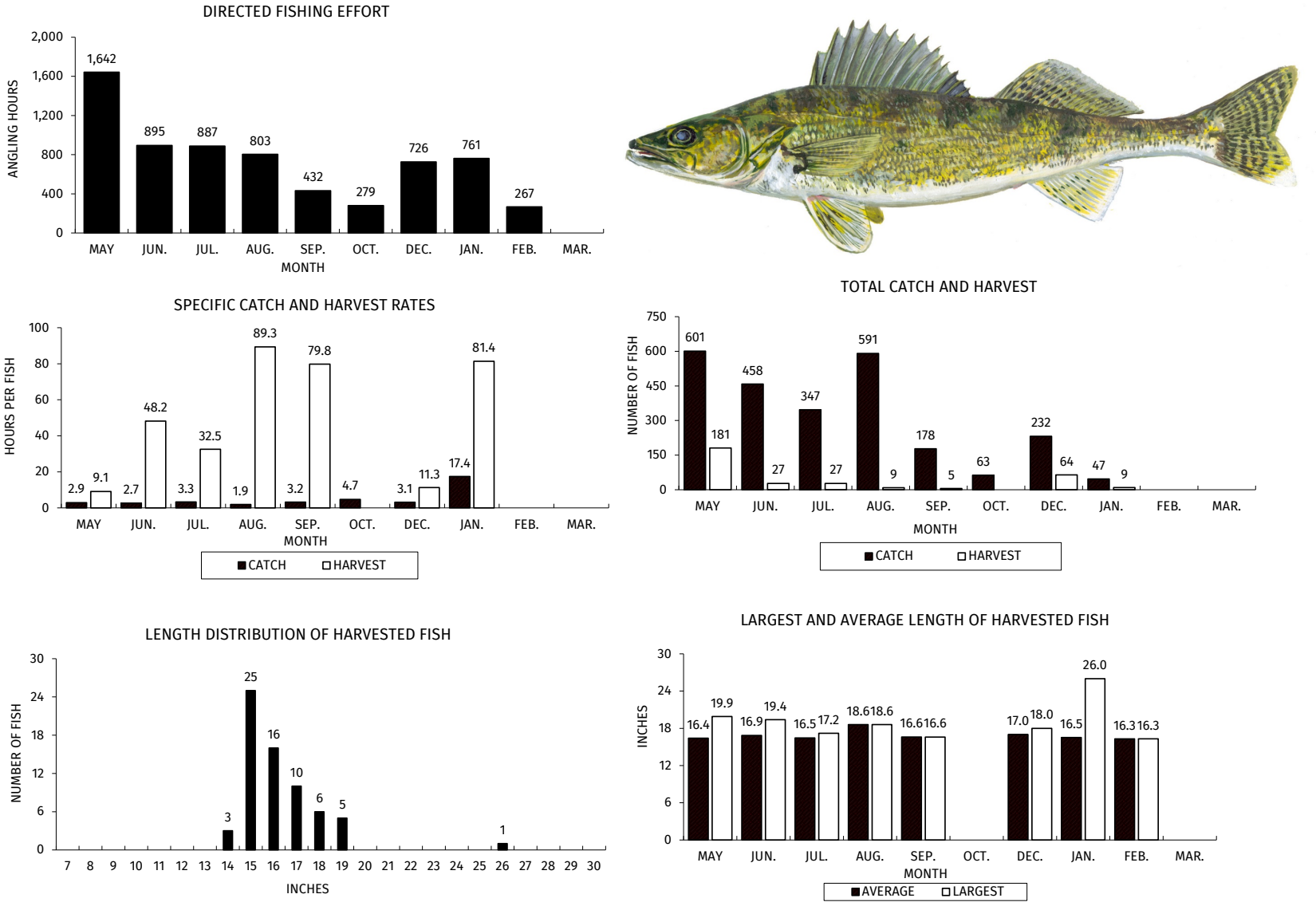


Figure 1. Walleye fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

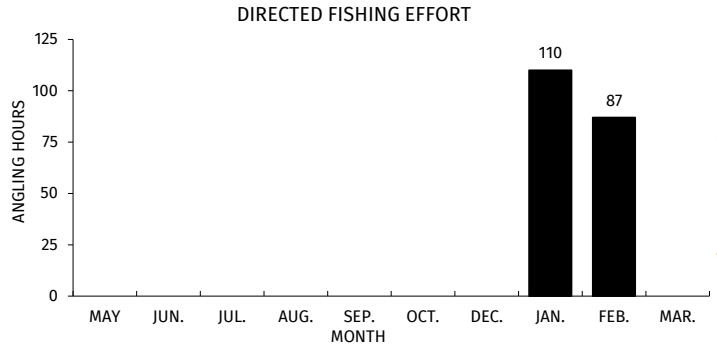


Figure 2. Northern Pike fishing effort, Kentuck Lake, during 2021-22.

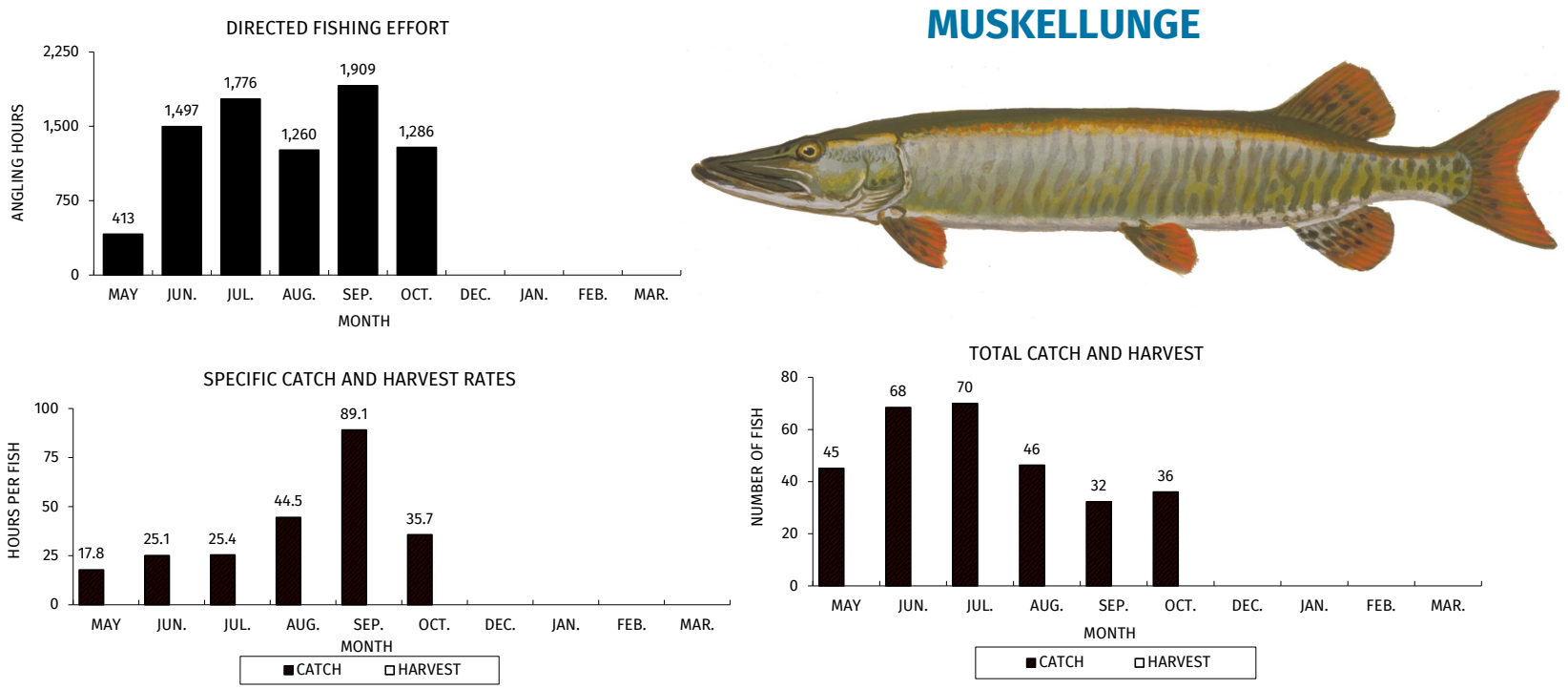
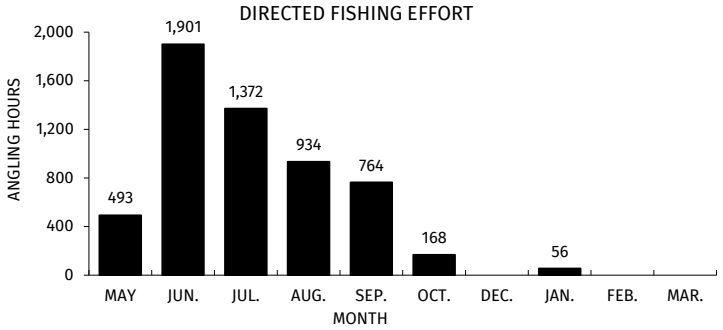
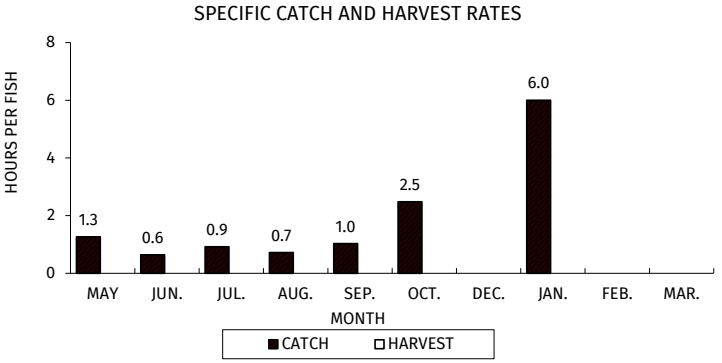
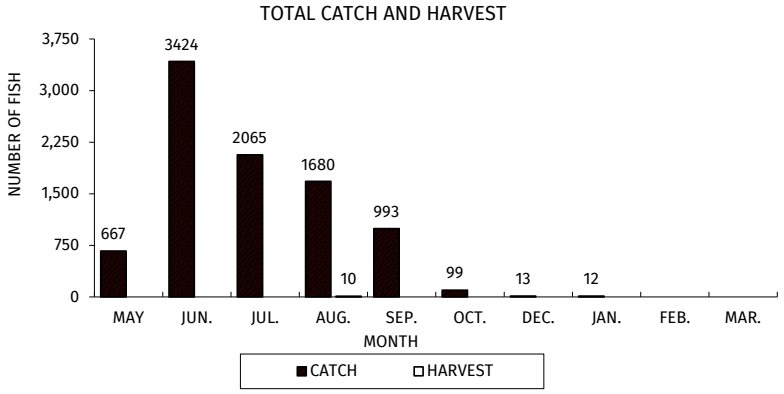


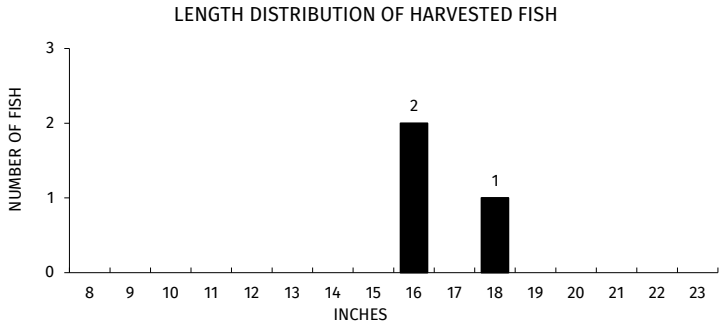
Figure 3. Muskellunge fishing effort, catch and harvest, Kentuck Lake, during 2021-22.

SMALLMOUTH BASS









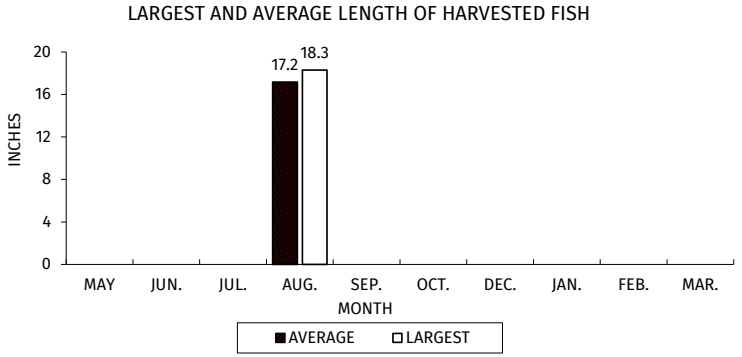
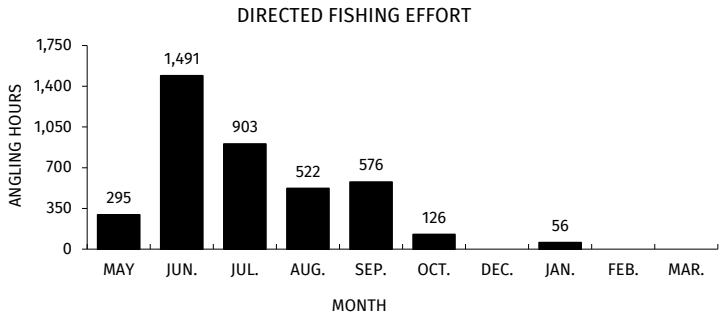
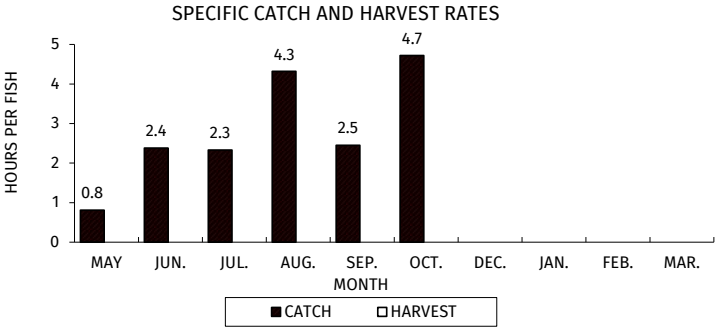


Figure 4. Smallmouth Bass fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

LARGEMOUTH BASS





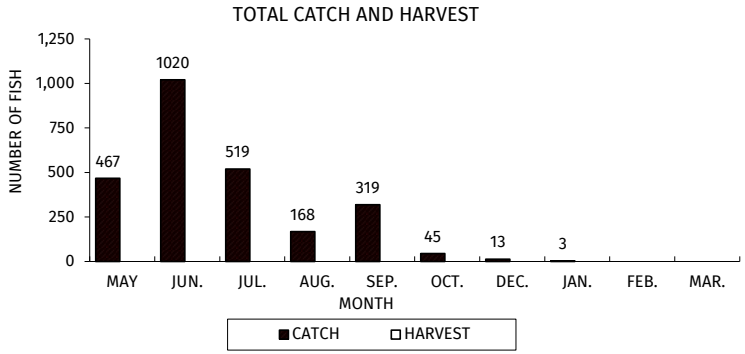
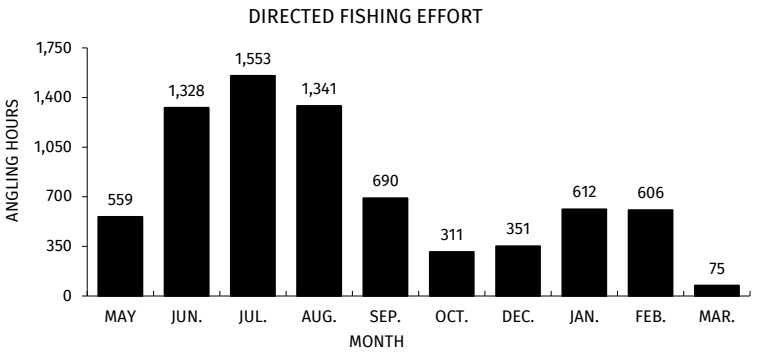
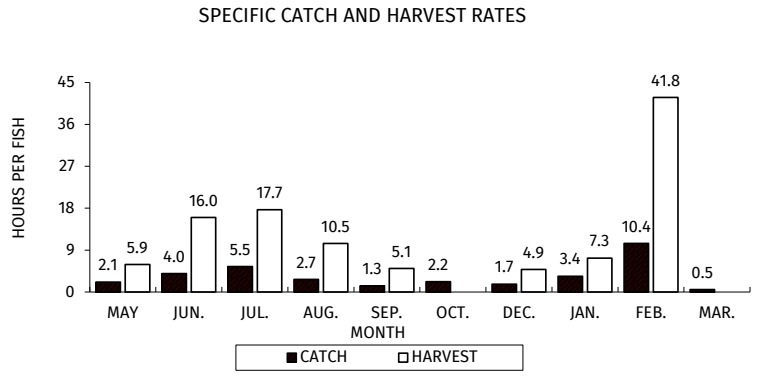
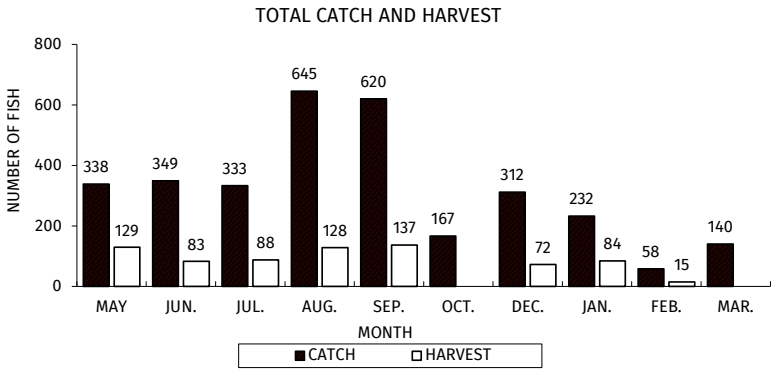


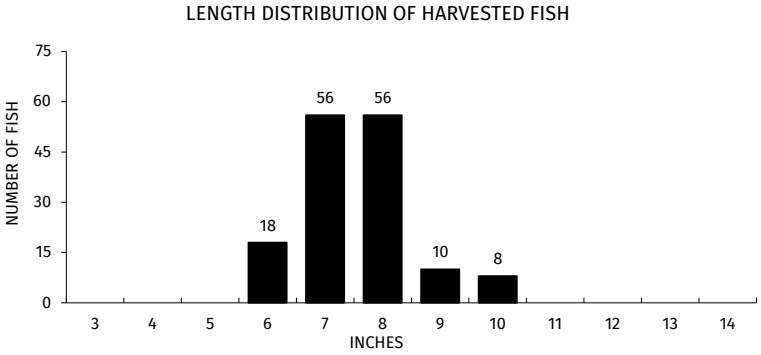
Figure 5. Largemouth Bass fishing effort, catch and harvest, Kentuck Lake, during 2021-22.

YELLOW PERCH









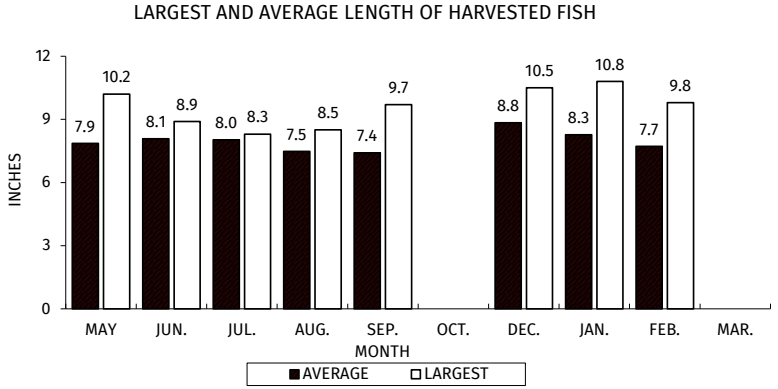


Figure 6. Yellow Perch fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

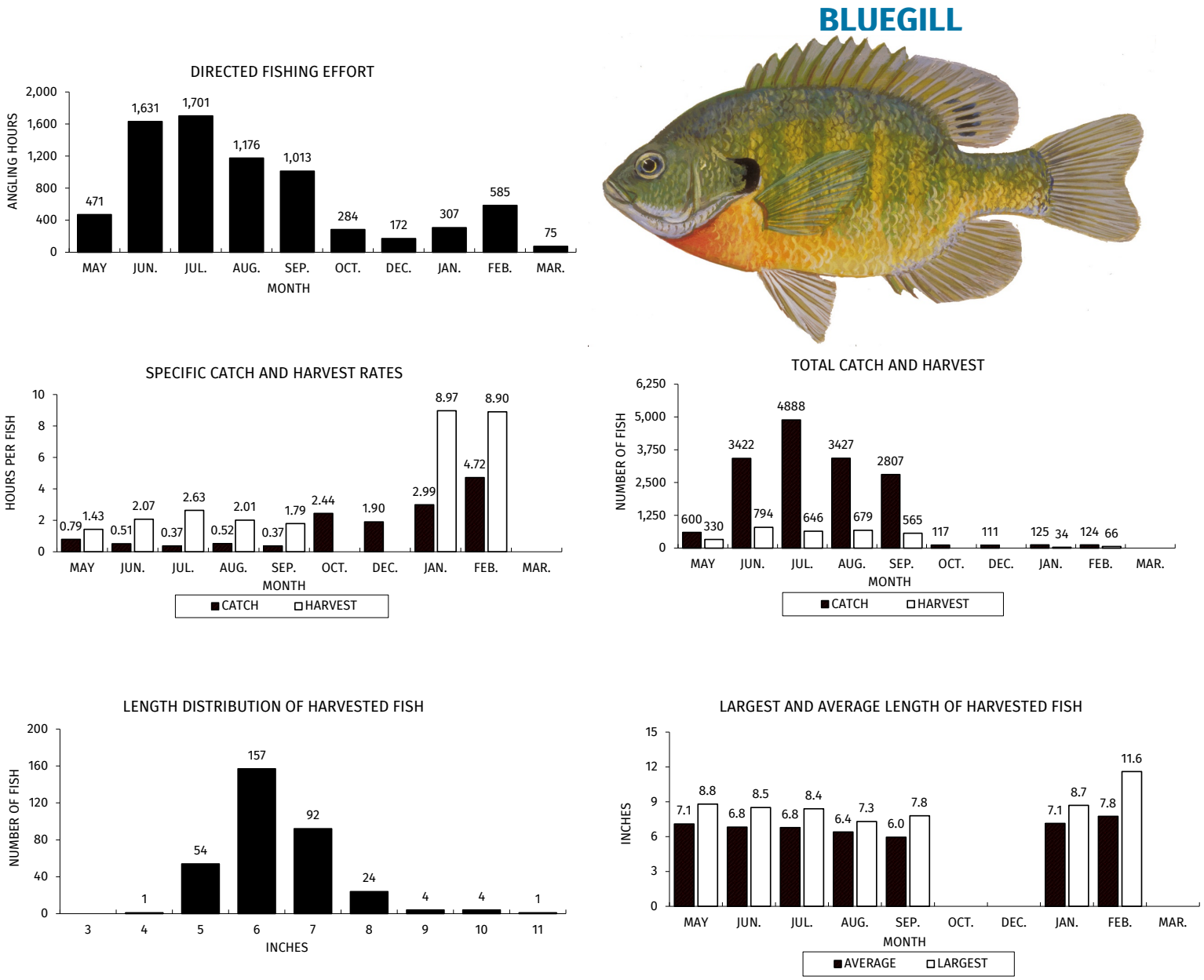
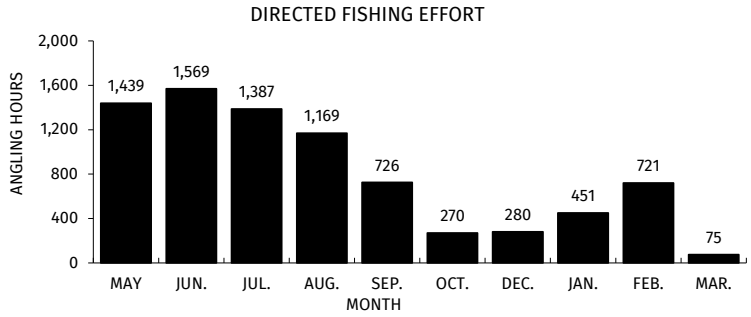
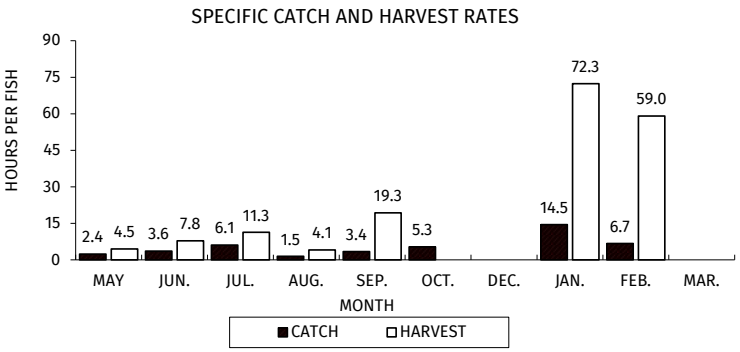
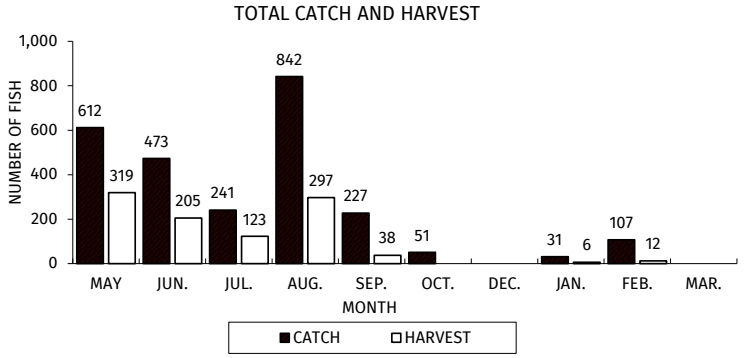


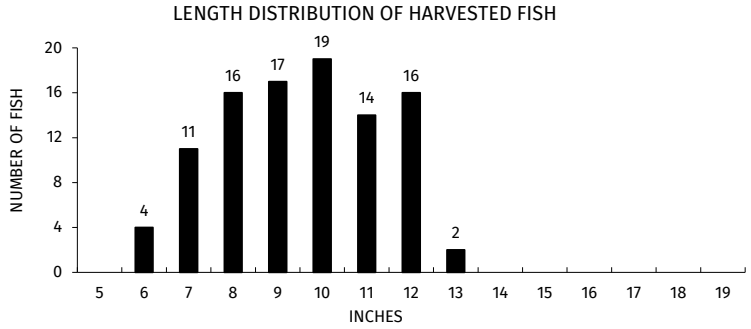
Figure 7. Bluegill fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

BLACK CRAPPIE









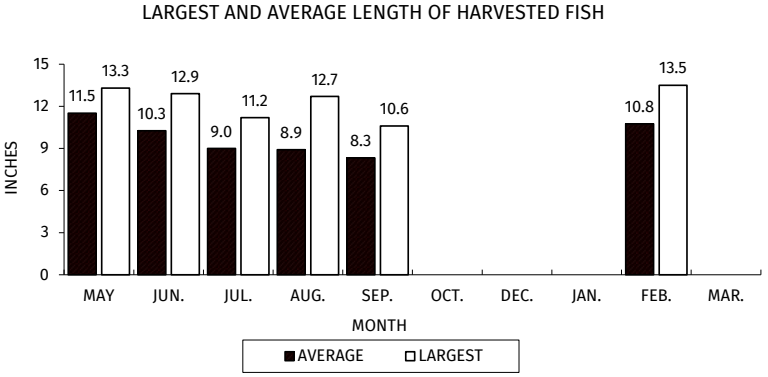
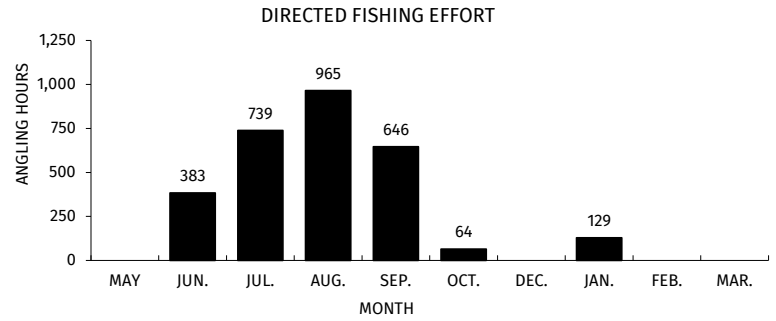
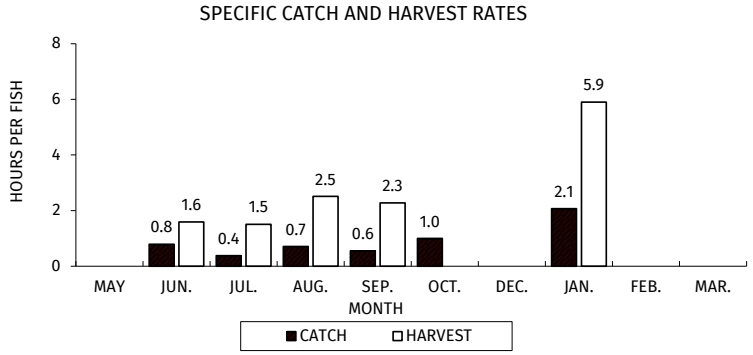
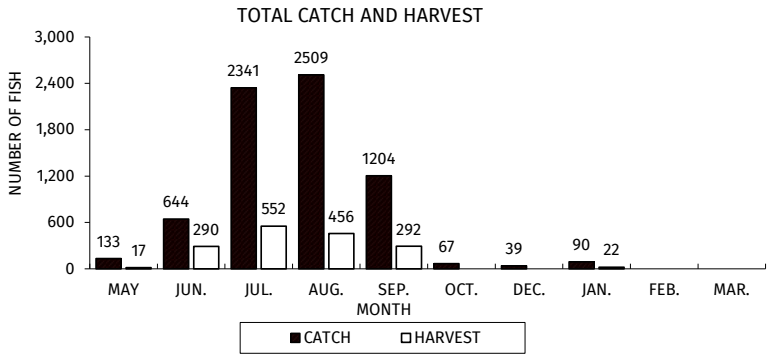


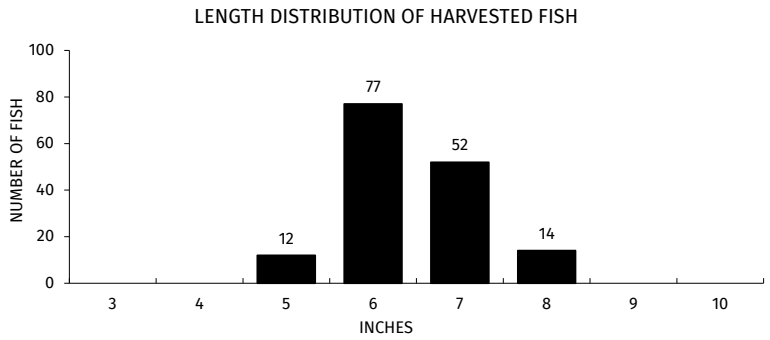
Figure 8. Black Crappie fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

PUMPKINSEED









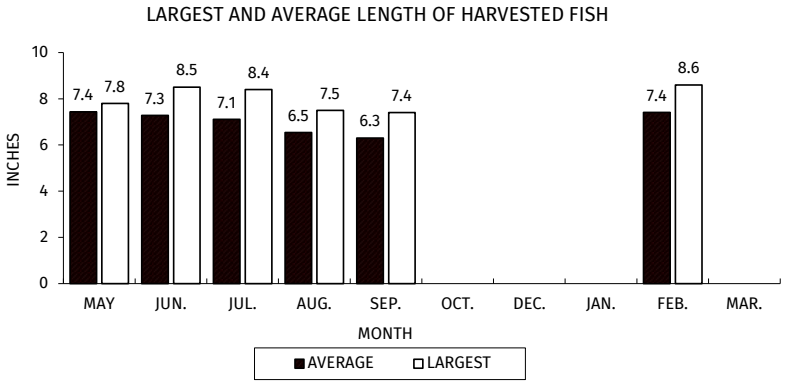


Figure 9. Pumpkinseed fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.

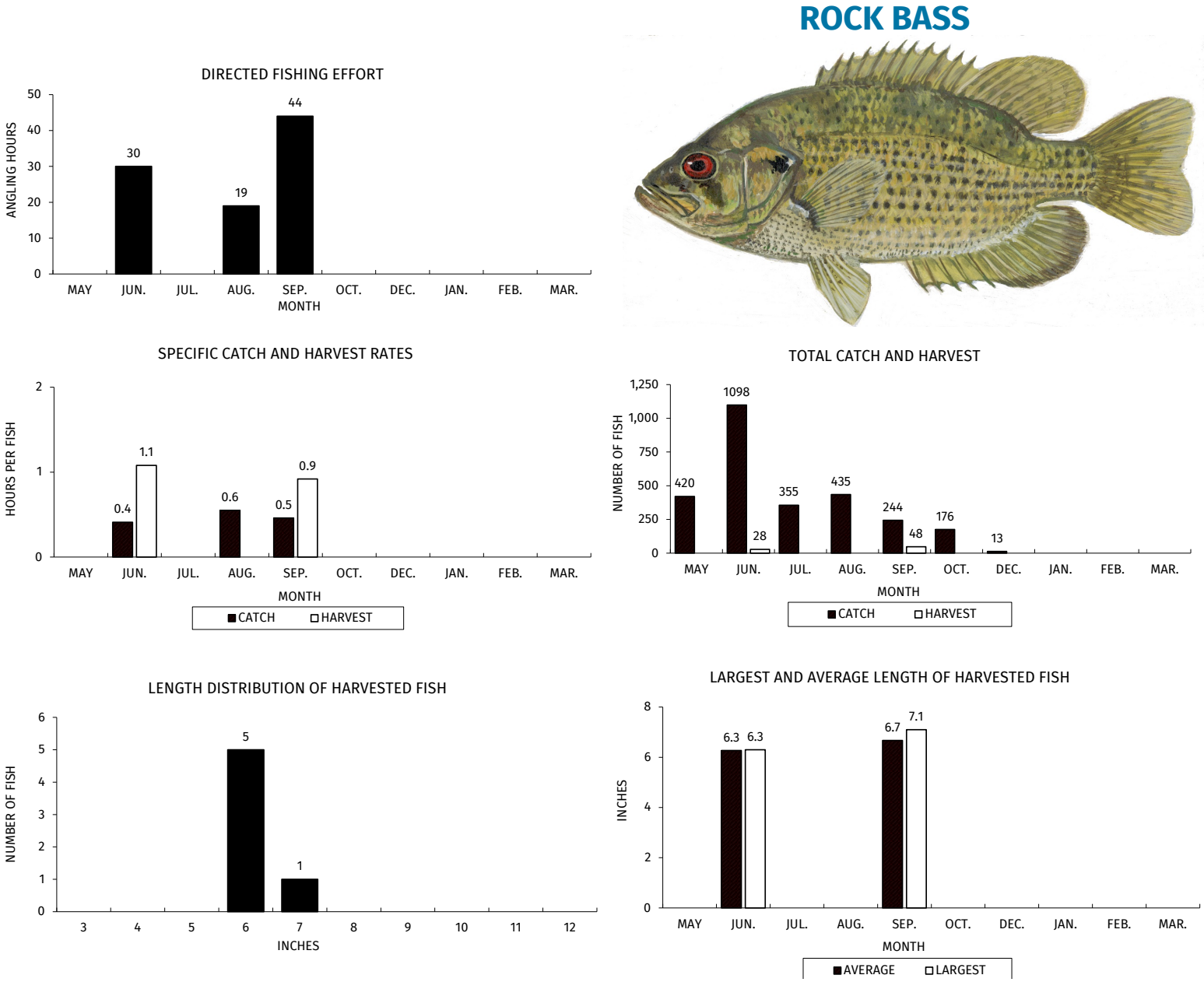


Figure 10. Rock Bass fishing effort, catch, harvest and length distribution, Kentuck Lake, during 2021-22.