

**WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CREEL SURVEY REPORT**

KENTUCK LAKE

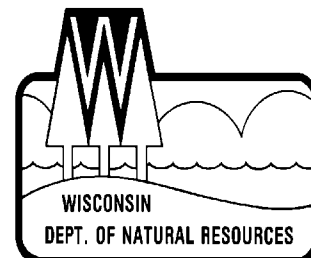
VILAS COUNTY

2015-16



Treaty Fisheries Publication

**Compiled by Jason Halverson &
Jeff Blonski
Treaty Fisheries Technicians**



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Fish Graphics: Virgil Beck, Stevens Point, WI

INTRODUCTION

Fish populations can fluctuate due to natural forces (weather, predation, competition), management actions (stocking, regulations, habitat improvement), inappropriate development (habitat degradation), and harvest impacts. Wisconsin Department of Natural Resources fisheries crews regularly conduct fishery surveys on area 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 (species composition, population size, reproductive success, size/age distribution, and growth rates). The other key component of the fishery that we often need to measure is the harvest.

On many lakes in the Ceded Territory of northern Wisconsin, harvest of fish is divided between sport anglers and the six Chippewa tribes who harvest fish under rights granted by federal treaties. The tribes harvest fish mostly using a highly efficient method, spearing, during a relatively short time period in the spring. Every fish in the spear harvest is counted – a complete “census” of the harvest.

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

A creel survey is an assessment tool used to sample the fishing activities of anglers on a body of water and make projections, or estimates, of harvest and other fishery parameters. Creel survey clerks work on

randomly-selected days and shifts, forty hours per week, during 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. The survey is run during daylight hours, and shift times change from month to month as day length changes.

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 is 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 make estimates of total catch and harvest of each species, catch and harvest rates, and total fishing effort by month, as well as for the year in total. Keep in mind that these are only 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, therefore, depends on good cooperation and truthful responses by anglers when a creel clerk interviews them.

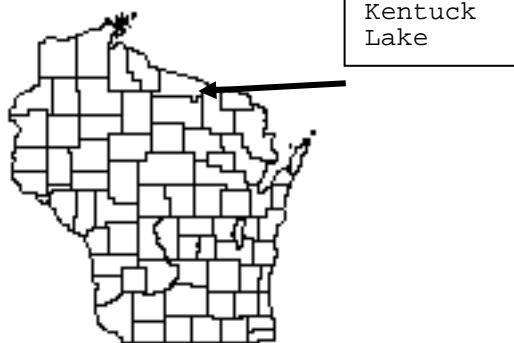
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time, and it gives the Department valuable information needed for management of the fishery.

This report provides estimates of:

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

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 on the border between Vilas and Forest Counties in the Town of Eagle River.

Physical Characteristics

Kentuck Lake is a 957 acre drainage lake with a maximum depth of 40 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck and gravel. Kentuck Lake contains soft water with slightly alkaline, clear water of moderate transparency.

Seasons Surveyed

The period referred to in this report as the 2015-16 fishing season ran from May 2, 2015 through March 6, 2016. The open water creel survey ran from May 2 through October 31, 2015, and the ice fishing creel survey ran from December 1, 2015 through March 6, 2016.

Weather

Ice-out on Kentuck Lake was around April 16, 2015. Fishable-ice formed on Kentuck Lake in late December.

Fishing Regulations

The following seasons, daily bag limits, and length limits were in place on Kentuck Lake during the 2015-16 fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass	5/2-3/6	1	18"
Smallmouth Bass	5/2-6/19	Catch&Release	
	6/20-3/6	1	18"
Musky	5/23-11/30	1	40"
Northern Pike	5/2-3/6	5	none
Walleye	5/2-3/6	3	15"
		20-24" Protected Slot, 1>24"	
Panfish	year round	25	none
Rock Bass	year round	none	none

SPECIES CATCH AND HARVEST INFORMATION

Angling effort, catch, and harvest information is summarized for each species in Table 2 and Figures 1-10. Table 2 also includes a comparison of these statistics with the previous creel survey. Information presented about species whose fishing season extends beyond March 6 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

1. **ESTIMATED FISHING EFFORT**
Total calculated number of hours during each month that anglers spent fishing for a species.
2. **ESTIMATED SPECIFIC CATCH AND HARVEST RATES**
Calculated 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.

3. **ESTIMATED CATCH AND HARVEST**
Calculated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.
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**
Monthly largest and average length of harvested fish of a species. Only those fish measured by the creel survey clerk are reported.

CREEL SURVEY RESULTS AND DISCUSSION

Survey Logistics

The creel survey went well. We encountered no unusual problems conducting the survey or calculating the estimates contained in the report. This was the third time the department conducted a creel survey on Kentuck Lake; the last survey took place during the 1998-99 season. A creel survey was also conducted by the Sokaogon Chippewa Community in 2005-06.

General Angler Information

Anglers spent 29,169 hours, or 30.5 hours per acre, fishing Kentuck Lake during the 2015-16 season (Table 1). That was less than the Vilas County average of 35.5 hours per acre. May was the most heavily fished month (6,438 hours). Fishing effort was lightest in December (14 hours) due to poor ice conditions. Anglers spent more time (74.0 hours per acre) fishing during the 1998-99 creel survey. The creel clerks were

able to conduct 639 interviews throughout the survey.

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Anglers spent 2,749 hours targeting walleyes during the 2015-16 season. The greatest fishing effort for walleyes was in May (819 hours). August had the least amount of walleye fishing effort (26 hours).

Total catch of walleyes was 162 fish with a harvest of 31 fish. Highest catch (48 fish) occurred in July, and highest harvest (10 fish) occurred in June. Anglers fished an average of 26.4 hours to catch, and 222.2 hours to harvest, a walleye during the survey. The mean length of harvested walleyes was 24.9 inches, and the largest walleye measured was a 29.3-inch fish.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 154 hours during the 2015-16 season. Northern pike fishing effort was greatest in July (87 hours). Total catch of northern pike was 14 fish with no documented harvest.

Muskellunge (Table 2, Figure 3)

Muskellunge received the most fishing effort of any gamefish species during the 2015-16 season. Fishing effort targeted at muskellunge was 7,790 hours. Muskellunge fishing effort was greatest in August (2,049 hours). Total catch of muskellunge was 244 fish, with the highest catch (76 fish) occurring in June. Anglers fished an average of 41.5 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 3,703 hours during the 2015-16 season. Smallmouth bass fishing effort was greatest in June (1,270 hours). Total catch

of smallmouth bass was 2,448 fish, with 27 being harvested. Highest catch (993 fish) occurred in June. Anglers fished an average of 1.8 hours to catch a smallmouth bass during survey.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 3,046 hours during the 2015-16 season. Largemouth bass fishing effort was greatest in June (1,174 hours). Total catch of largemouth bass was 2,669 fish, with a harvest of 6 fish. Highest catch (1,492 fish) occurred in June. Anglers fished an average of 1.4 hours to catch a largemouth bass during the survey.

Panfish (Table 2, Figures 6-10)

Yellow perch received 10,348 hours of directed fishing effort. Total catch of yellow perch was 30,046 fish, with 9,157 harvested. The mean length of yellow perch harvested was 7.6 inches.

Bluegills were the most sought after panfish species during the survey. Fishing effort directed at bluegills was 12,473 hours. Total catch of bluegills was 39,548 fish, with 11,525 harvested. The mean length of bluegills harvested was 6.8 inches.

Black crappies received 10,482 hours of directed fishing effort. Anglers caught 5,886 black crappies and harvested 3,803 fish. The mean length of black crappies harvested was 9.5 inches.

Pumpkinseeds were also caught during the 2015-16 season. Fishing effort directed at pumpkinseed was 7,774 hours. Total catch of pumpkinseed was 43,469 fish, with 12,877 harvested. The mean length of pumpkinseed harvested was 6.8 inches.

Rock bass were also caught and harvested during the 2015-16 season. Fishing effort directed at rock bass was 559 hours. Total catch of rock bass was 6,664 fish, with 941 harvested. The mean length of rock bass harvested was 8.0 inches.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the following fisheries management and treaty fisheries staff: Lawrence Eslinger, Jeff Blonski, Joelle Underwood, Jason Halverson, Tim Tobias, Eric Brown, David Farrow, and Steve Gilbert. David Gunderson, Molly Fitzgerald, and Eric Brown were the creel clerks on Kentuck Lake during the survey period.

We 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.

The department thanks our cooperators, Bob and Gail Curley and Bob Winblad, all of whom generously allowed the department to keep a boat and/or snowmobile on their property during this survey.

This creel report was reviewed by Steve Gilbert and Lawrence Eslinger of the Wisconsin Department of Natural Resources, Woodruff, Wisconsin.

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

Table 1. Sportfishing effort summary, Kentuck Lake, 2015-16 season.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	1998-99 Total Angler Hours/Acre	Vilas County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	123	6438	6.7	4.1	5.4	5.0
June	114	6391	6.7	11.1	7.1	6.4
July	69	4763	5.0	22.9	7.5	6.8
August	80	3228	3.4	15.9	6.6	5.5
September	72	2871	3.0	4.6	4.3	3.3
October	48	1305	1.4	2.4	2.0	1.5
December	2	14	0.0	0.2	0.6	1.1
January	54	1383	1.4	3.3	0.8	1.7
February	56	1977	2.1	7.2	1.0	1.6
March	21	799	0.8	0.0	0.2	0.2
*Summer Total	506	24995	26.1	61.0	32.9	28.5
*Winter Total	133	4173	4.4	13.0	2.6	4.6
Grand Total	639	29169	30.5	74.0	35.5	33.1

*"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.

1998-99 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, Kentucky Lake, 2015-16 and 1998-99 fishing seasons.

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	2749	4.7%	162	26.4	31	222.2	24.9
Northern Pike	154	0.3%	14		0		
Muskellunge	7790	13.2%	244	41.5	0		
Smallmouth Bass	3703	6.3%	2448	1.8	27	149.3	18.6
Largemouth Bass	3046	5.2%	2669	1.4	6	500.0	18.3
Yellow Perch	10348	17.5%	30046	0.4	9157	1.2	7.6
Bluegill	12473	21.1%	39548	0.4	11525	1.1	6.8
Black Crappie	10482	17.7%	5886	1.9	3803	2.9	9.5
Pumpkinseed	7774	13.2%	43469	0.2	12877	0.6	6.8
Rock Bass	559	0.9%	6664	0.4	941	1.0	8.0

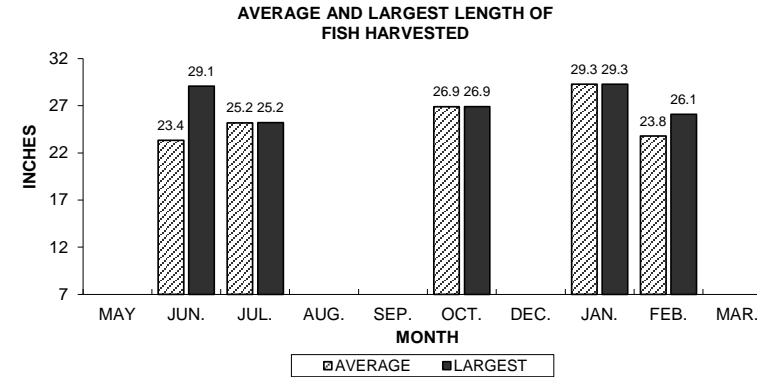
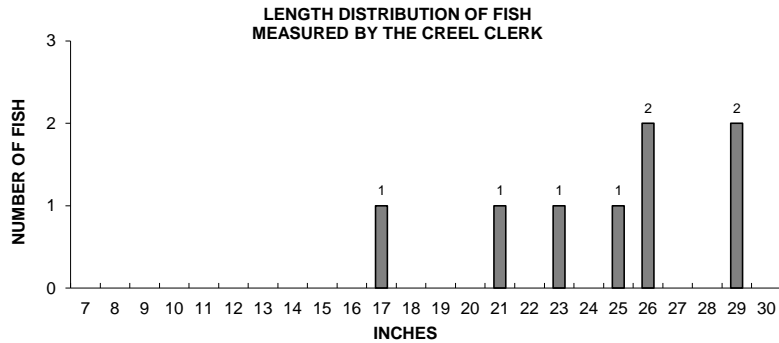
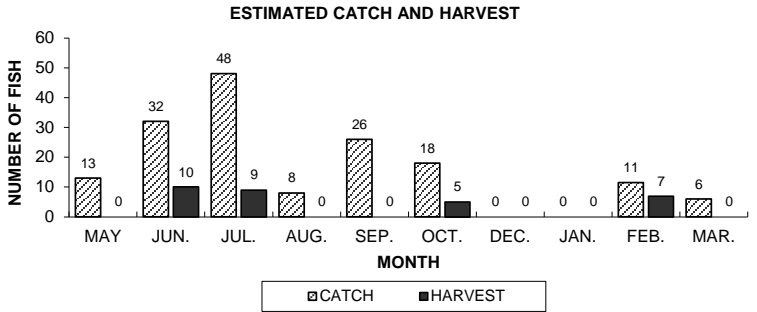
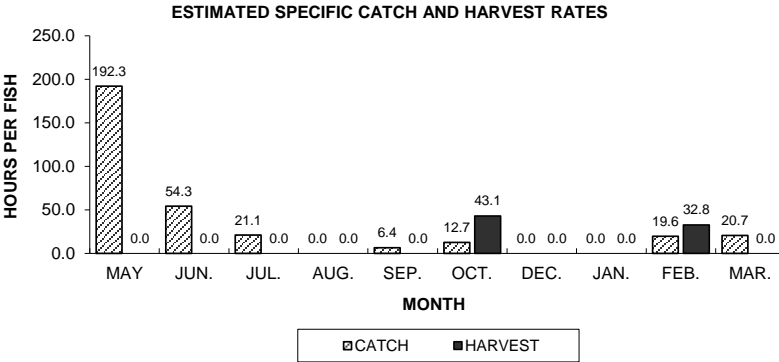
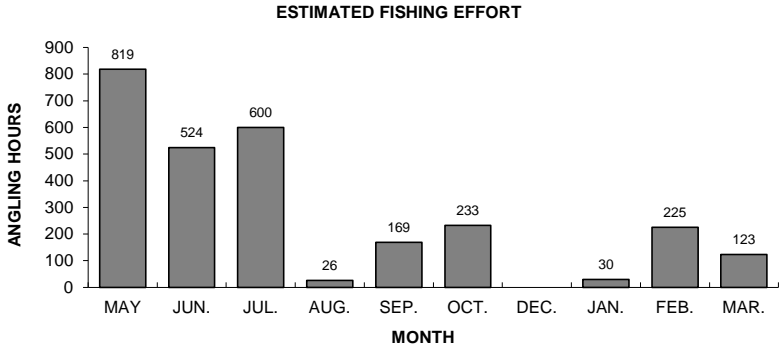
9 * A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 1998-99

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	2507	2.3%	2	1428.6	2	1428.6	27.9
Northern Pike	139	0.1%	0		0		
Muskellunge	11344	10.5%	488	29.7	5	2000.0	46.0
Smallmouth Bass	10740	10.0%	16129	1.1	247	71.4	15.5
Largemouth Bass	10012	9.3%	14191	1.1	212	58.8	16.7
Yellow Perch	28182	26.2%	82637	0.4	47757	0.6	7.6
Bluegill	16915	15.7%	63824	0.4	13072	1.5	6.3
Black Crappie	17821	16.6%	30788	0.6	23872	0.8	8.7
Pumpkinseed	9799	9.1%	22273	0.5	6125	1.8	6.5
Rock Bass	90	0.1%	68	1.4	49	1.8	

WALLEYE



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Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

NORTHERN PIKE



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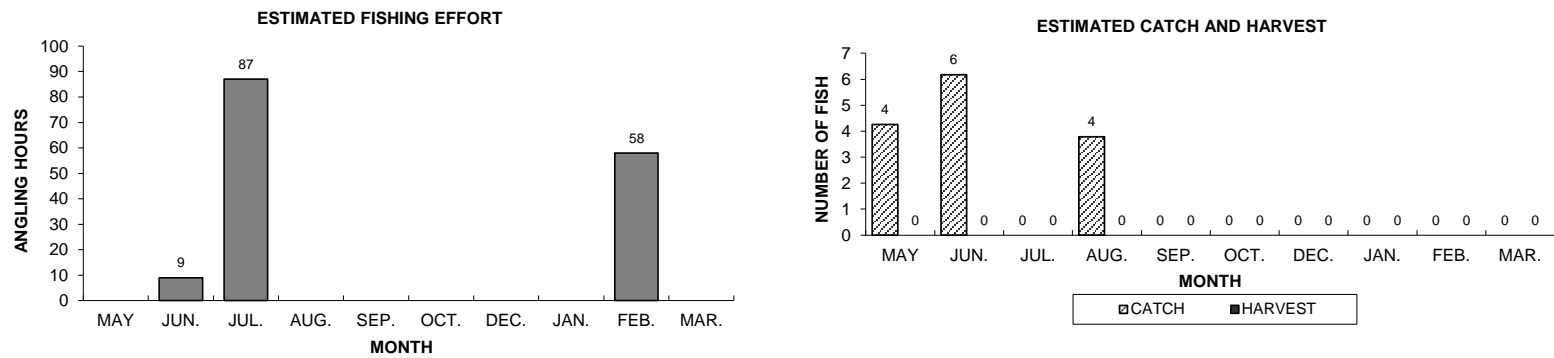
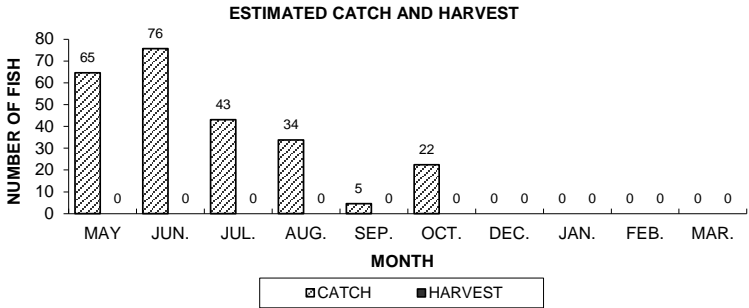
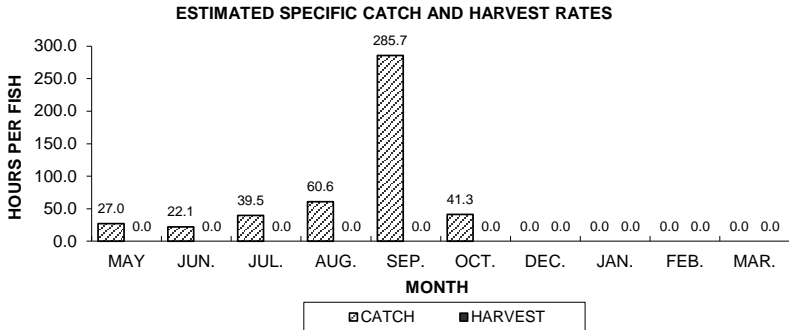
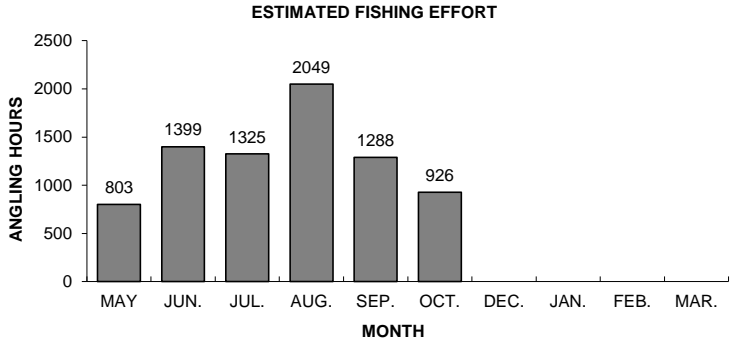


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

MUSKELLUNGE



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Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

SMALLMOUTH BASS

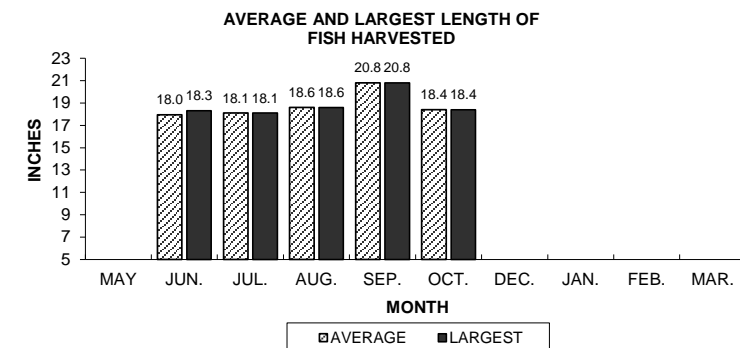
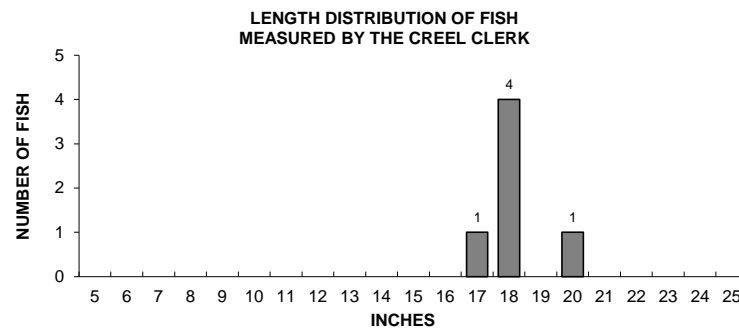
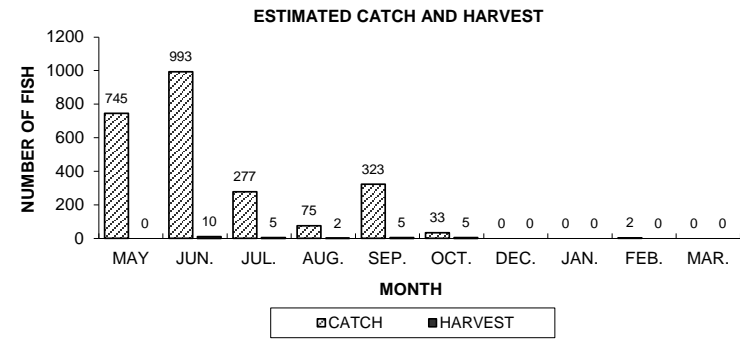
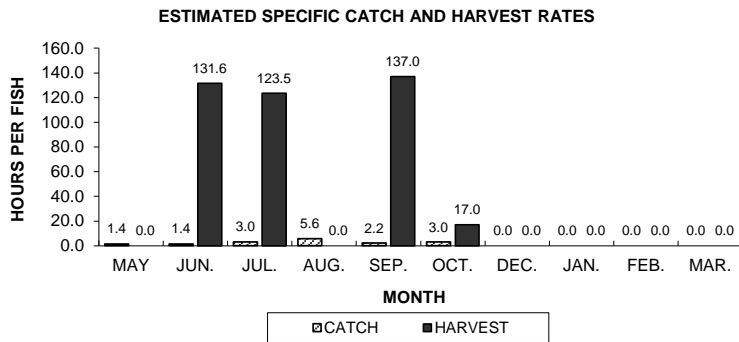
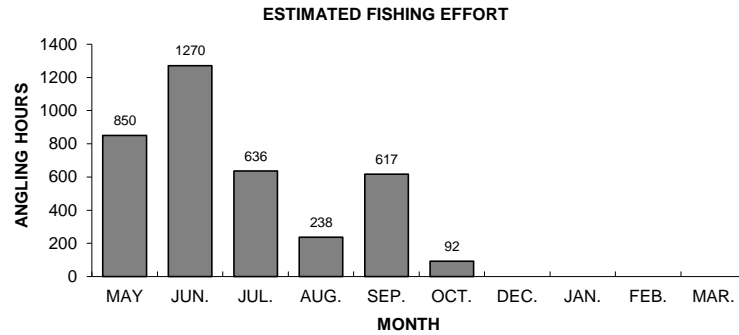
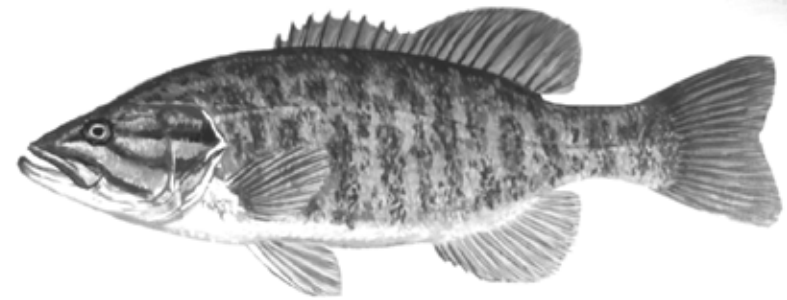
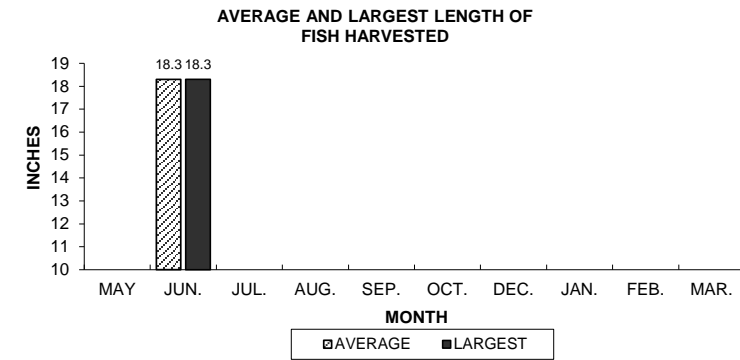
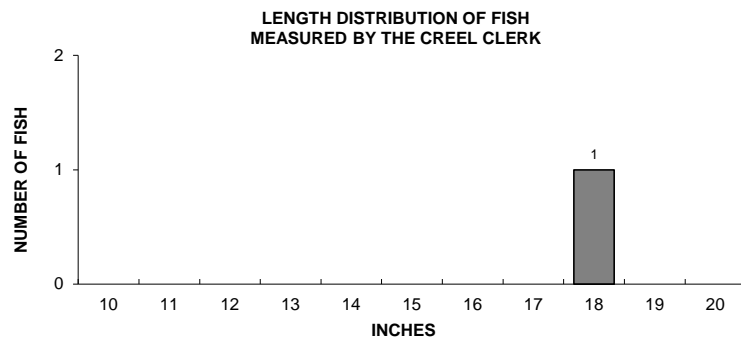
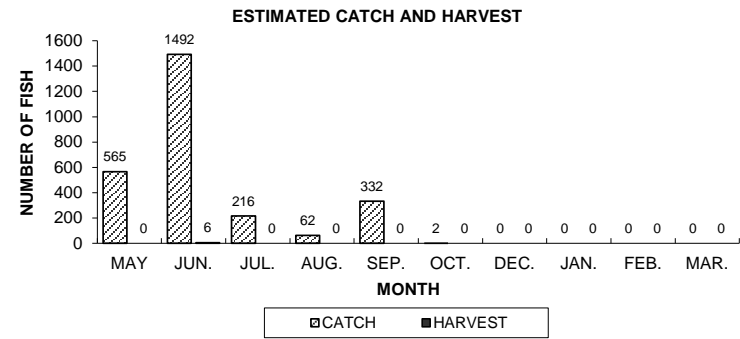
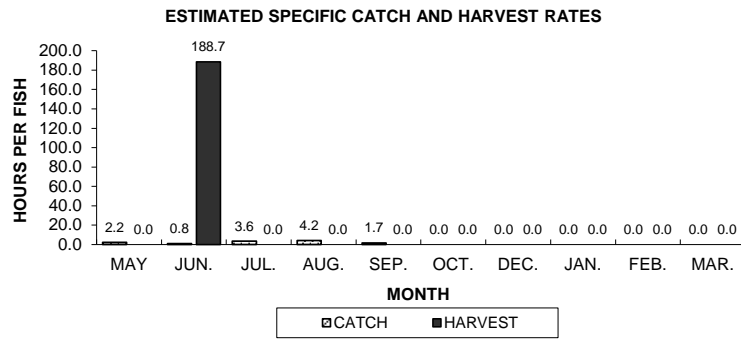
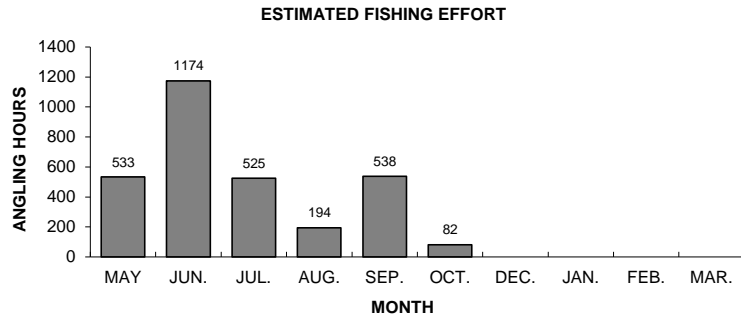
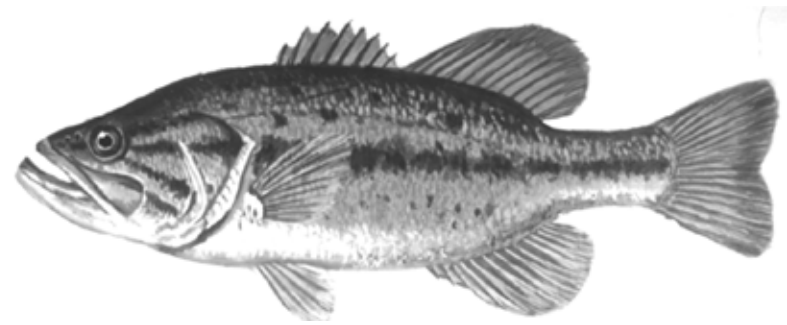


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

LARGEMOUTH BASS



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Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Kentucky Lake, during 2015-16.

YELLOW PERCH

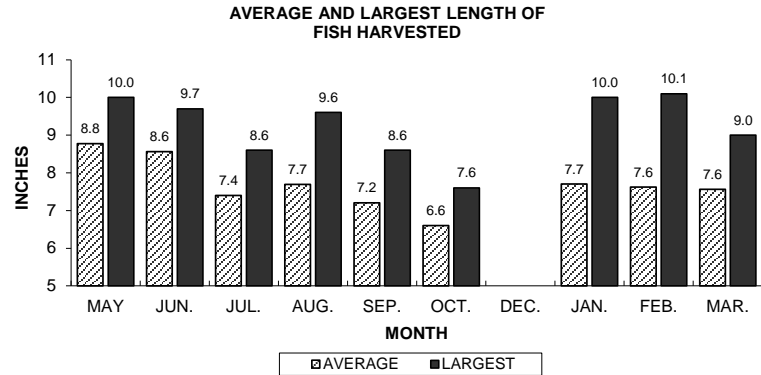
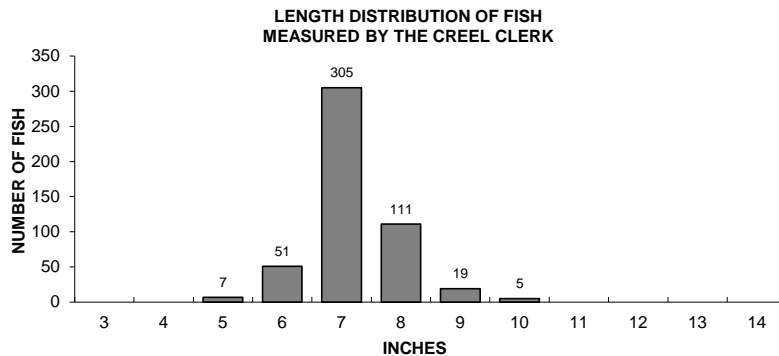
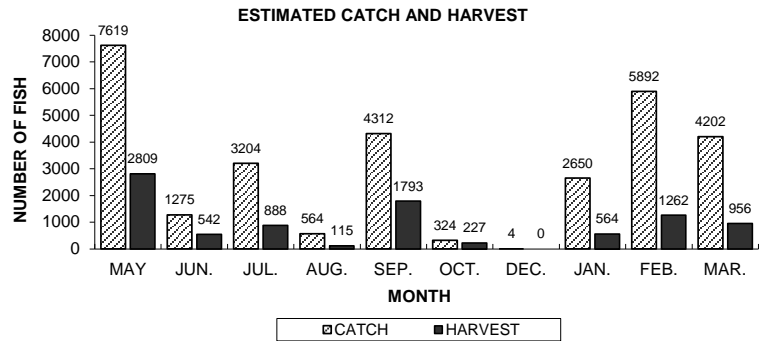
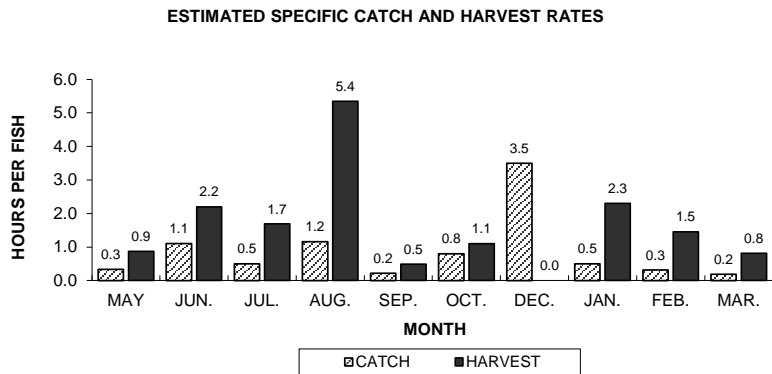
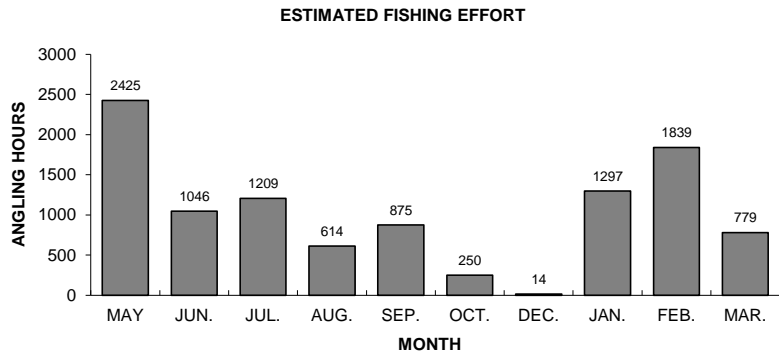


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Kentucky Lake, during 2015-16.

BLUEGILL

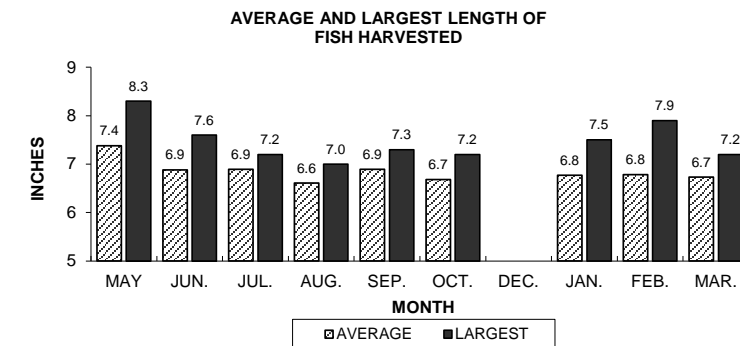
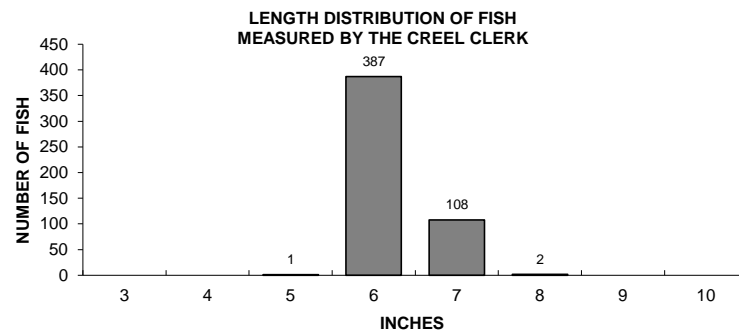
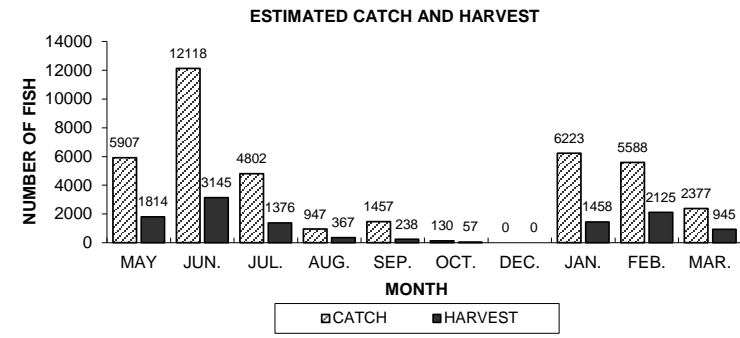
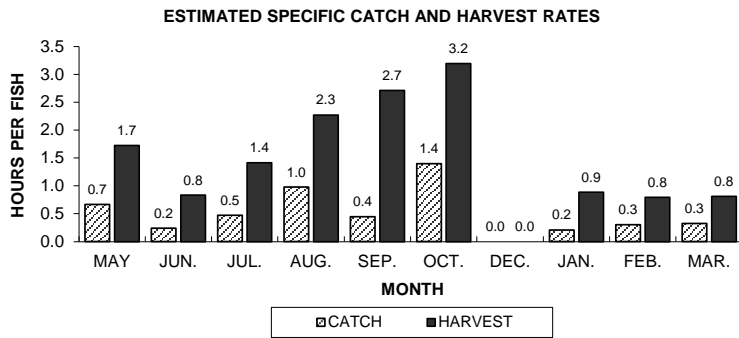
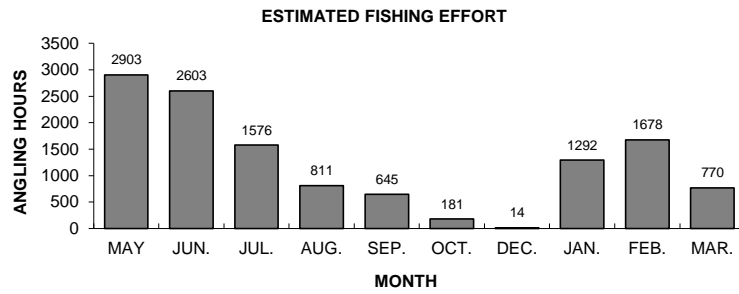
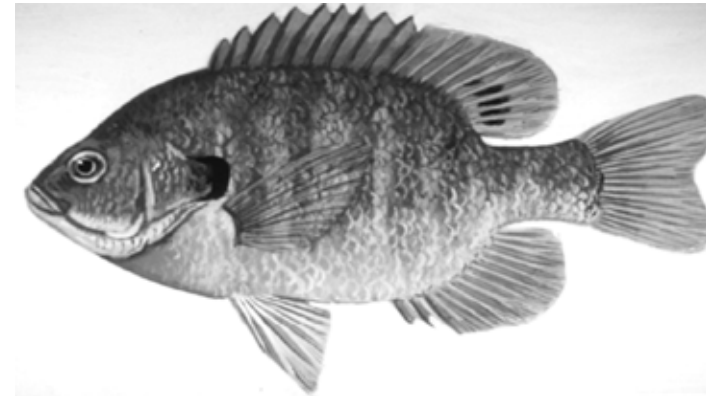


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

BLACK CRAPPIE

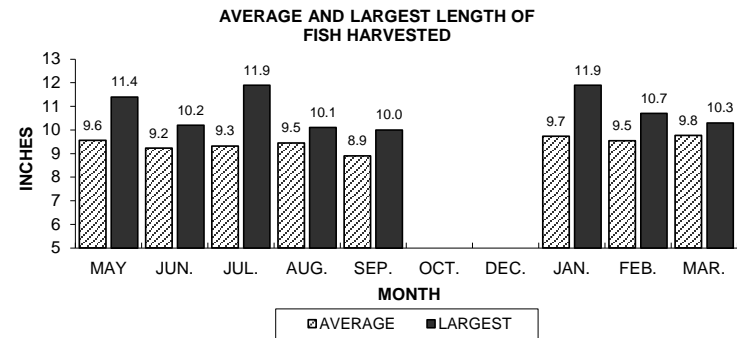
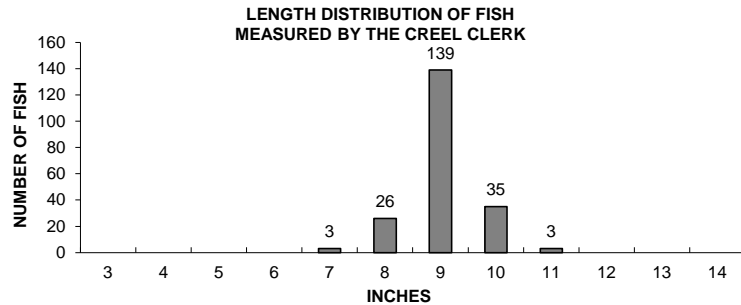
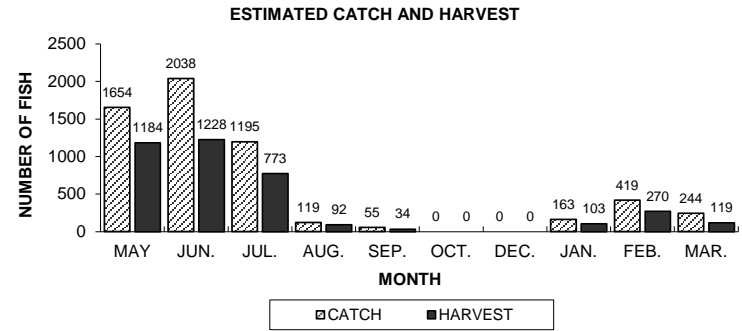
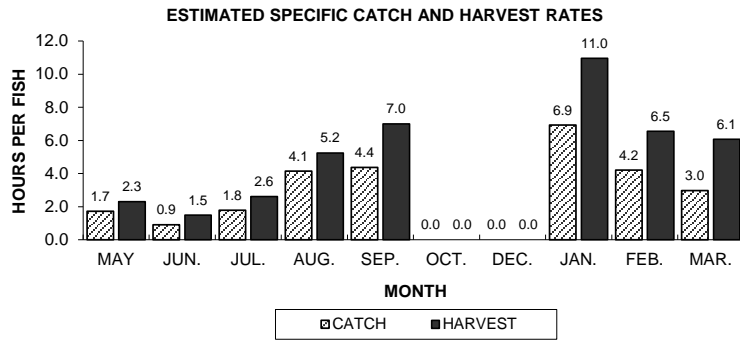
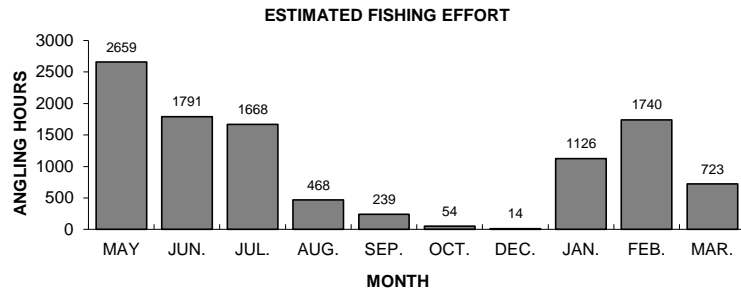
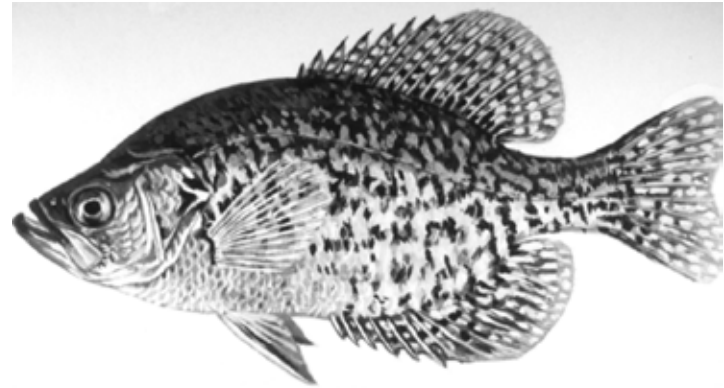


Figure 8 Black crappie sportfishing effort, catch, harvest, and length distribution, Kentucky Lake, during 2015-16.

PUMPKINSEED

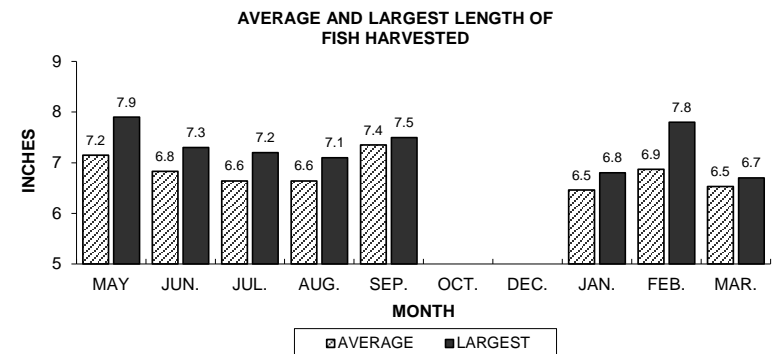
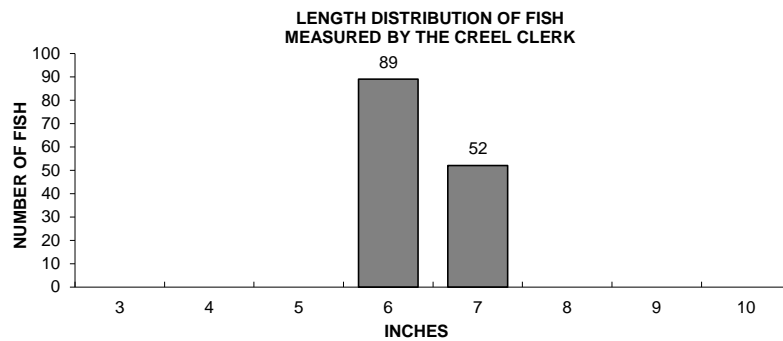
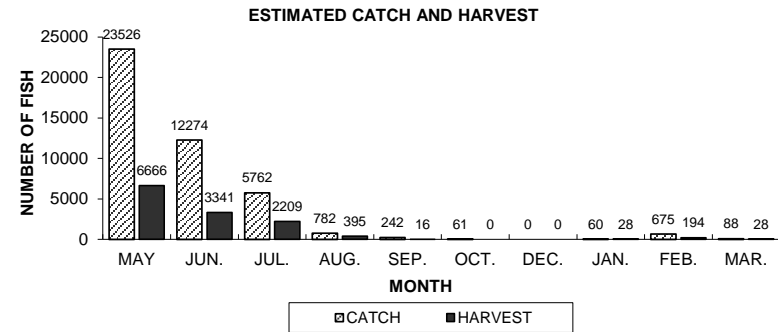
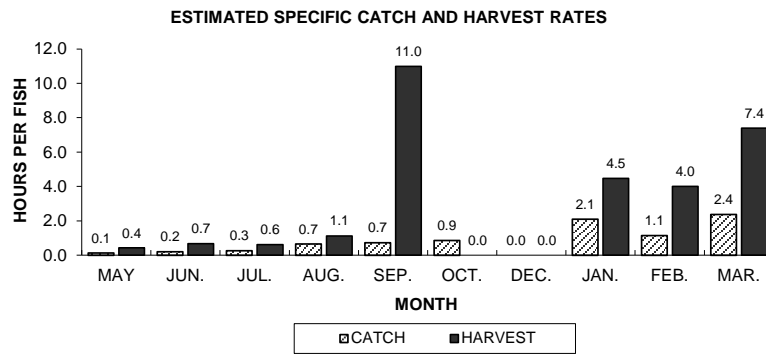
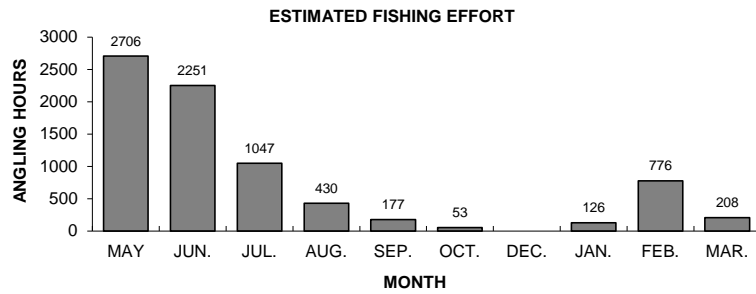
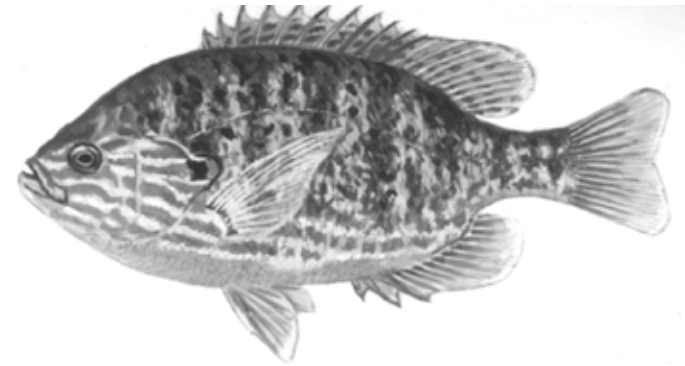


Figure 9. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.

ROCK BASS

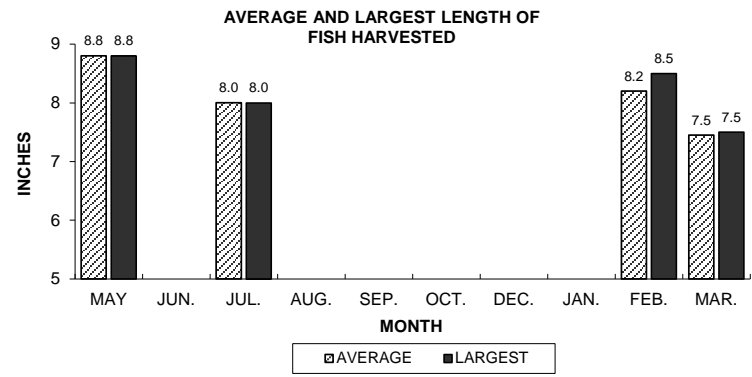
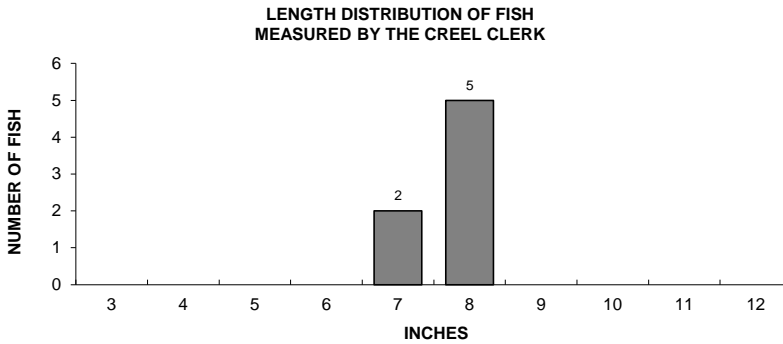
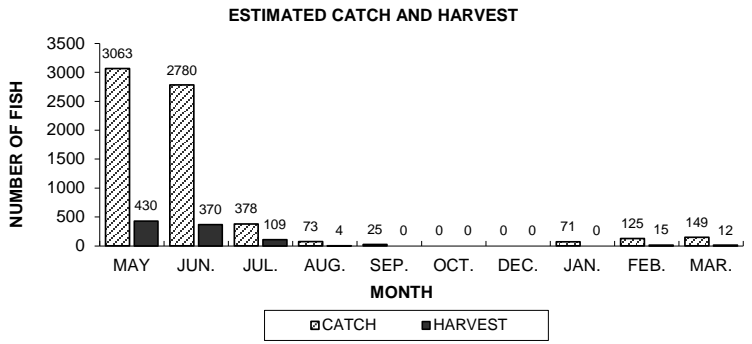
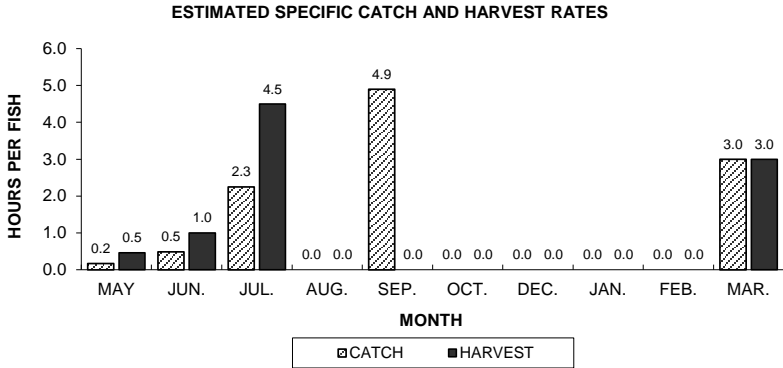
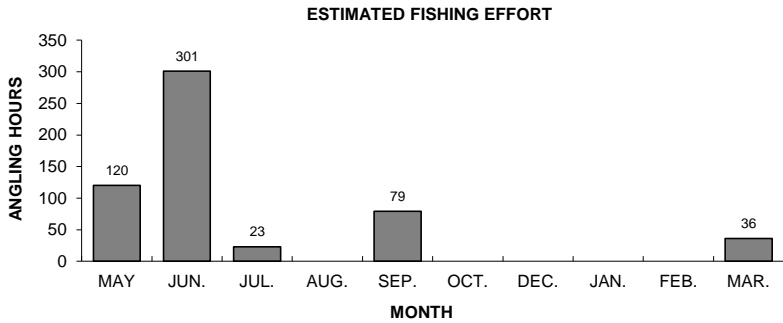
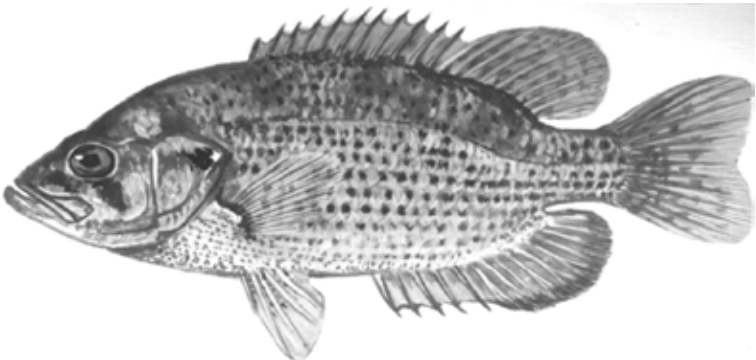


Figure 10. Rock bass sportfishing effort, catch, harvest, and length distribution, Kentuck Lake, during 2015-16.