

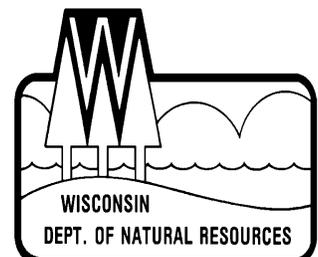
**WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
CREEL SURVEY REPORT**

**Shell Lake  
Washburn  
2013-2014**



**Treaty Fisheries Publication**

**March, 2014**



## INTRODUCTION

The Wisconsin Department of Natural Resources regularly conducts fishery surveys of area lakes and reservoirs to gather information on species composition, population size, reproductive success, size/age distribution, and growth rates. The information from the netting and electrofishing surveys helps the WDNR determine the best management practices for that body of water. Another important aspect of a fishery is the amount of harvest that is occurring on the lake. This information is collected by creel census or creel survey.

On lakes in the Ceded Territory of Wisconsin, harvest of fish is divided between sport anglers and the six Chippewa tribal bands. The six Chippewa tribal bands harvest fish under rights governed by federal treaties of 1837 and 1842. Most tribal fish harvest is done by spearing during a short period of time in the spring. All speared fish are individually counted by tribal creel clerks, allowing for a complete “census” of the tribal fish harvest in the spring.

Information is also collected on the effects of sport angler harvest on fish populations. Because it would be impractical and costly to conduct a complete “census” of the fish harvested by sport anglers on area lakes, a creel survey is conducted to estimate the amount of fish harvested by sports anglers.

A creel survey is a sampling tool used to measure the fishing activities of the sport anglers and to estimate the amount of fish harvested on a body of water. Creel surveys are designed to have a creel clerk on a lake, work random shifts, and forty hours each week throughout the fishing season. Each month these shifts cover a sample of all the daylight hours. Creel clerks travel their lakes using a boat, snowmobile or vehicle to count and to interview anglers.

The information collected from anglers during the interview includes the species of fish being targeted, catch and harvest, lengths of harvested fish, and hours of fishing effort. Typically only anglers that have completed their fishing trip are interviewed because it provides the most accurate information and it avoids the need to disturb anglers while they are fishing.

You may have encountered one of the DNR creel clerks on a recent fishing trip. The survey only takes a moment of your time and we appreciate your cooperation during an interview. The information collected gives the DNR valuable knowledge required for management of the fishery.

The data collected during the survey is processed by a computer program and summarized by month to calculate estimates of the total fishing pressure, fishing effort directed at each species, catch and harvest rates, and the number of fish caught and harvested.

This creel survey report will provide you with four types of estimated information for this body of water:

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

Also included in this report are physical information about the lake, discussion of results of this survey and detailed summaries by species.

## GENERAL LAKE INFORMATION

### Location

Shell Lake is located in the city of Shell Lake, in southwestern Washburn County.

### Physical Characteristics

Shell Lake covers 2,580 acres with a maximum depth of 36 feet and average depth of 23 feet. Shell is also the largest landlocked, soft water, seepage lake in the state, with 16 square miles of drainage area. It has no outlet.

### Seasons Surveyed

An open water creel survey was conducted from opening day of gamefish season on May 4 and ran through the end of October. Winter creel was conducted from December 1<sup>st</sup> through the close of the gamefish season on March 2.

### Harvest Regulations

The following seasons, daily bag limits, and length limits were in place on this lake in 2013-2014:

<u>Species</u>	<u>Season</u>	<u>Bag Limit</u>	<u>Min. Size</u>
Largemouth Bass	05/4-03/2	5	14"
Smallmouth Bass	05/4-03/2	5	14"
Musky	05/25-11/30	1	40"
Northern Pike	05/4-03/2	5	none
Walleye*	05/4-03/2	3	none
Panfish	all year	25	none

\*The walleye bag limit may have been reduced due to tribal declarations.

## SPECIES CATCH AND HARVEST INFORMATION

Angling information is summarized on a single page for each species. If a page for a particular species is not present in this section it is because no one reported fishing for that species and/or none were caught. Each species page has up to five graphs covering the following:

### FIGURE 1 ESTIMATED DIRECTED FISHING EFFORT

Total calculated number of hours during each month that anglers spent fishing for this species.

### FIGURE 2 ESTIMATED DIRECTED ANGLER CATCH AND HARVEST RATES

Calculated number of hours it takes an angler to catch or harvest a fish of this species. Only information from anglers who were **specifically** targeting this species is reported here.

### FIGURE 3 ESTIMATED TOTAL ANGLER CATCH AND HARVEST

Calculated number of fish of this species caught or harvested by all anglers. This estimate also includes **incidental** catch and harvest of fish by anglers that were not specifically targeting this species.

### FIGURE 4 LENGTH DISTRIBUTION OF HARVESTED FISH MEASURED BY CLERK

All fish of this species measured by the clerk during the entire creel survey season.

## **FIGURE 5**

### **AVERAGE LENGTH AND LARGEST FISH HARVESTED**

Average length and the largest fish of this species harvested each month. Only those fish measured by the creel clerk are reported here.

## **Seasonal Angler Effort Summary**

The table provides a summary by month of the total angler hours and total angler hours per acre. Also, the table compares county average and ceded territory average to current survey results.

## **ACKNOWLEDGEMENTS**

This survey could not have been completed if not for the efforts of the technical staff of the Treaty Fisheries Unit, Matt Kufahl who collected the angler interviews. Gene Hatzenbeler provided logistic support for the survey. Todd Brecka delivered and maintained all equipment. Jill Sunderland assisted with training and the scheduling for the creel clerks. Misty Rood and Mac McInroy were responsible for data entry and quality assurance. Jake Jacobson and Mac McInroy filled in when clerks needed a day off.

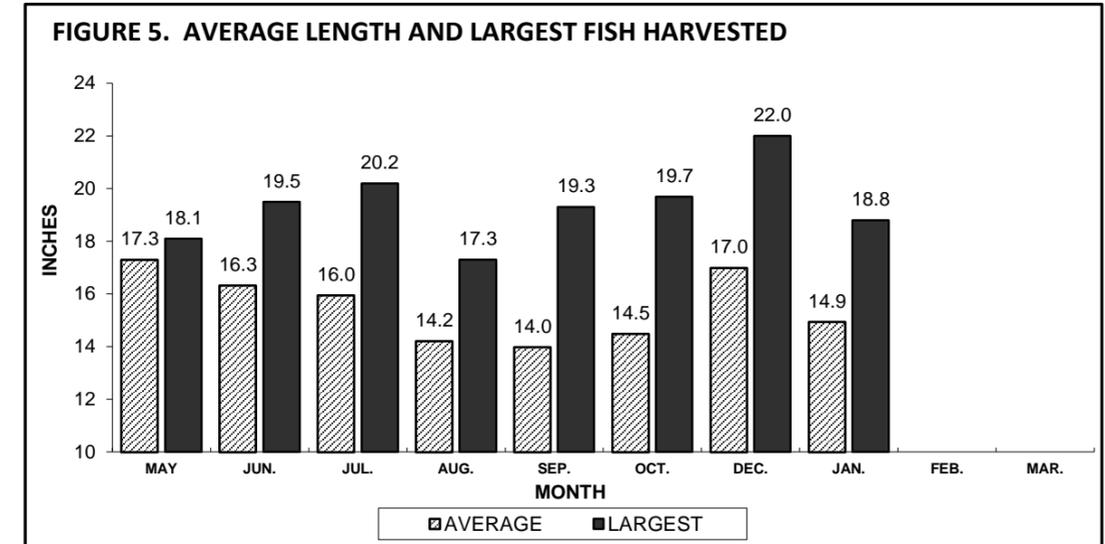
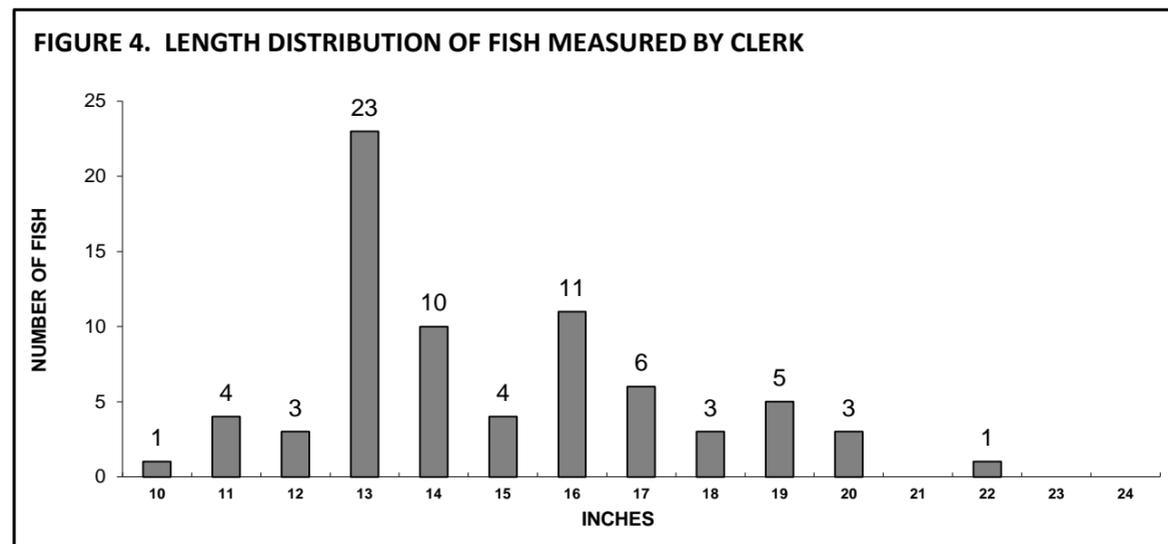
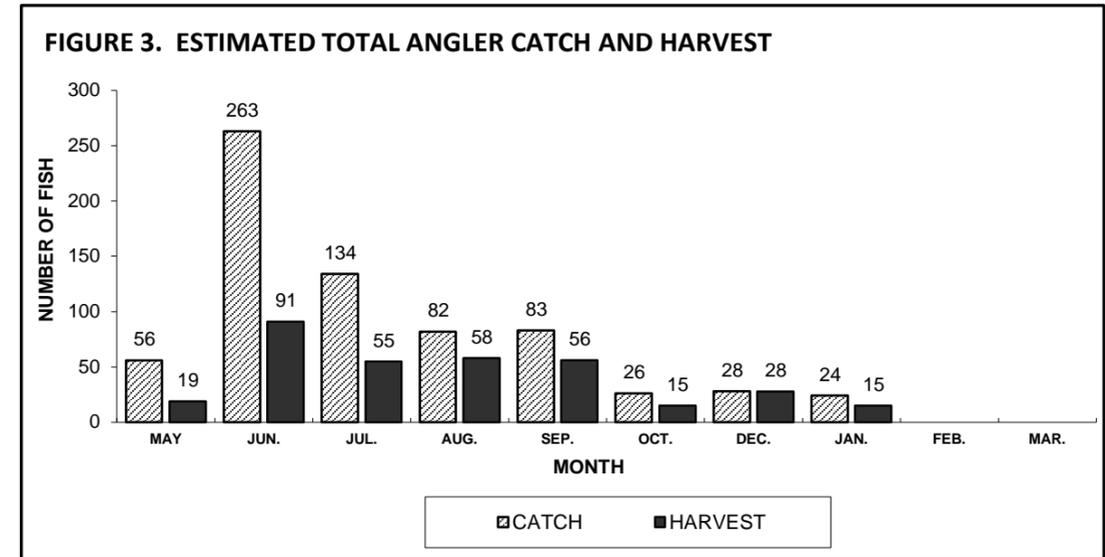
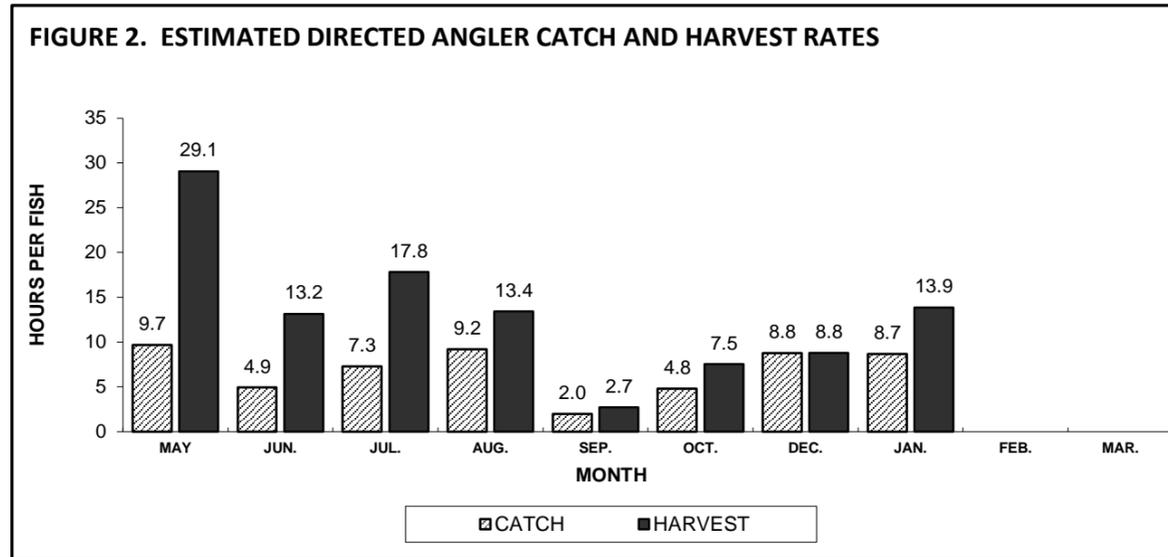
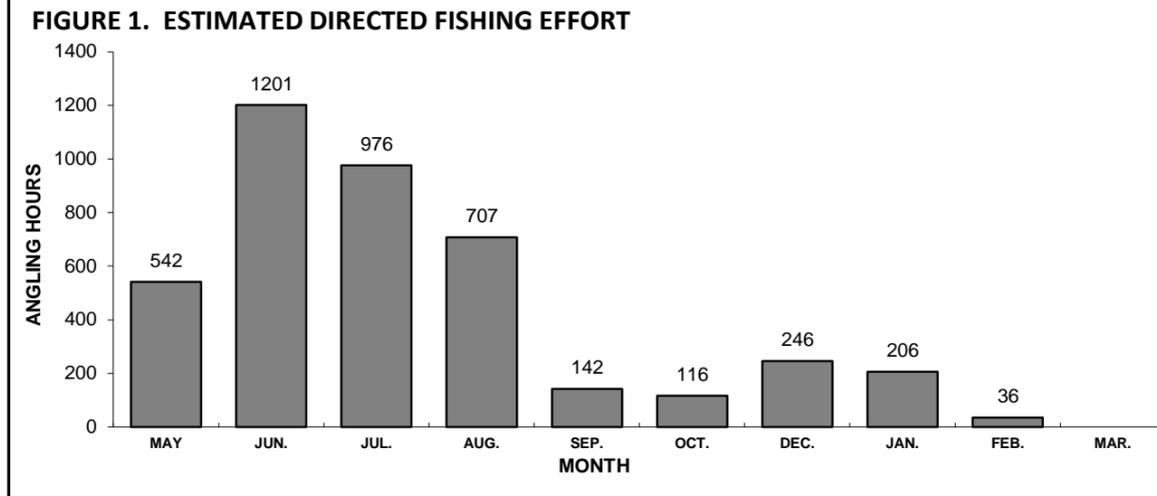
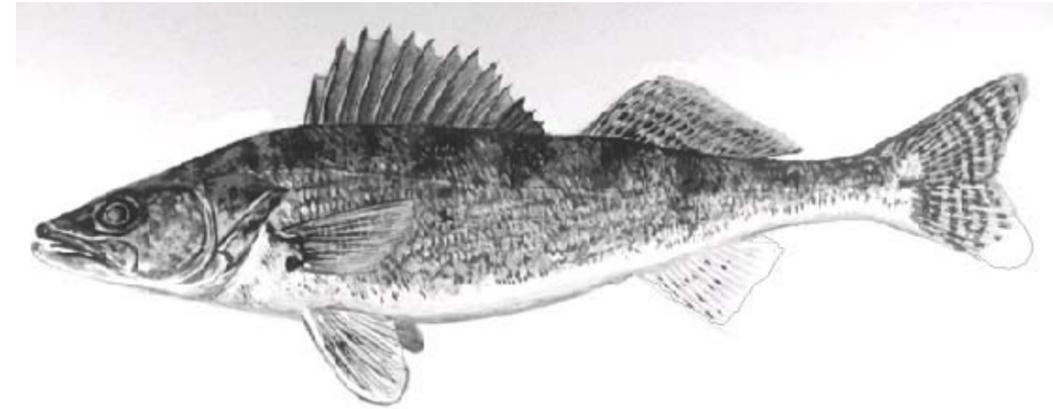
The Department would like to thank Jeff and Dexie Dunham. They generously allowed the department to keep a boat at their property during this survey.

We would also like to thank all the anglers who took the time to offer information about their fishing trip to the survey clerk. Without your cooperation this survey would not have been possible.

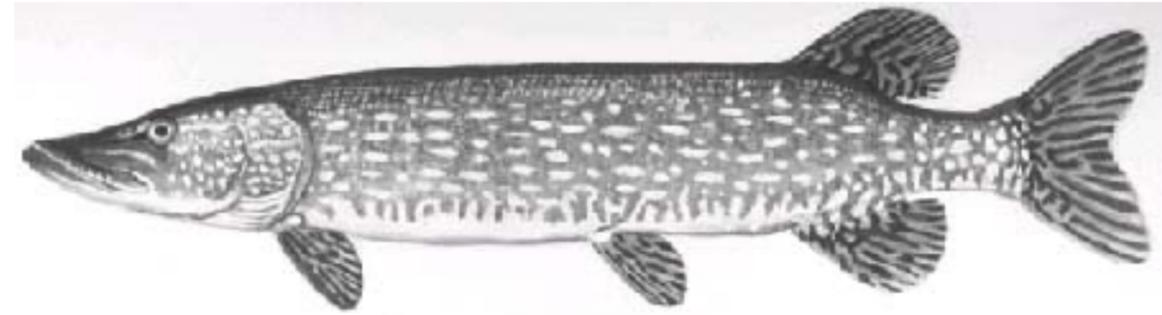
Additional copies of this report and those covering other local lakes can be obtained from Treaty Fisheries Biologist in Spooner WI or WDNR Webpage.

Question about the report can be directed to Gene Hatzenbeler  
WDNR Spooner Office  
810 W. Maple Street  
Spooner, WI 54801  
Phone: (715)635-4164  
Email: Gene.Hatzenbeler@Wisconsin.gov

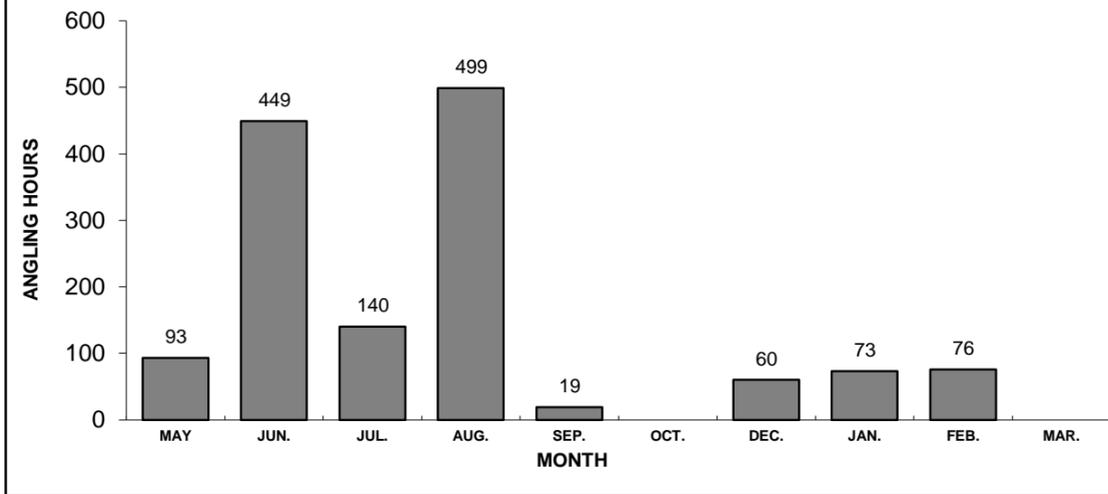
# WALLEYE



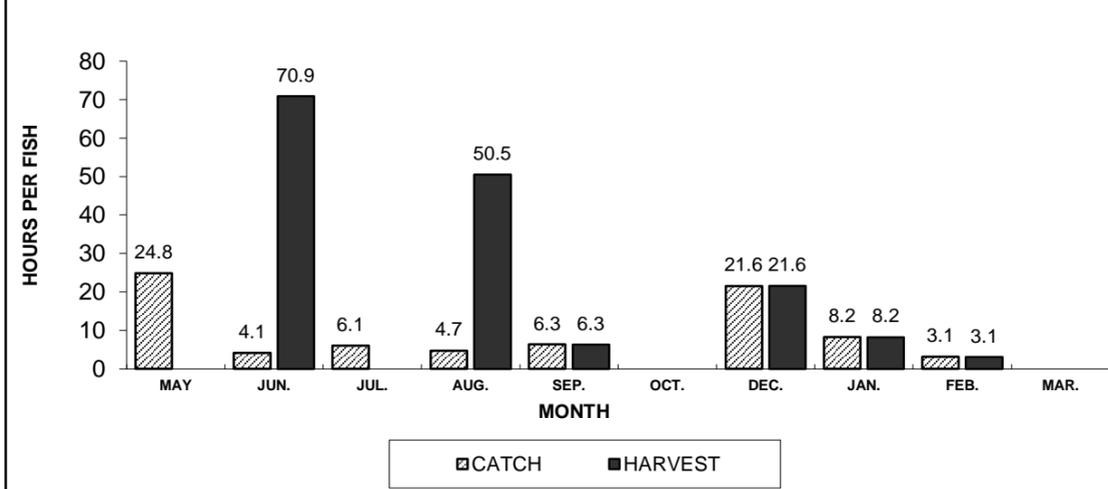
# NORTHERN PIKE



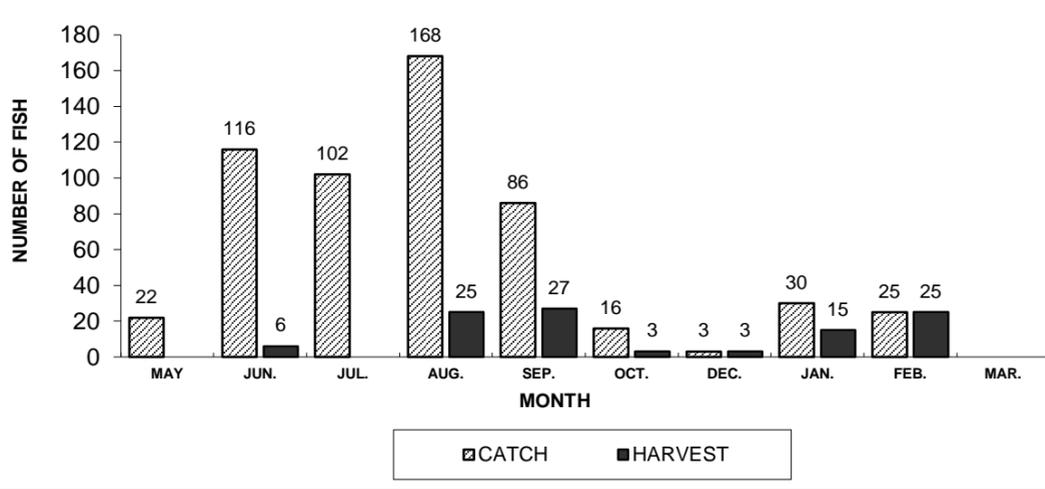
**FIGURE 1. ESTIMATED DIRECTED FISHING EFFORT**



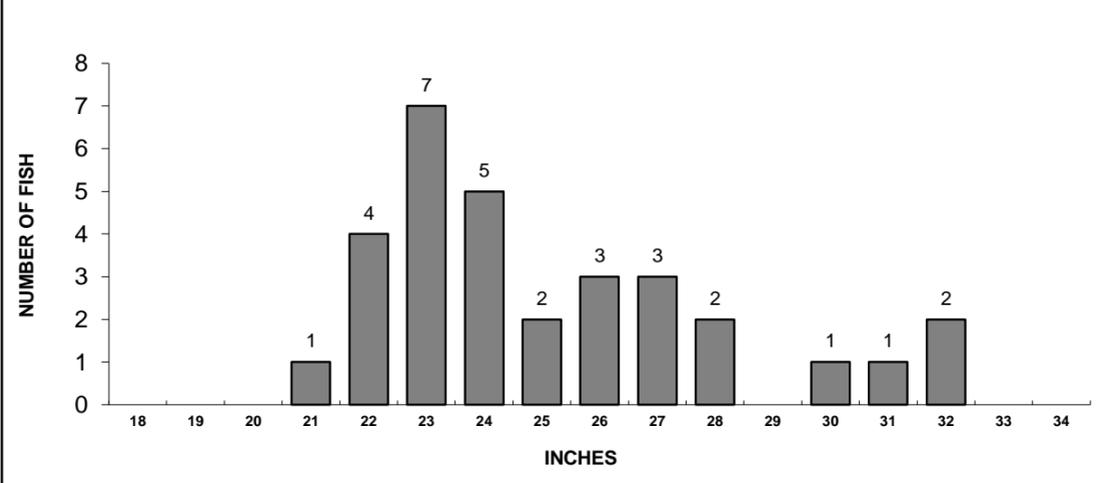
**FIGURE 2. ESTIMATED DIRECTED ANGLER CATCH AND HARVEST RATES**



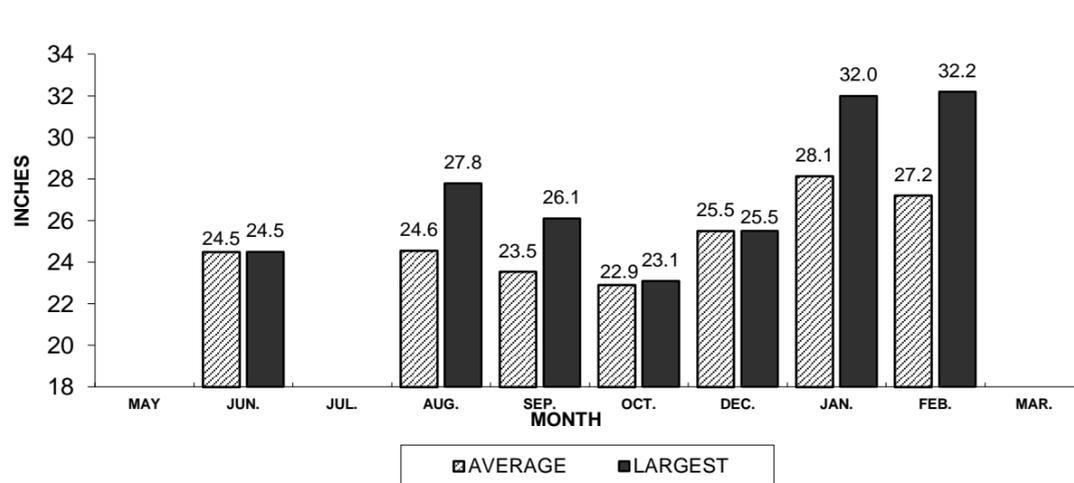
**FIGURE 3. ESTIMATED TOTAL ANGLER CATCH AND HARVEST**



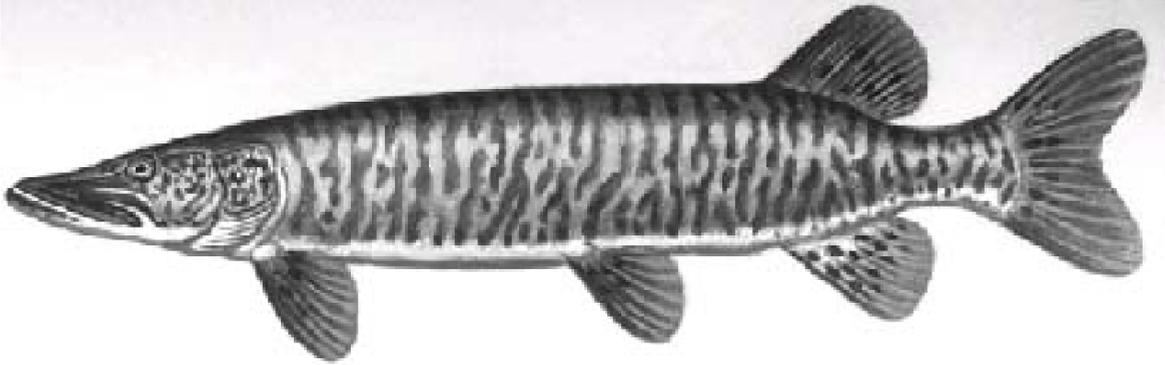
**FIGURE 4. LENGTH DISTRIBUTION OF HARVESTED FISH MEASURED BY CLERK**



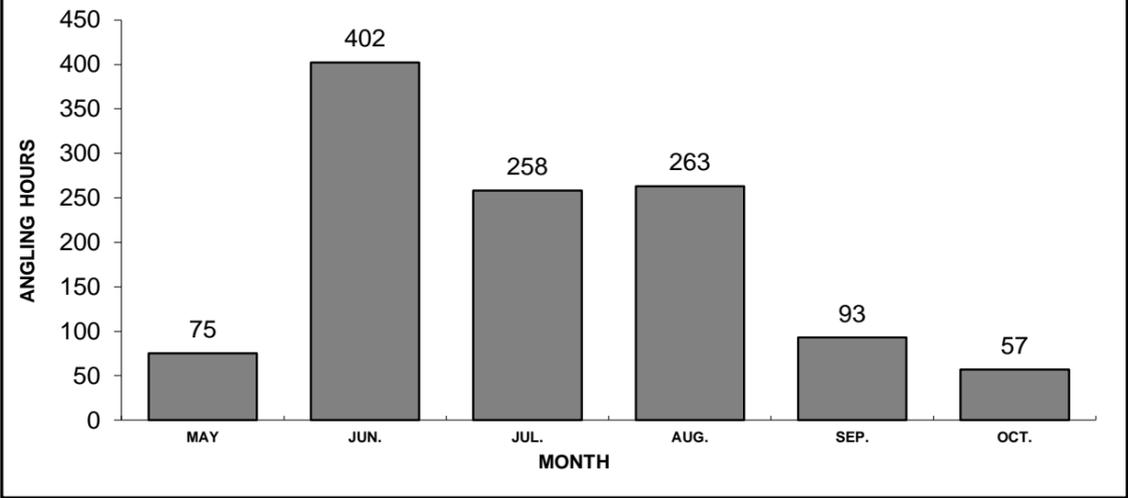
**FIGURE 5. AVERAGE LENGTH AND LARGEST FISH HARVESTED**



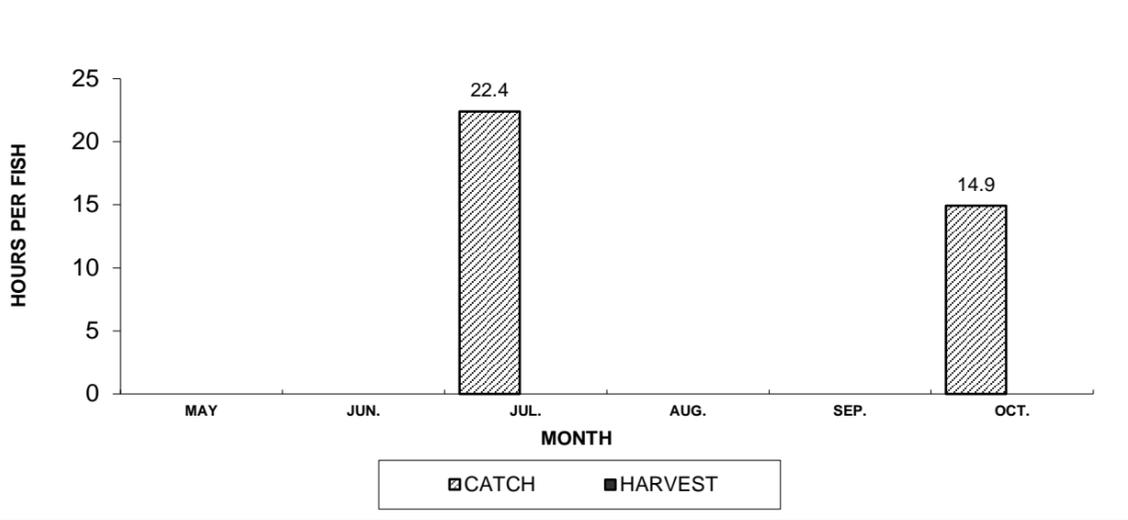
# MUSKELLUNGE



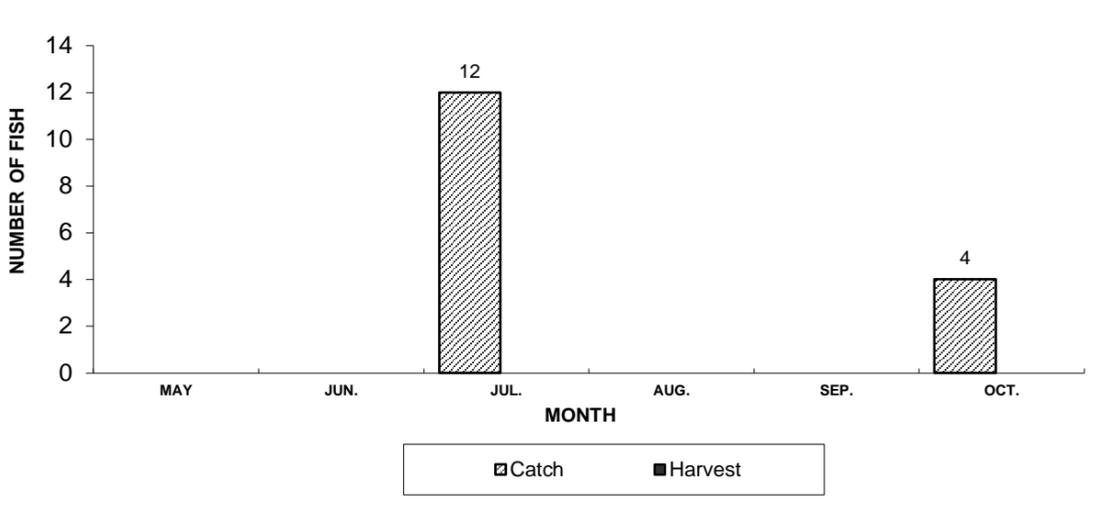
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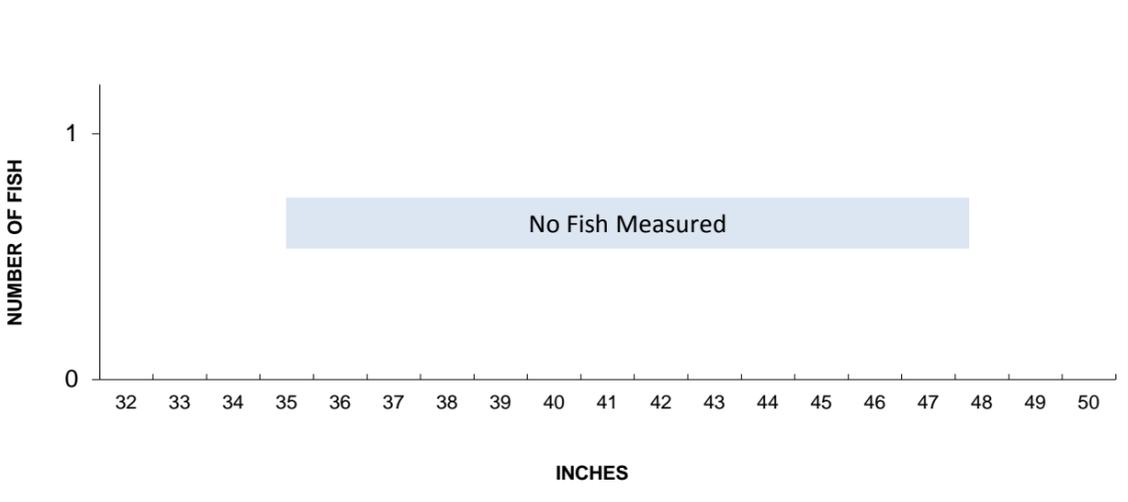
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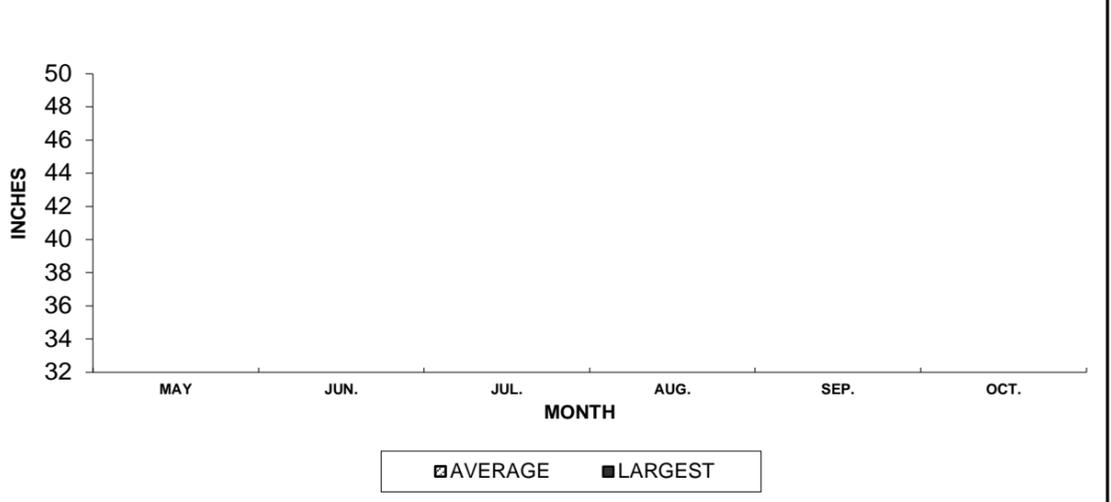
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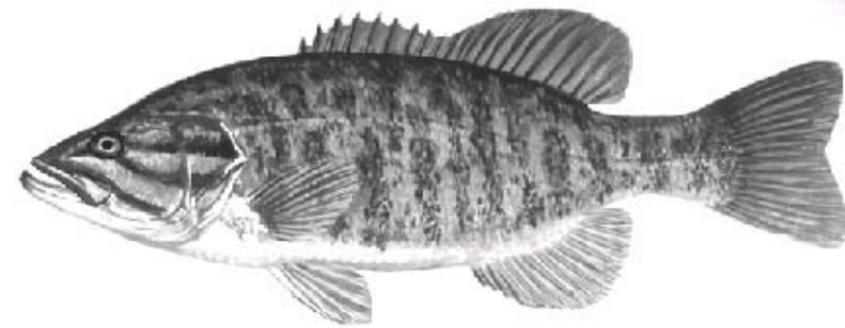
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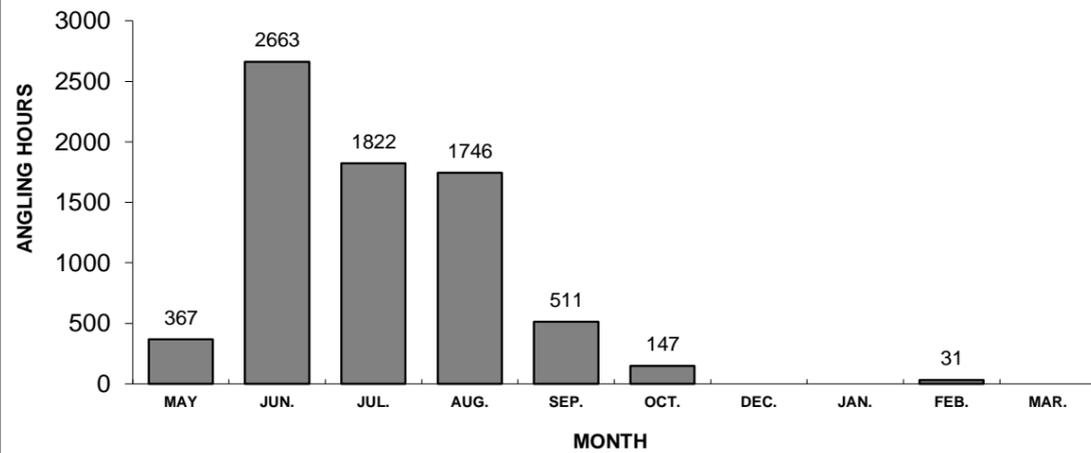
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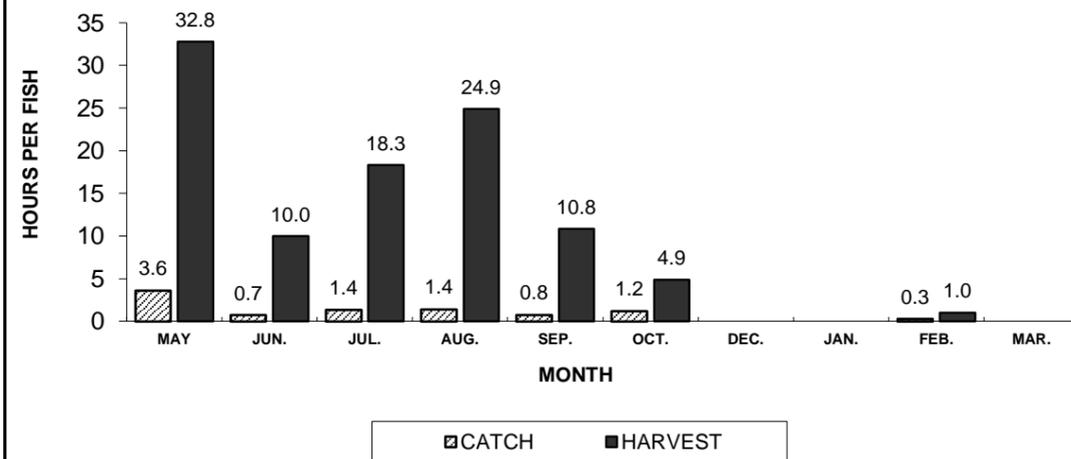
# SMALLMOUTH BASS



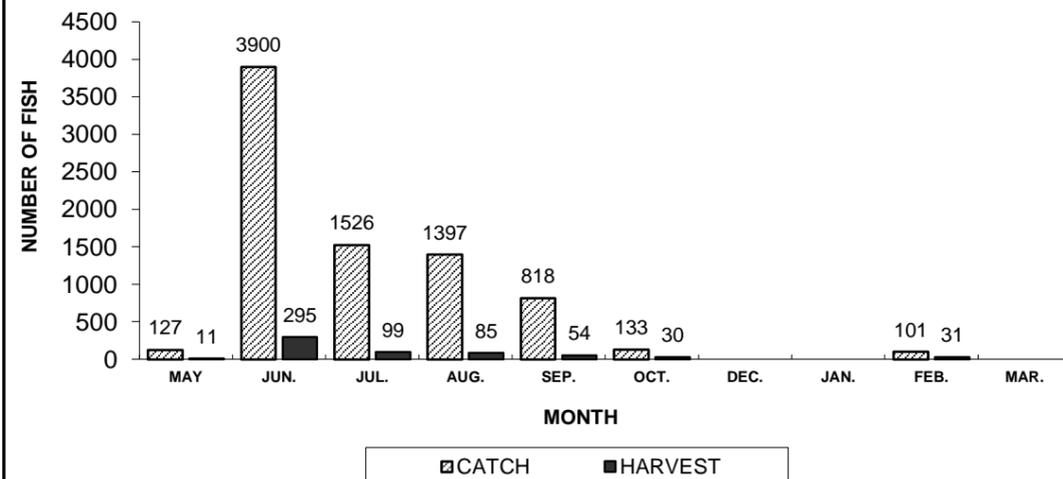
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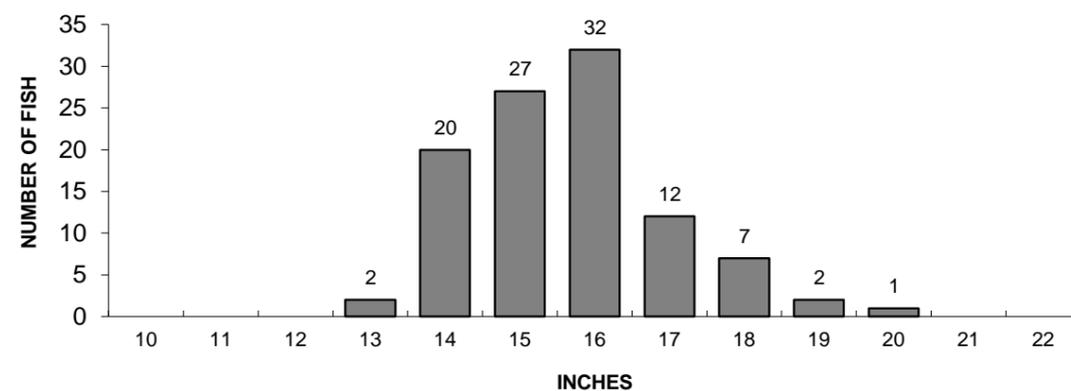
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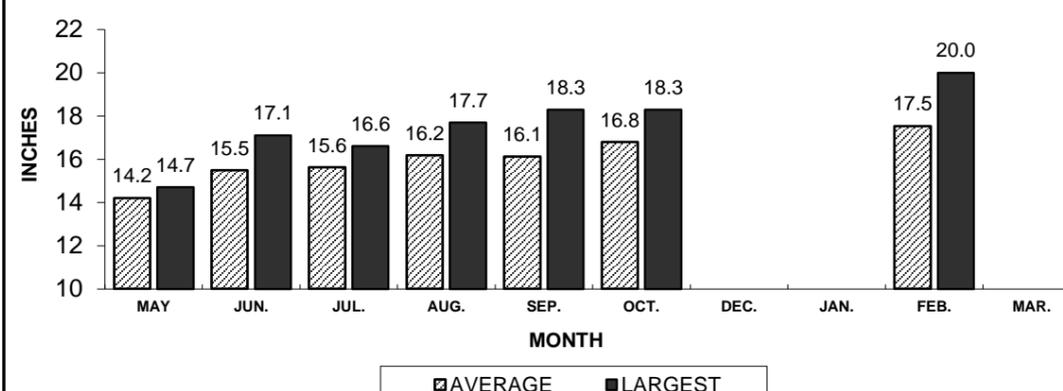
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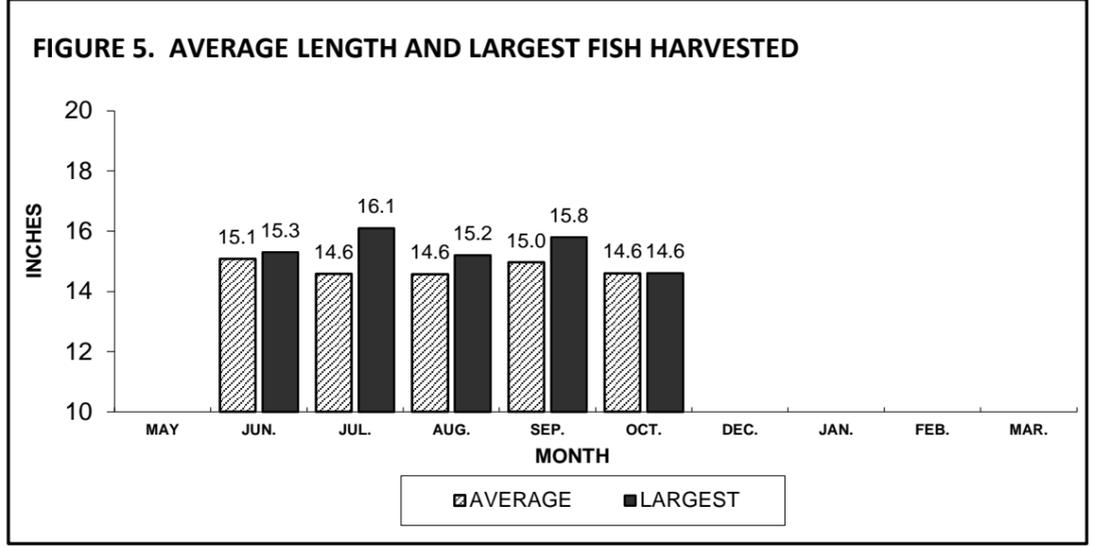
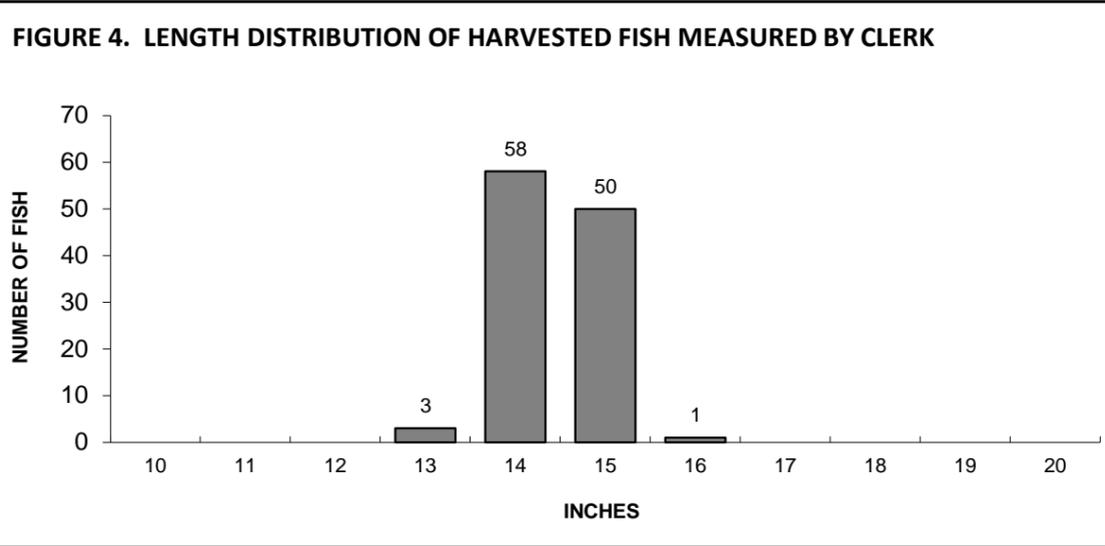
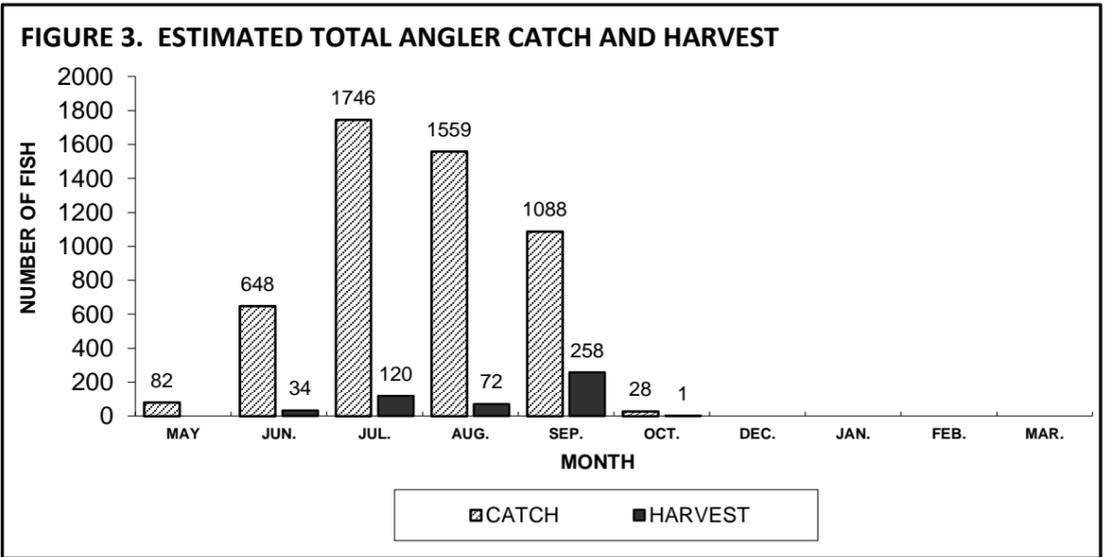
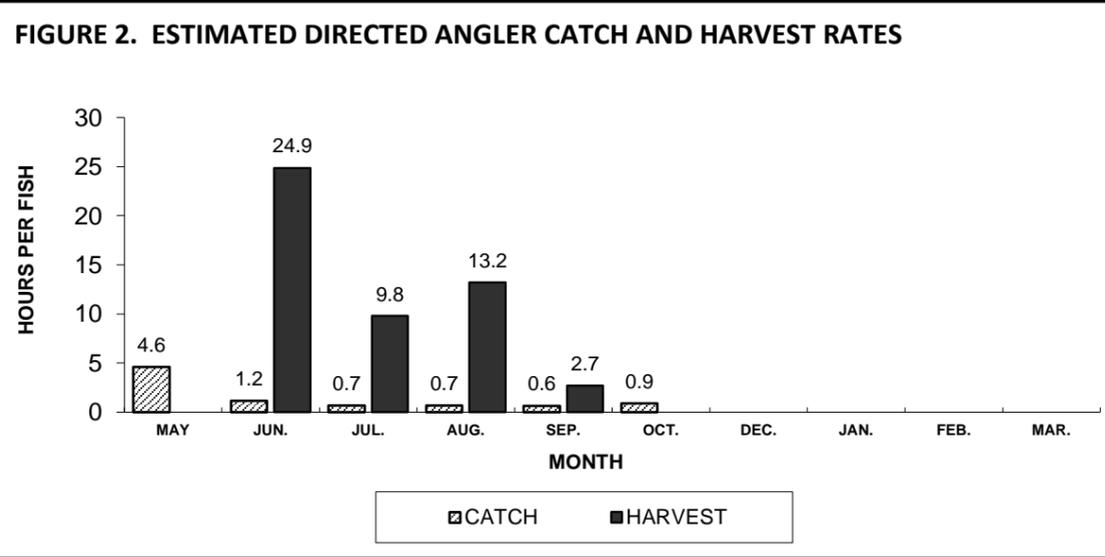
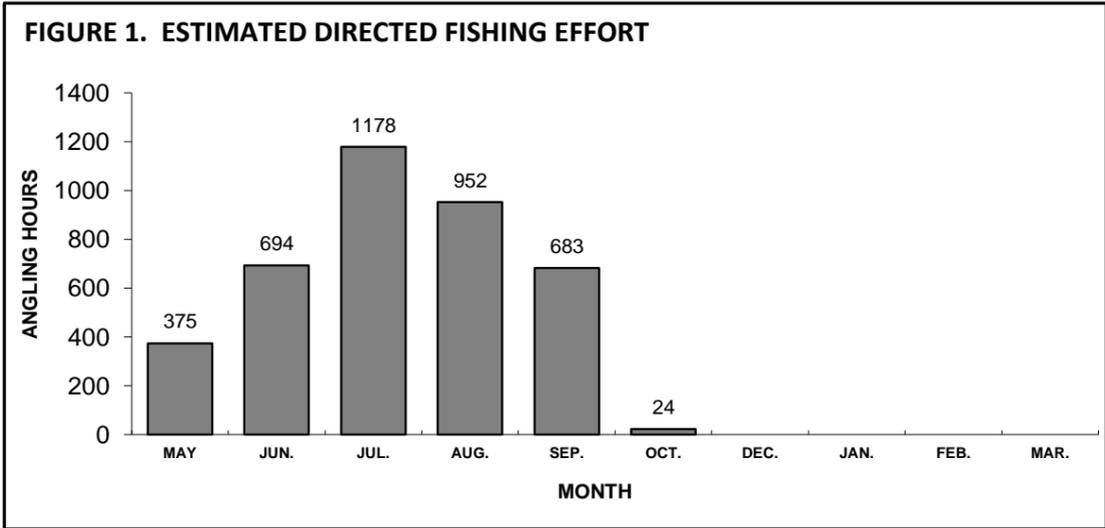
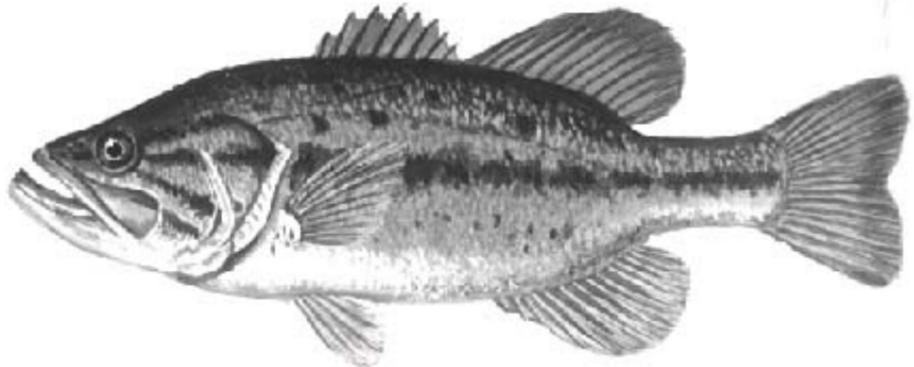
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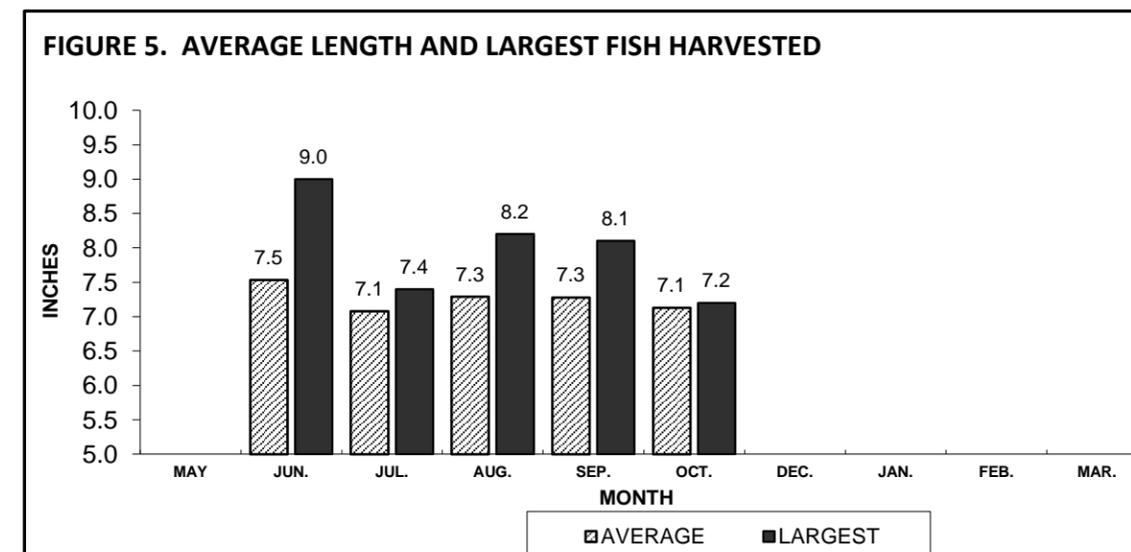
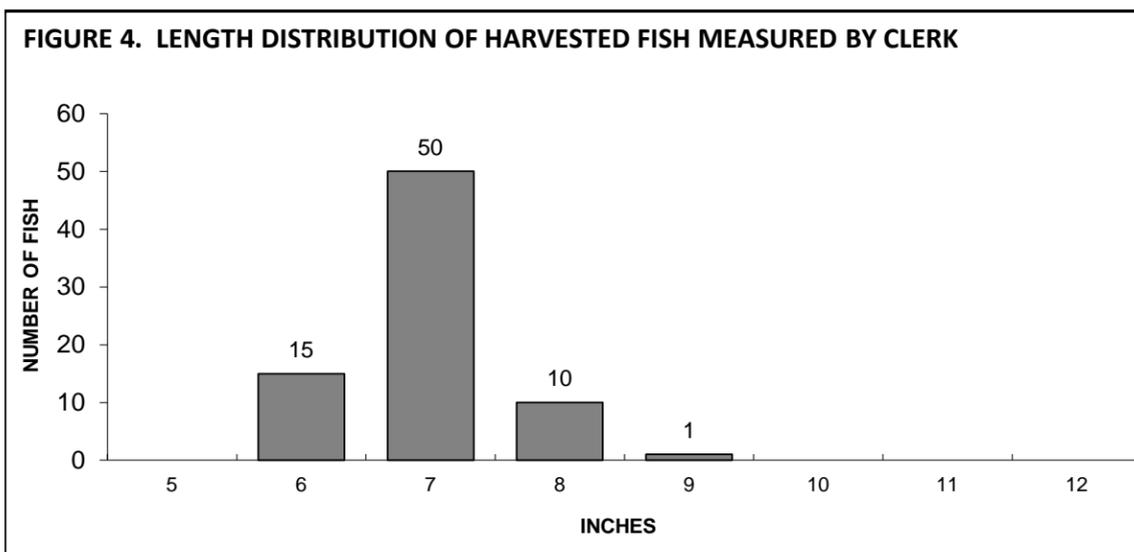
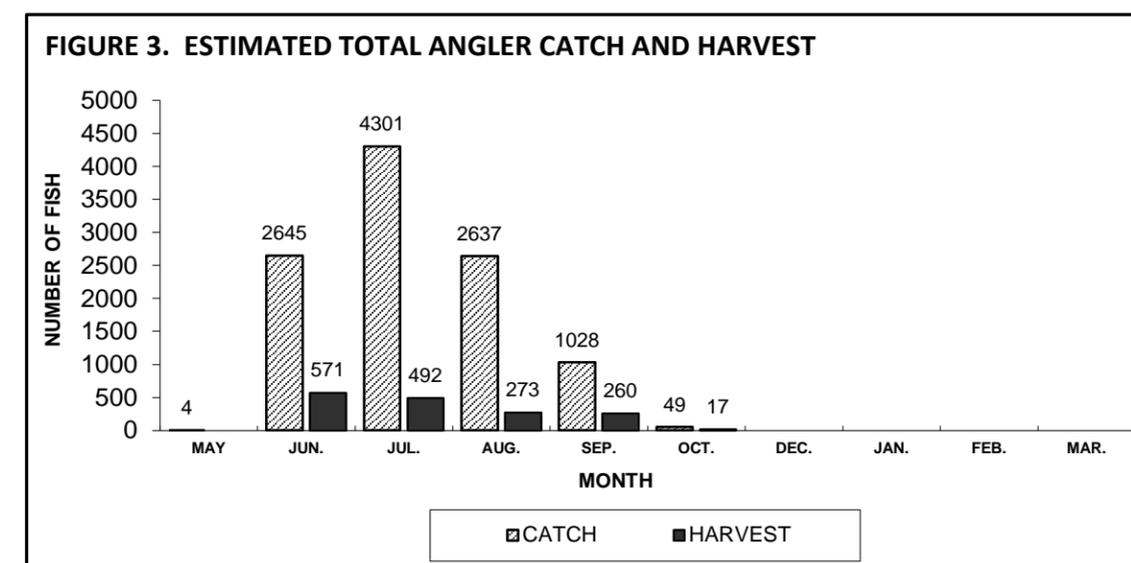
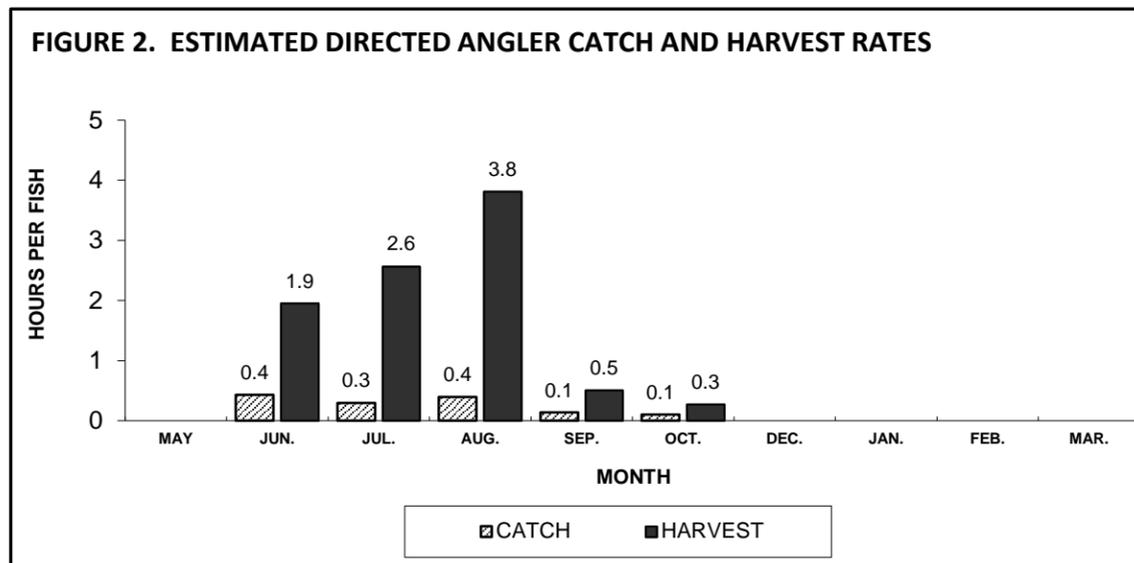
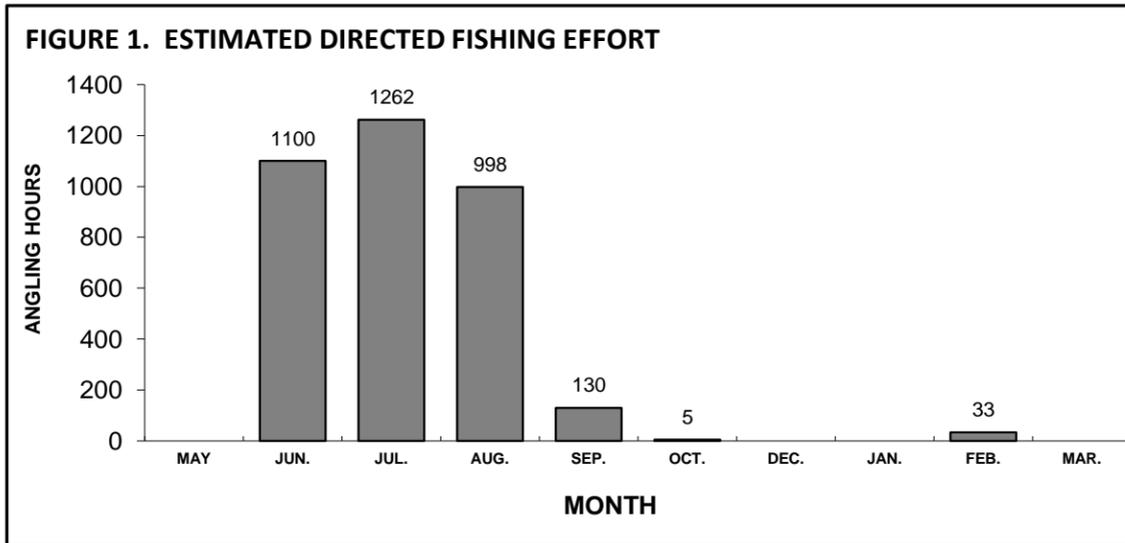
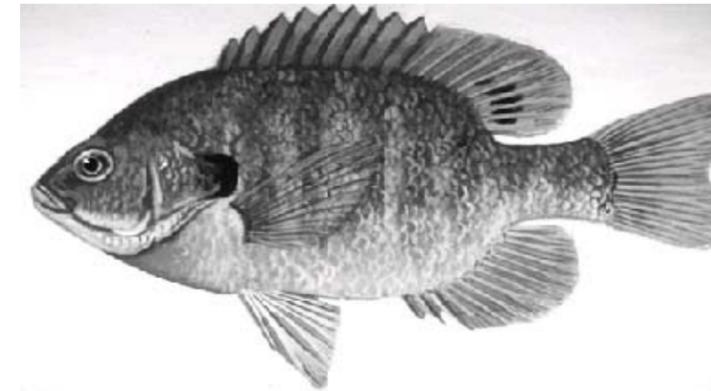
**FIGURE 5. AVERAGE LENGTH AND LARGEST FISH HARVESTED**



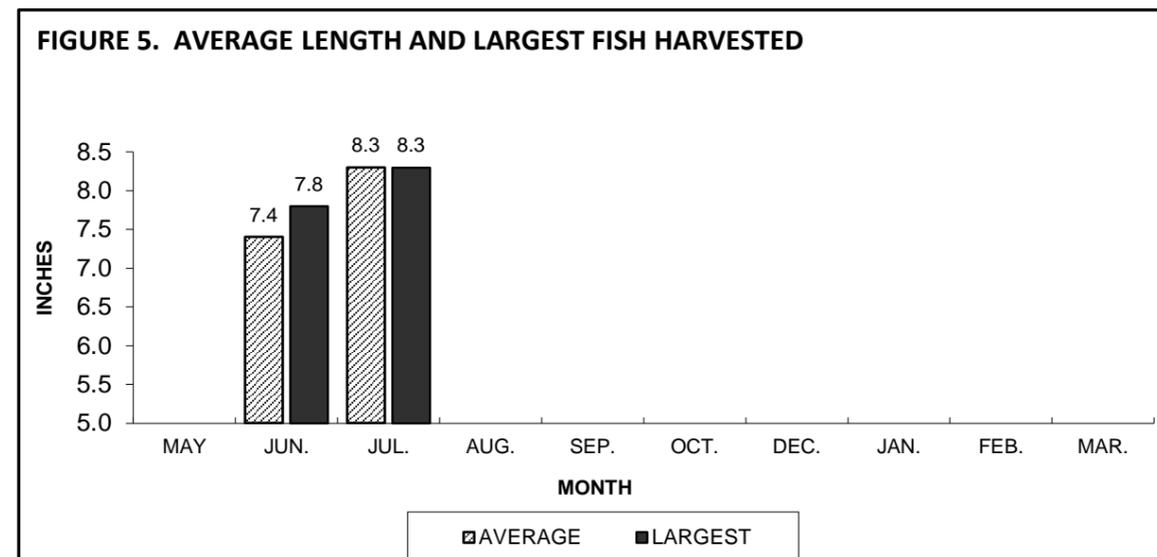
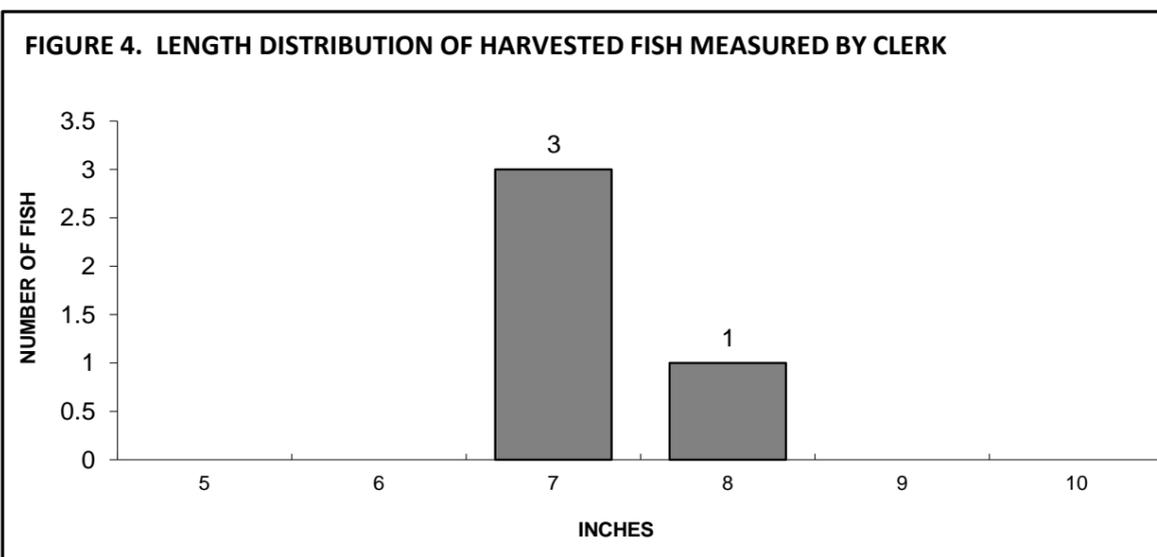
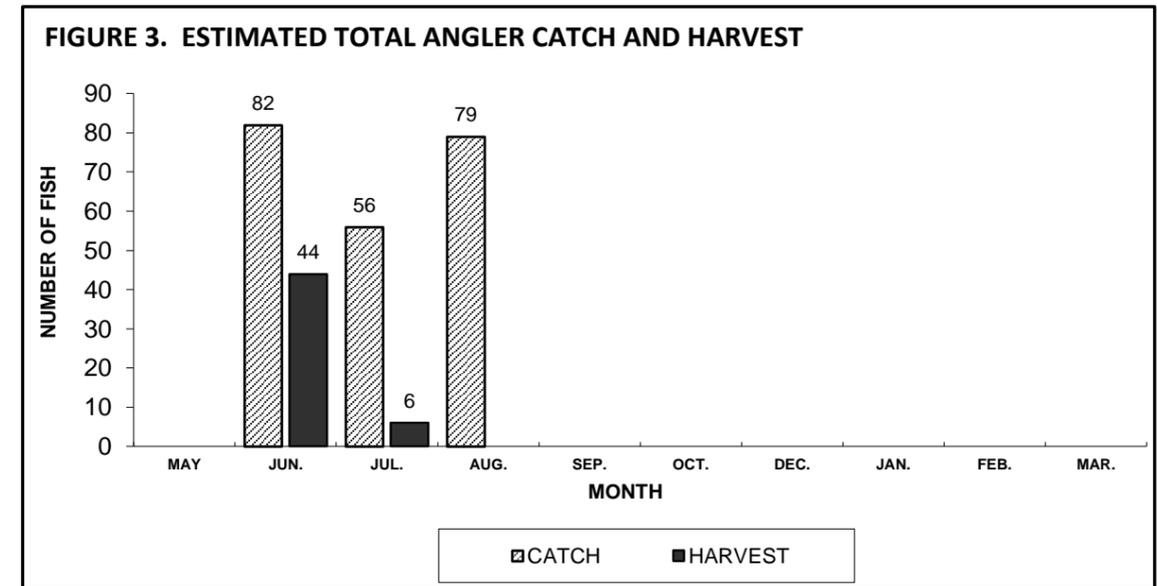
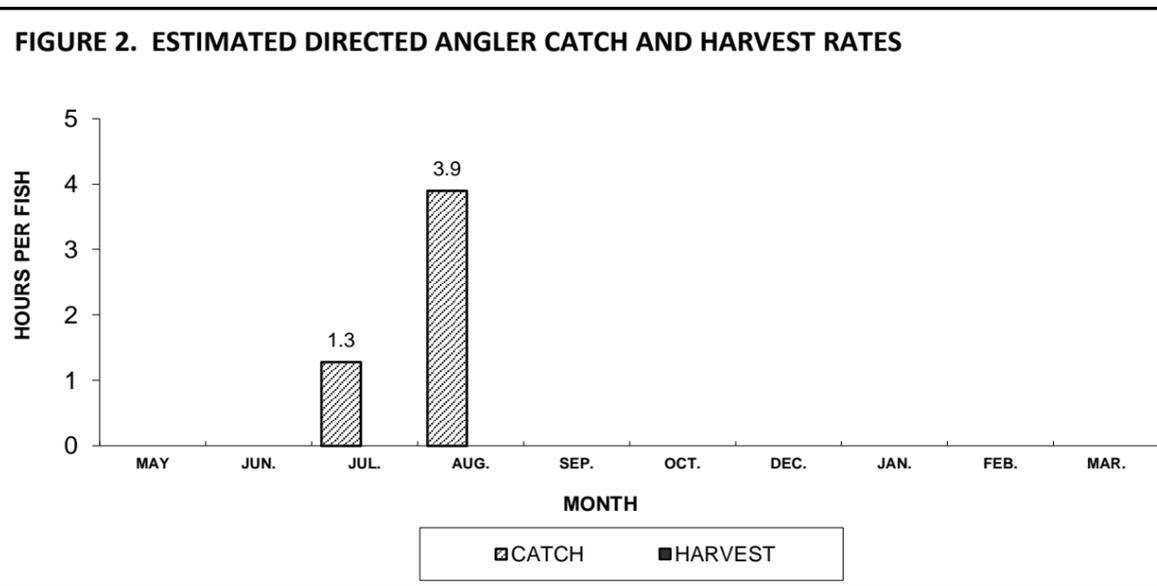
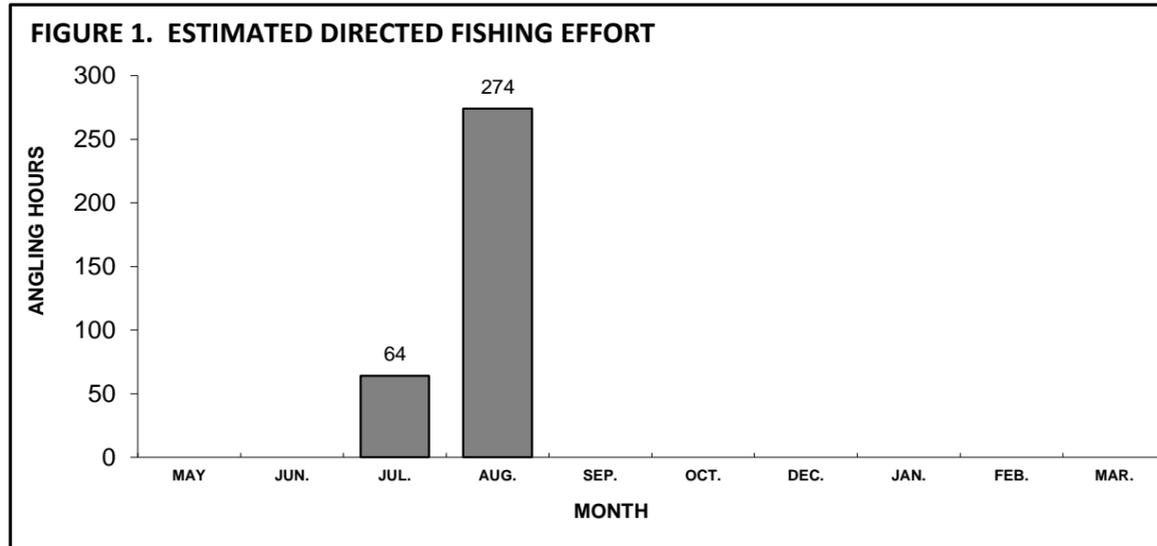
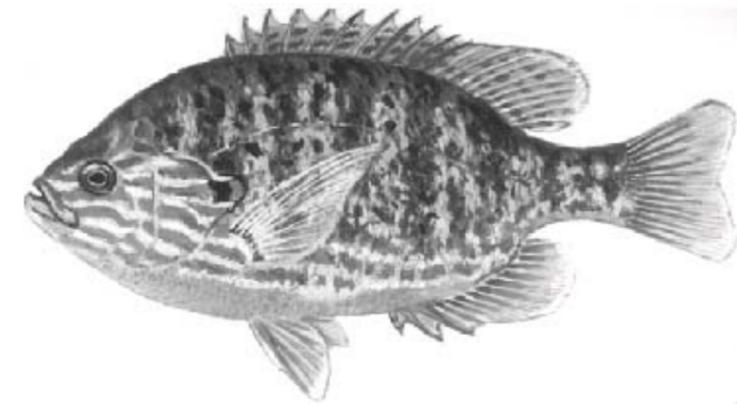
# LARGEMOUTH BASS



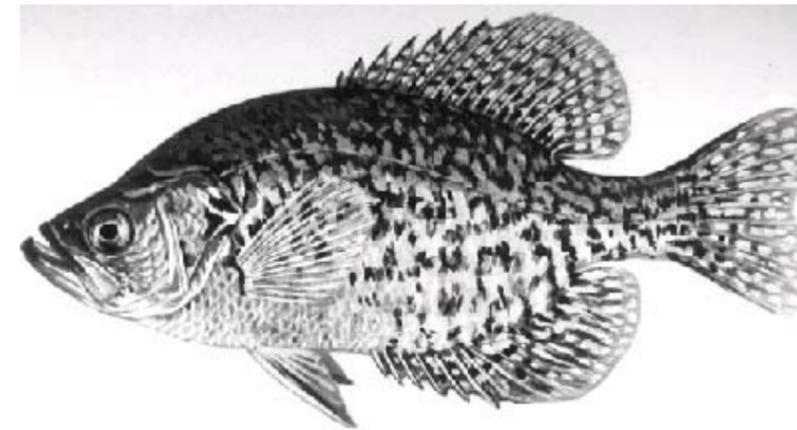
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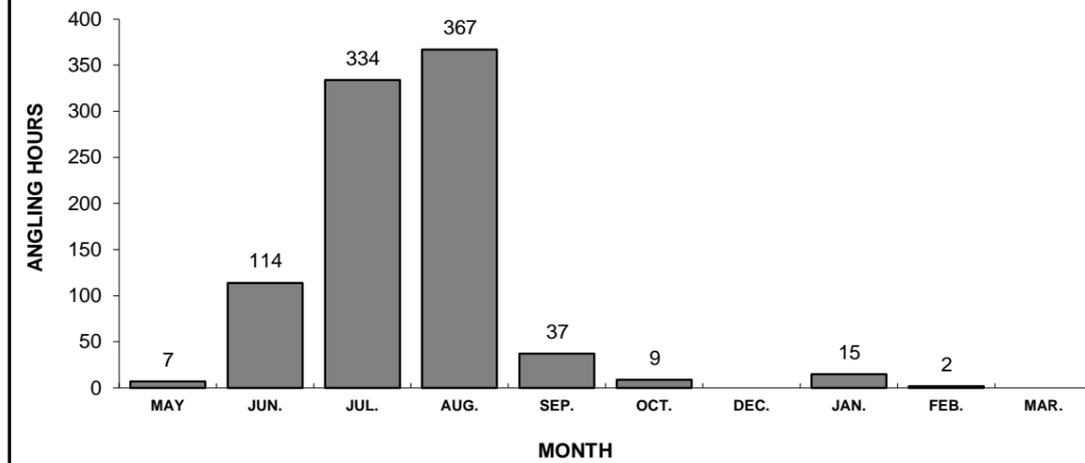
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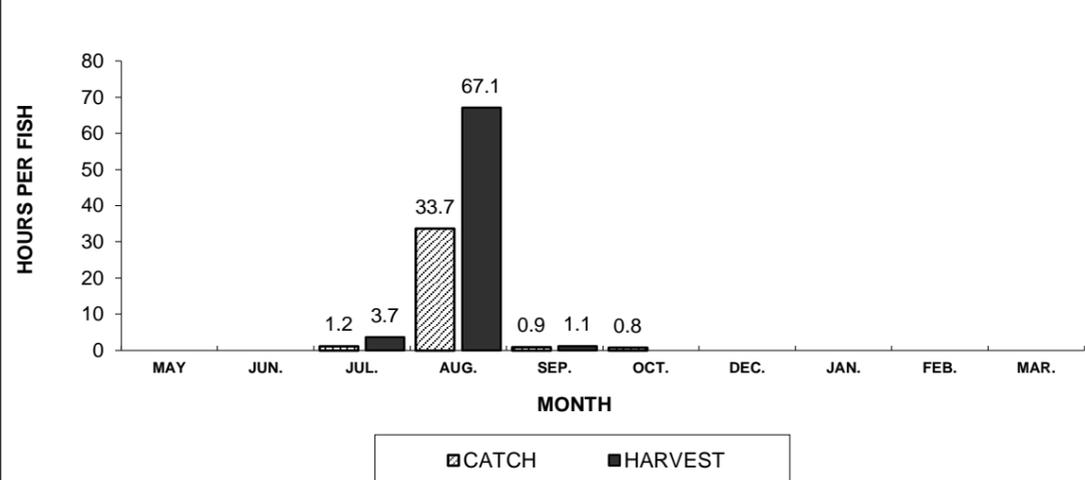
# BLACK CRAPPIE



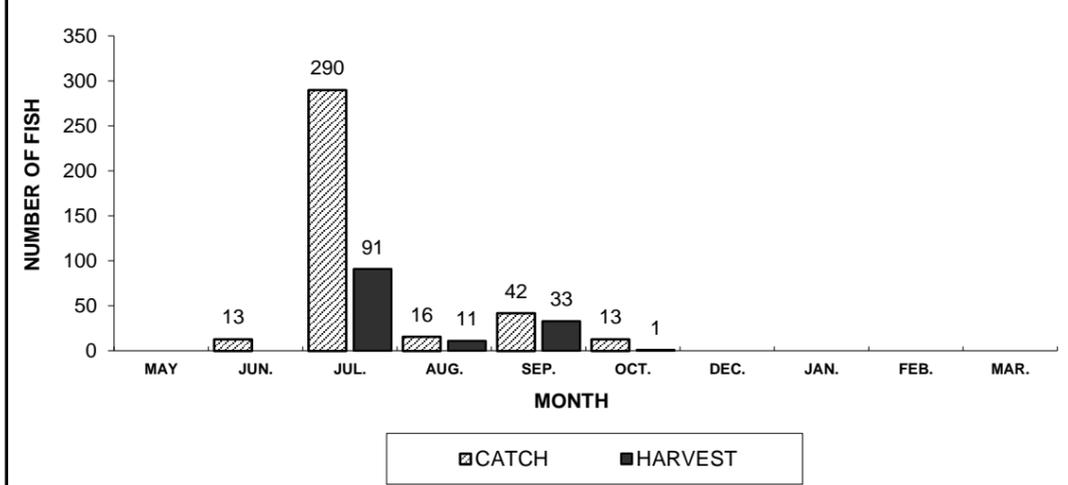
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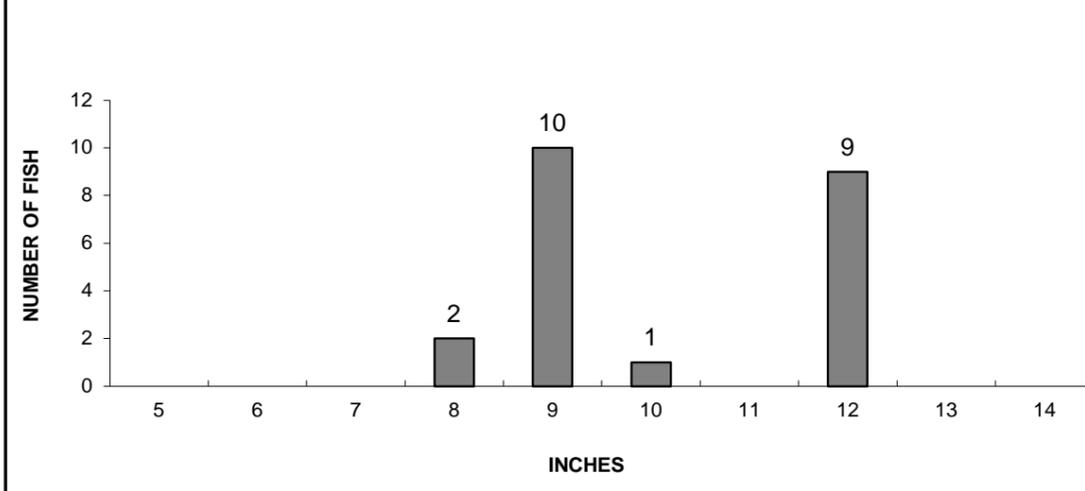
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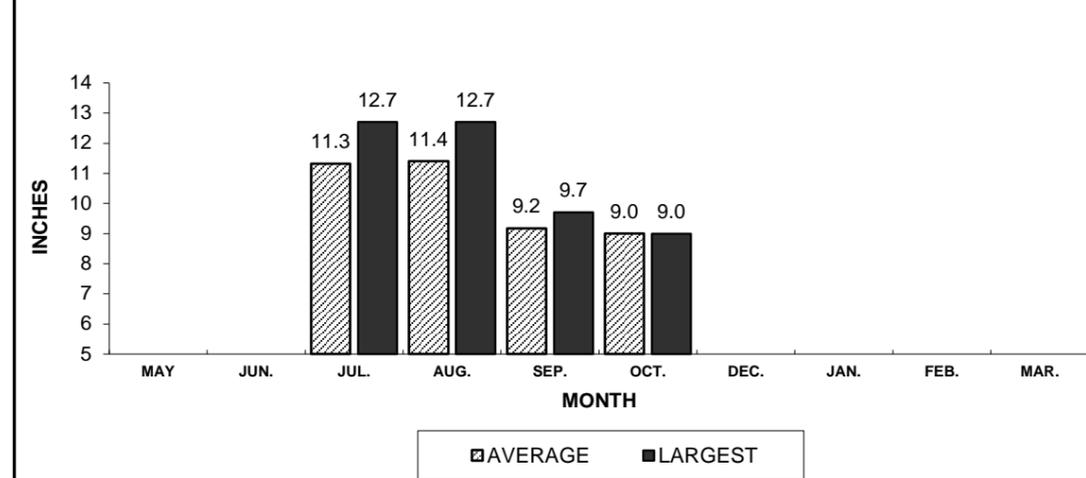
**FIGURE 3. ESTIMATED TOTAL ANGLER CATCH AND HARVEST**



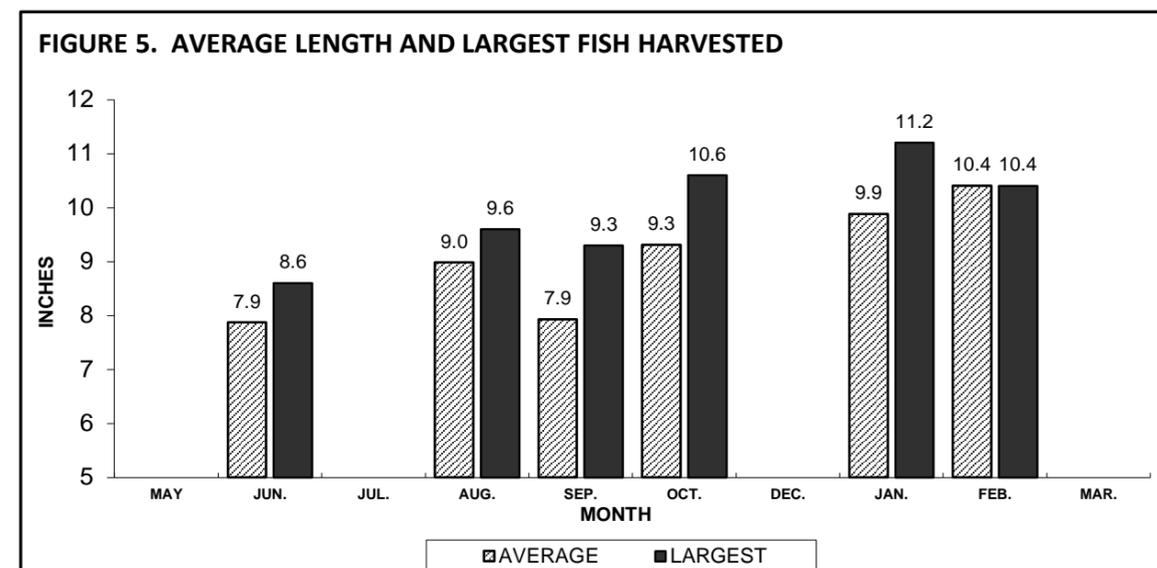
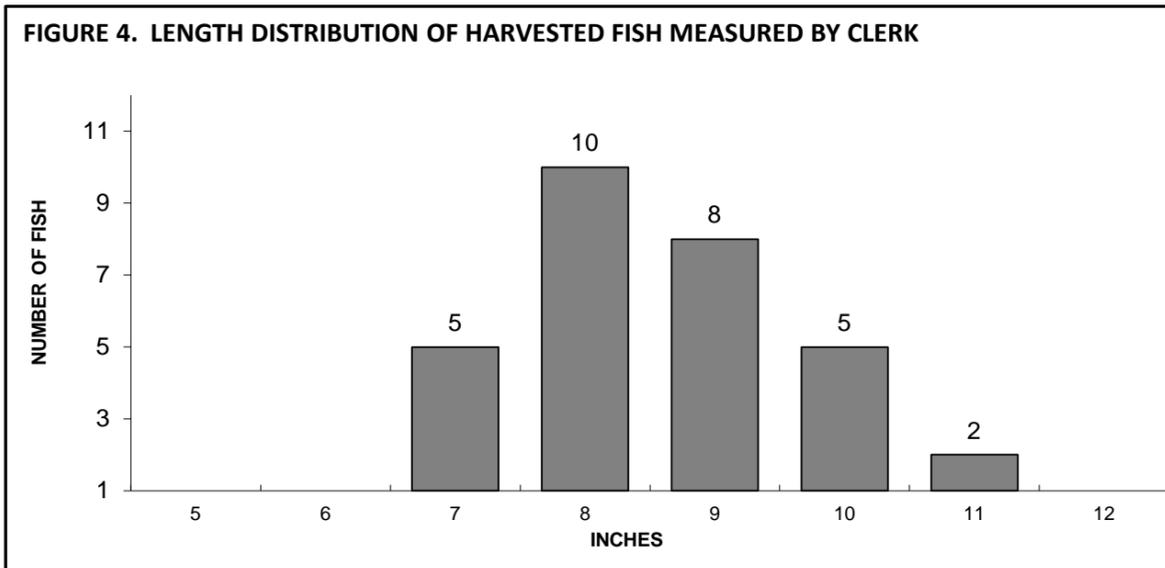
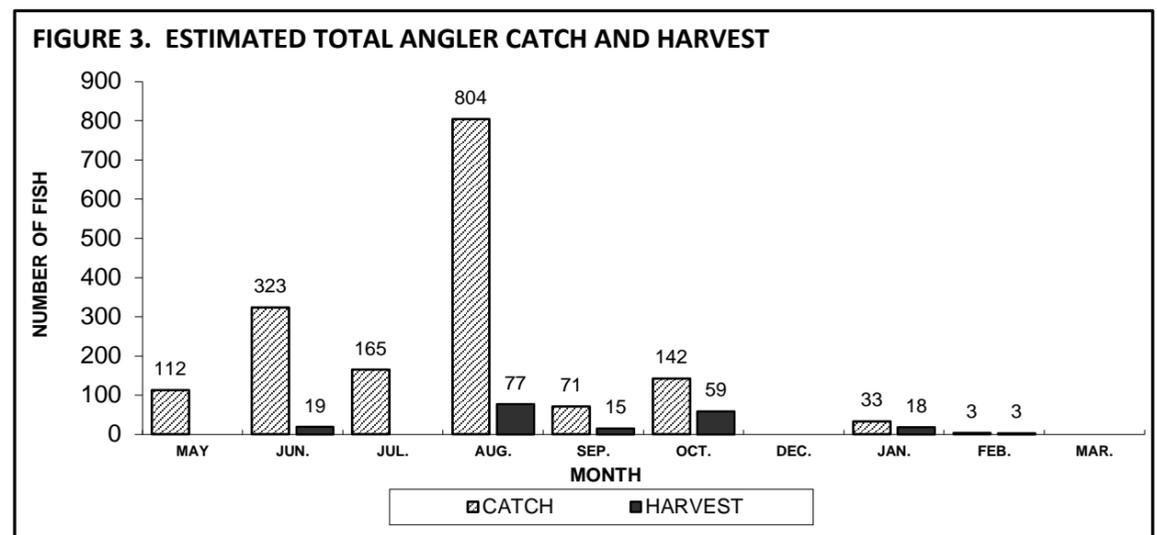
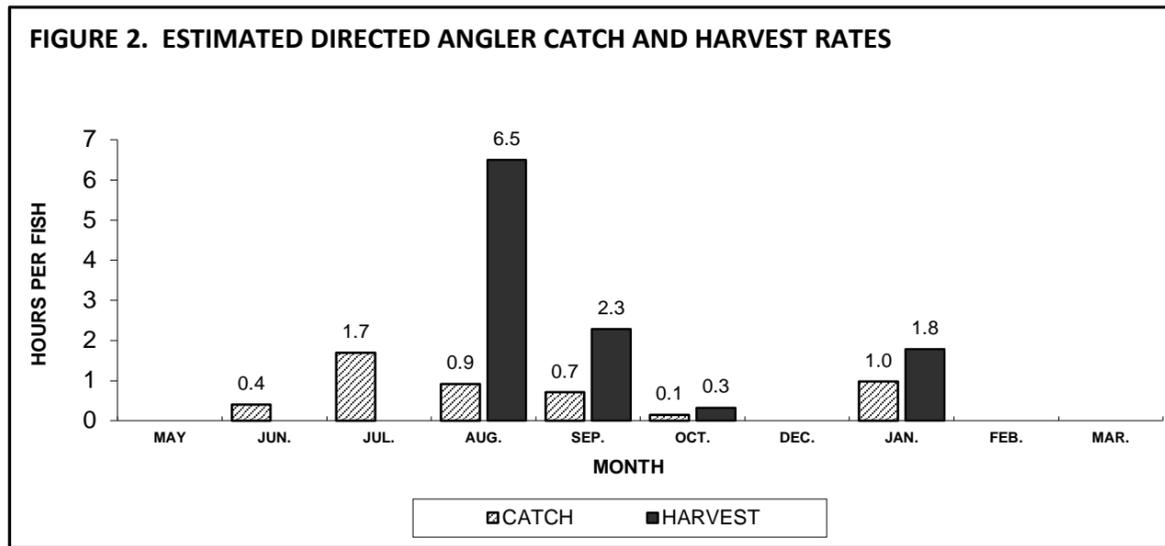
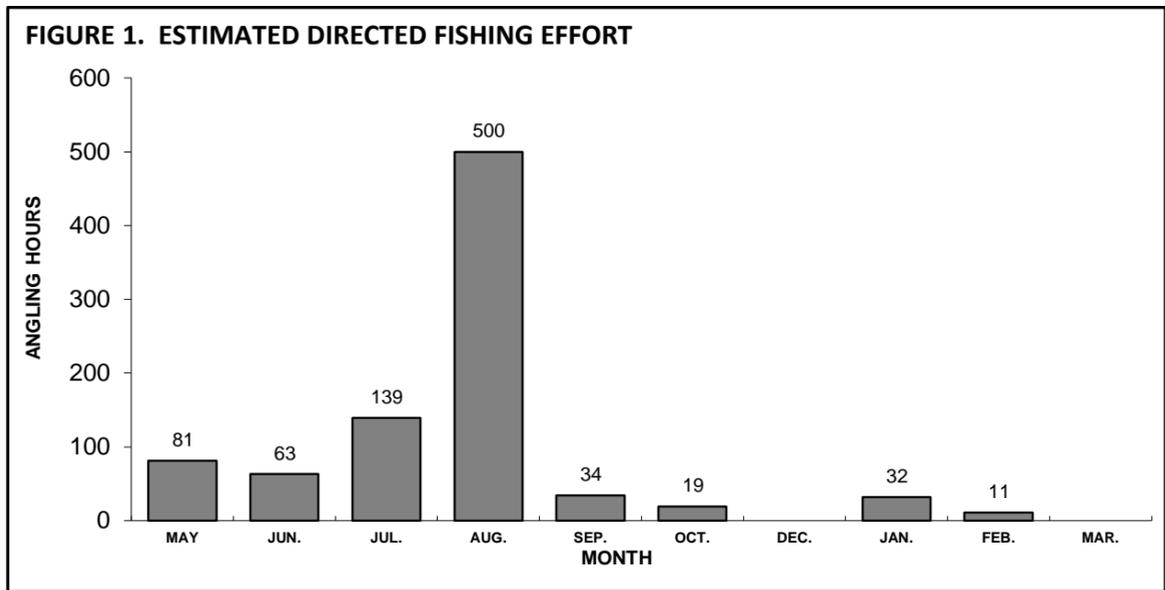
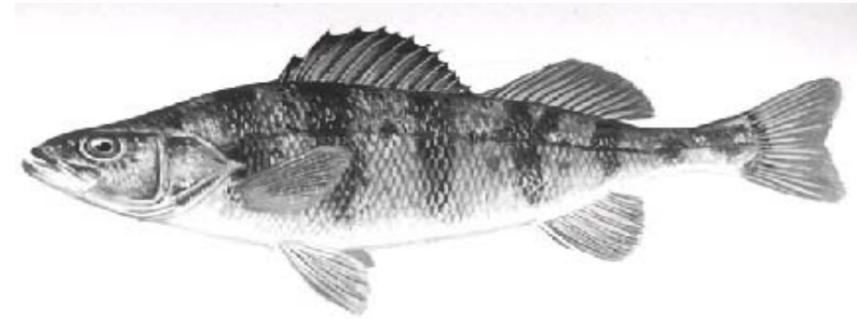
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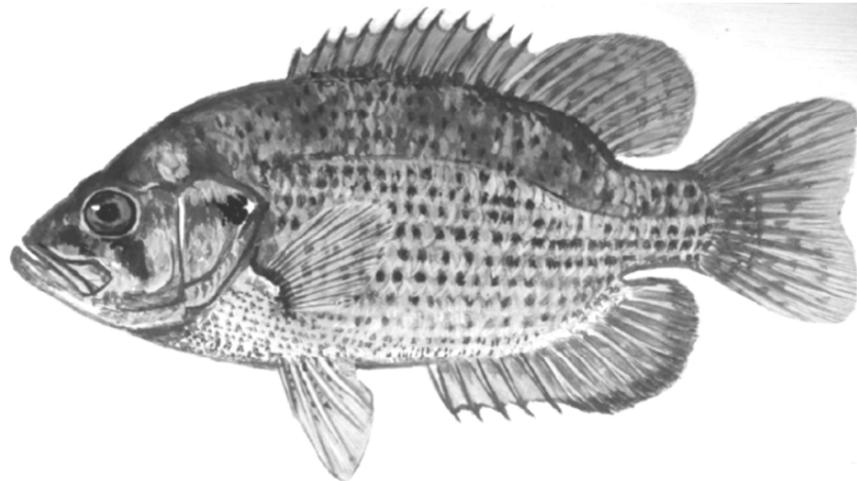
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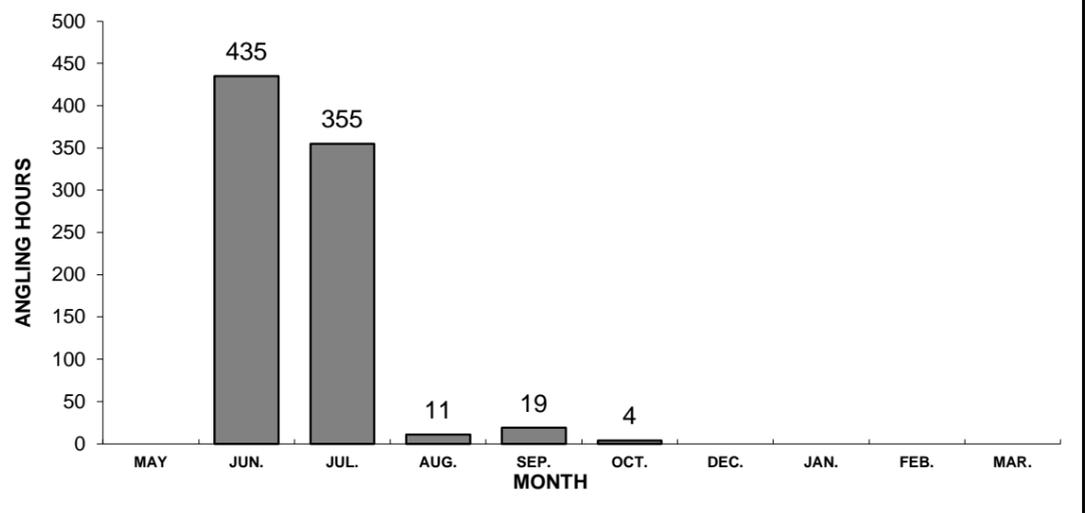
# YELLOW PERCH



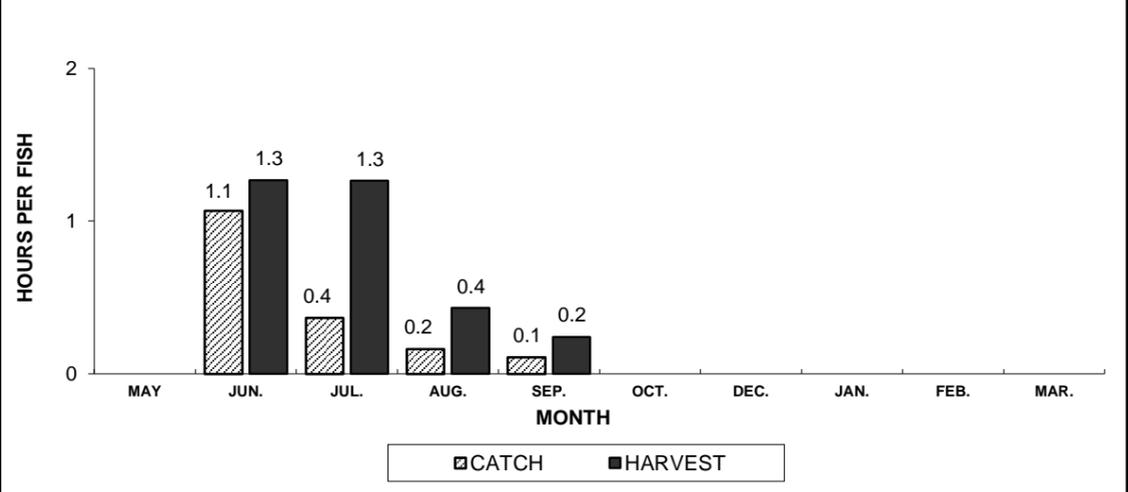
# ROCK BASS



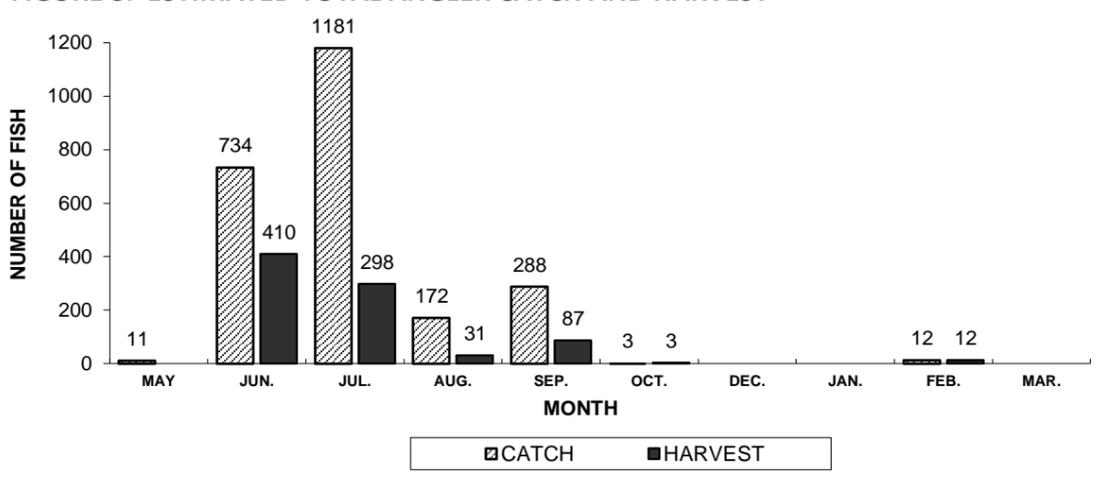
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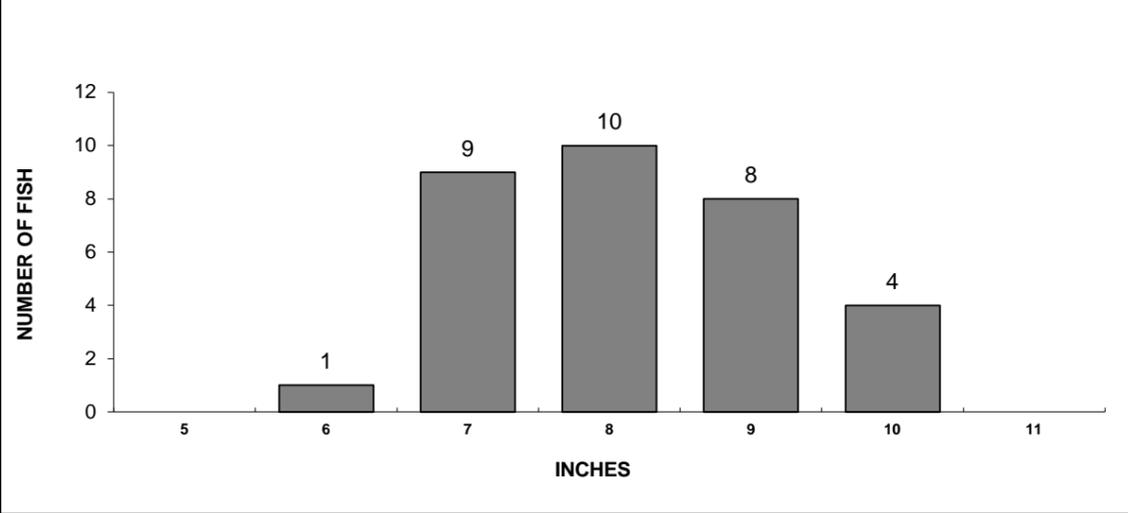
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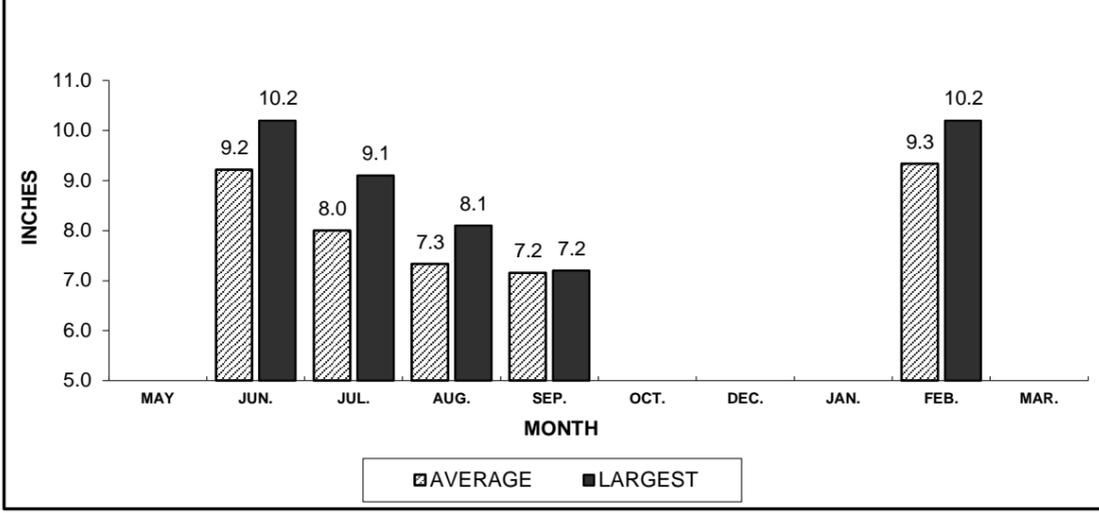
**FIGURE 3. ESTIMATED TOTAL ANGLER CATCH AND HARVEST**



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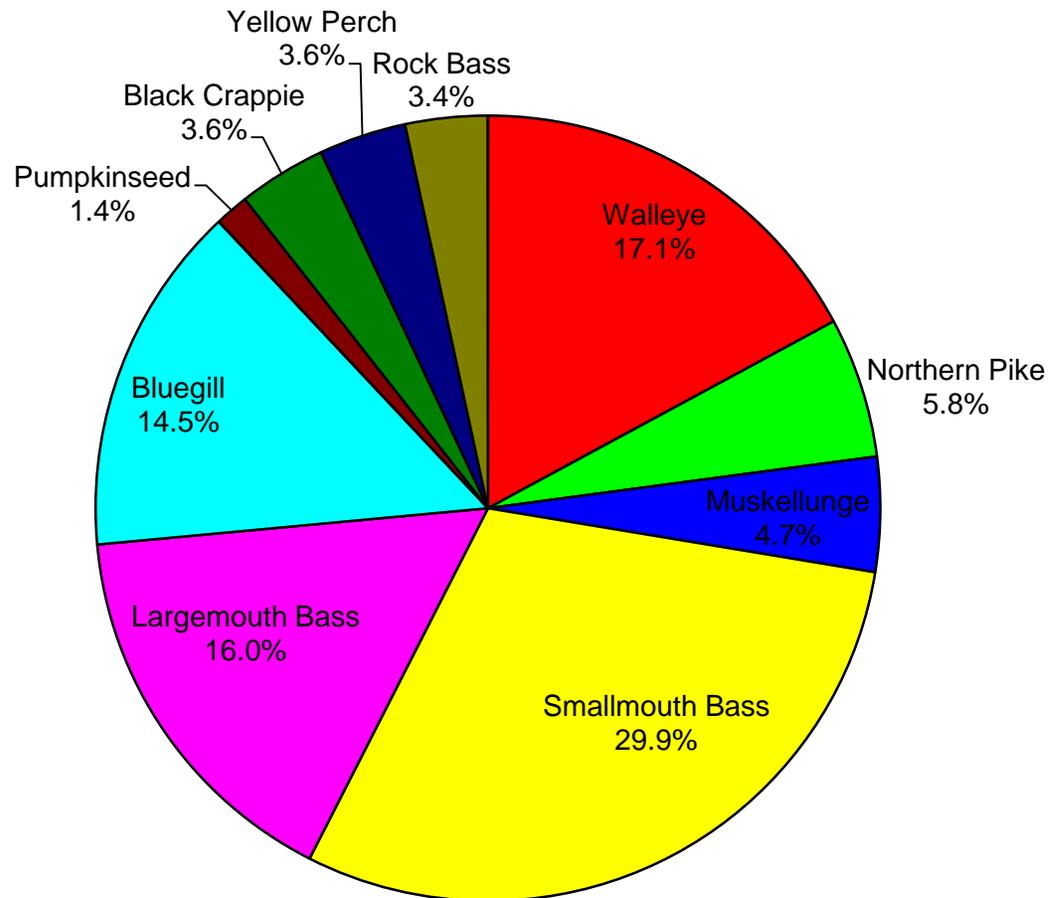


**FIGURE 5. AVERAGE LENGTH AND LARGEST FISH HARVESTED**



## TOTAL ANNUAL ANGLER DIRECTED EFFORT BY SPECIES Shell Lake 2013-14

This graph illustrates the percentage of time that anglers spent fishing for each species during the entire creel survey. The percentages are based on the species of fish anglers told the clerk they were fishing for, not what they actually caught. If a particular species is not present in the graph it is because no one reported they were fishing for that species.



# SEASONAL ANGLER EFFORT SUMMARY

## 2013-14

Estimated angler fishing effort on Shell Lake for each month surveyed and by season. March includes only data collected to the end of gamefish season on March 2nd.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	Washburn County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	49	1025	0.4	4.5	5.1
June	109	4573	1.8	6.3	6.4
July	105	3948	1.5	6.7	6.9
August	110	3293	1.3	4.4	5.4
September	60	1260	0.5	2.8	3.3
October	29	290	0.1	0.7	1.5
December	14	246	0.1	1.6	1.1
January	16	275	0.1	2.2	1.6
February	9	155	0.1	1.8	1.5
March	0	0	0.0	0.1	0.2
*Summer Total	462	14389	5.6	25.5	28.6
*Winter Total	39	676	0.3	5.6	4.4
Grand Total	501	15065	5.8	31.1	33.0

\*"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 this 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 if you wish to compare effort on this lake to others.

**County Average Hours/Acre** is the average angler effort in hours per acre for county lakes that have been surveyed since 1990. This value can be useful in comparisons as well.

**Ceded Territory Average Hours/Acre** is the average angler effort in hours per acre for inland lakes in the ceded territory surveyed between 1990 and 2013. This value can be used to compare this lake to other lakes in the ceded territory.

# CREEL SURVEY HISTORY/SYNOPSIS

SHELL LAKE, WASHBURN COUNTY

CREEL YEAR: 2013-14

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	4172	17.1%	696	6.3	337	12.7	15.3
Northern Pike	1409	5.8%	568	5.0	104	25.4	25.6
Muskellunge	1148	4.7%	16	74.6	0	NA	NA
Smallmouth Bass	7287	29.9%	8002	1.0	605	13.1	16.0
Largemouth Bass	3906	16.0%	5151	0.8	485	8.2	14.9
Bluegill	3528	14.5%	10664	0.3	1613	2.2	7.3
Pumpkinseed	338	1.4%	217	2.8	50	NA	NA
Black Crappie	885	3.6%	374	2.5	136	6.9	10.6
Yellow Perch	879	3.6%	1653	0.9	191	5.2	9.1
Rock Bass	824	3.4%	2401	0.5	841	1.1	8.5

CREEL YEAR: 1999-00

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	12107	23.0%	1485	8.4	1170	10.5	14.7
Northern Pike	6711	12.7%	3292	4.7	580	22.7	23.3
Muskellunge	4010	7.5%	38	289.7	0	NA	NA
Smallmouth Bass	8262	15.4%	6149	2.0	377	51.9	15.3
Largemouth Bass	5696	10.7%	792	13.2	33	202.0	14.3
Bluegill	9862	18.3%	35204	0.3	14684	0.7	7.5
Pumpkinseed	0	0.0%	187	NA	173	NA	6.7
Black Crappie	3210	5.8%	242	16.3	167	20.6	10.6
Yellow Perch	2422	4.4%	912	7.3	237	36.3	9.3
Rock Bass	1163	2.2%	8953	0.5	2768	1.7	8.3