

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

**BASS LAKE**

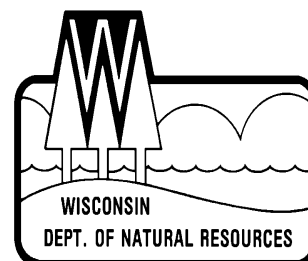
**OCONTO COUNTY**

**2016-17**



**Treaty Fisheries Publication**

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



# CONTENTS

INTRODUCTION.....	1
GENERAL LAKE INFORMATION.....	2
Location .....	2
Physical Characteristics .....	2
Seasons Surveyed.....	2
Weather .....	2
Fishing Regulations .....	2
SPECIES CATCH AND HARVEST INFORMATION.....	2
CREEL SURVEY RESULTS AND DISCUSSION.....	3
Survey Logistics.....	3
General Angler Information.....	3
RESULTS BY SPECIES .....	3
ACKNOWLEDGMENTS .....	4

## SUMMARY TABLES

Table 1. Sportfishing effort summary.....	5
Table 2. Creel survey synopses.....	6
SPECIES CATCH AND HARVEST INFORMATION	
Gamefish	
Figure 1. Walleye.....	7
Figure 2. Northern Pike.....	8
Figure 3. Largemouth Bass .....	9
Panfish	
Figure 4. Yellow Perch .....	10
Figure 5. Bluegill .....	11
Figure 6. Black Crappie .....	12
Figure 7. Pumpkinseed.....	13
Figure 8. Rock Bass .....	14

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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 also measure the sport angler 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.

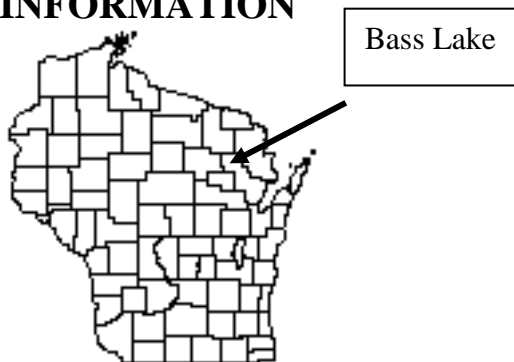
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time, and it gives the Department valuable information needed for management of the fishery.

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

## GENERAL LAKE INFORMATION



### Location

Bass Lake is located in Oconto County near the town of Townsend.

### Physical Characteristics

Bass Lake is a 142 acre seepage lake with a maximum depth of 40 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck, and gravel. Bass Lake contains slightly alkaline, clear water of high transparency.

### Seasons Surveyed

The period referred to in this report as the 2016-17 fishing season ran from May 7, 2016 through March 5, 2017. The open water creel survey ran from May 7 through October 31, 2016, and the ice fishing creel survey ran from December 1, 2017 through March 5, 2017.

## Weather

Ice-out on Bass Lake was around April 17, 2016. Fishable ice formed on Bass Lake in mid-December.

## Fishing Regulations

The following seasons, daily bag limits, and length limits were in place on Bass Lake during the 2016-17 fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass	5/7-3/5	5	14"
Smallmouth Bass	5/7-6/17	Catch&Release	
	6/18-3/5	5	14"
Musky	5/28-11/30	1	40"
Northern Pike	5/7-3/5	5	none
Walleye	5/7-3/5	3	18"
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 1-8. Table 2 also includes a comparison of these statistics with the previous creel survey. Information presented about species whose fishing season extends beyond March 5 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 projections contained in the report. This was the second time the Department conducted a creel survey on Bass Lake. The last creel survey took place in 2002-03.

### **General Angler Information**

Anglers spent 1,783 hours, or 12.6 hours per acre, fishing Bass Lake during the 2016-17 season (Table 1). That was less than the Oconto County average of 56.7 hours per acre, and more than the fishing effort documented during the 2002-03 creel survey (9.7 hours per acre). July was the most heavily fished month (518 hours). Fishing effort was lightest in October (6 hours). The creel clerks were able to conduct 53 interviews throughout the survey (Table 1).

## **RESULTS BY SPECIES**

### **Walleye** (Table 2, Figure 1)

Anglers spent 600 hours targeting walleye. The greatest fishing effort for walleyes was in February (160 hours). October, December, and March had no amount of walleye fishing effort.

Total catch of walleyes was 110 fish, with a harvest of 13. Highest catch (84 fish) occurred in June, and highest harvest (7 fish) occurred in May. Anglers fished an average of 5.4 hours to catch, and 45.0 hours to harvest, a walleye during the survey. The mean length of harvested walleyes was 20.8 inches, and the largest walleye measured was a 21.9-inch fish.

### **Northern Pike** (Table 2, Figure 2)

Fishing effort directed at northern pike was 95 hours during the 2016-17 season. Northern pike fishing effort was greatest in February (77 hours). Total catch of northern pike was 7 fish with no documented harvest.

### **Smallmouth Bass** (Table 2)

Fishing effort targeted at smallmouth bass was 26 hours during the 2016-17 season. Smallmouth bass fishing effort was greatest in June (24 hours). There was no documented catch or harvest of smallmouth bass during the survey.

### **Largemouth Bass** (Table 2, Figure 3)

Largemouth Bass received the most fishing effort of any gamefish species during the 2016-17 season. Fishing effort directed at largemouth bass was 806 hours. Largemouth bass fishing effort was greatest in July (356 hours). Total catch of largemouth bass was 427 fish, with a harvest of 17 fish. Highest catch (170 fish) occurred in June. Anglers fished an average of 1.9 hours to catch a largemouth bass during the

survey. The mean length of harvested largemouth bass was 14.9 inches, and the largest measured was a 16.3-inch fish.

### **Panfish (Table 2, Figures 4-8)**

**Yellow Perch** received 552 hours of directed fishing effort. Total catch of yellow perch was 495 fish, with 6 being harvested. The mean length of yellow perch harvested was 7.3 inches.

**Bluegills** were the most sought after panfish species during the survey. Fishing effort directed at bluegills was 753 hours. Total catch of bluegills was 1,411 fish, with 466 harvested. The mean length of bluegills harvested was 7.3 inches.

**Black Crappies** received 343 hours of directed fishing effort. Anglers caught 9 black crappies, but there was no documented harvest.

**Pumpkinseeds** received only 99 hours of directed fishing effort. However, anglers caught 131 pumpkinseed and harvested 89 fish. The mean length of pumpkinseed harvested was 7.4 inches.

**Rock Bass** received 187 hours of directed fishing effort. Anglers caught 275 rock bass and harvested 60 fish. The mean length of rock bass harvested was 7.3 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, Chip Long, and Cory Wienandt. Angelica Komarek, Shannon Morrell and Shae Flood were the creel clerks on Bass 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 cooperator, Ron and Deb Karfonda, who generously allowed the Department to keep a boat on their property during this survey.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger, and Chip Long 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/trtycrs/rvys.html>

**Table 1. Sportfishing effort summary, Bass Lake, 2016-17 season.**

<b>Month</b>	<b>Number of Angler Party Interviews</b>	<b>Total Angler Hours</b>	<b>Total Angler Hours/Acre</b>	<b>2002-03 Total Angler Hours/Acre</b>	<b>Oconto County Average Hours/Acre</b>	<b>Ceded Territory Average Hours/Acre</b>
May	11	369	2.6	1.6	5.9	4.9
June	15	334	2.3	0.9	11.1	6.3
July	13	518	3.6	2.1	11.6	6.7
August	1	56	0.4	1.2	8.8	5.4
September	5	74	0.5	0.6	4.2	3.3
October	0	6	0.0	0.0	1.4	1.5
December	1	172	1.2	0.6	2.9	1.1
January	2	50	0.4	0.9	5.4	1.7
February	4	194	1.4	1.8	5.2	1.6
March	1	12	0.1	0.0	0.2	0.2
*Summer Total	45	1356	9.6	6.4	43.0	28.1
*Winter Total	8	427	3.0	3.3	13.7	4.6
Grand Total	53	1783	12.6	9.7	56.7	32.7

\*"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 Bass 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 Bass Lake to other lakes.

**2002-03 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 Bass Lake.

**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 Bass Lake to other lakes in northern Wisconsin.

**Table 2. Comparison of creel survey synopses, Bass Lake, 2016-17 and 2002-03 fishing seasons.**

CREEL YEAR: 2016-17

<b>SPECIES</b>	<b>DIRECTED EFFORT (Hours)</b>	<b>PERCENT OF TOTAL</b>	<b>TOTAL CATCH</b>	<b>SPECIFIC CATCH RATE (Hrs/Fish) *</b>	<b>TOTAL HARVEST</b>	<b>SPECIFIC HARVEST RATE (Hrs/Fish) **</b>	<b>MEAN LENGTH OF HARVESTED FISH</b>
Walleye	600	17.3%	110	5.4	13	45.0	20.8
Northern Pike	95	2.7%	7		0		
Smallmouth Bass	26	0.8%	0		0		
Largemouth Bass	806	23.3%	427	1.9	17	47.4	14.9
Yellow Perch	552	15.9%	495	1.1	6	92.6	7.3
Bluegill	753	21.8%	1411	0.5	466	1.6	7.3
Black Crappie	343	9.9%	9	36.9	0		
Pumpkinseed	99	2.9%	131	0.8	89	1.1	7.4
Rock Bass	187	5.4%	275	2.1	60	3.7	7.3

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

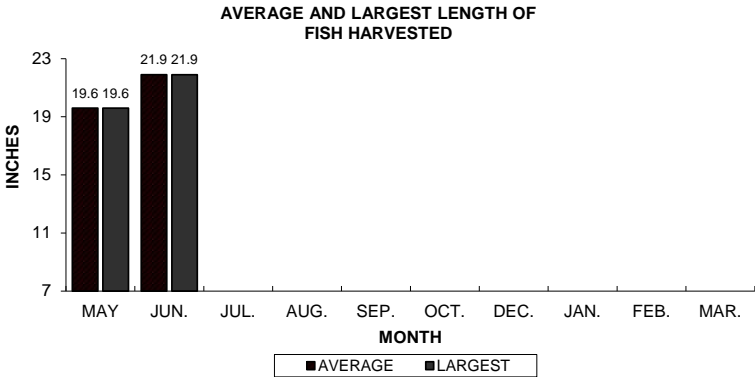
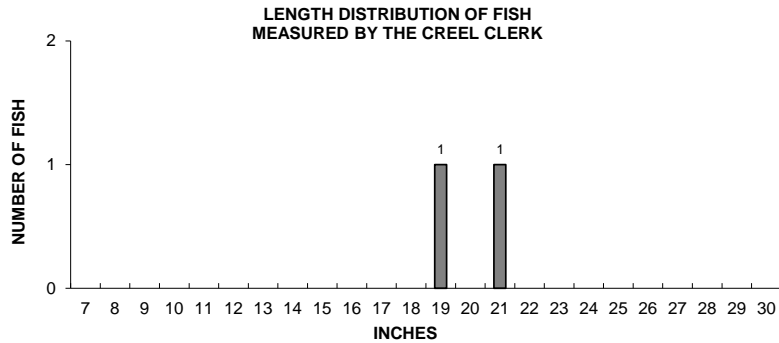
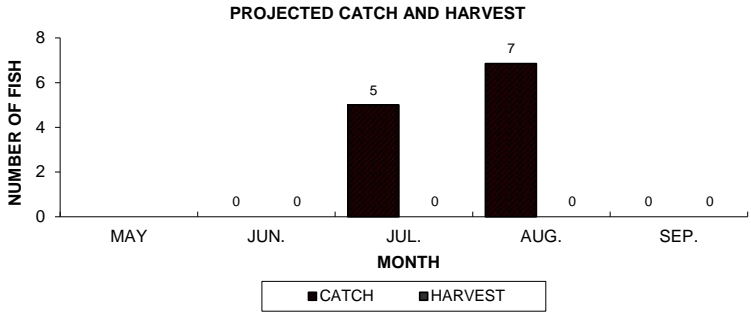
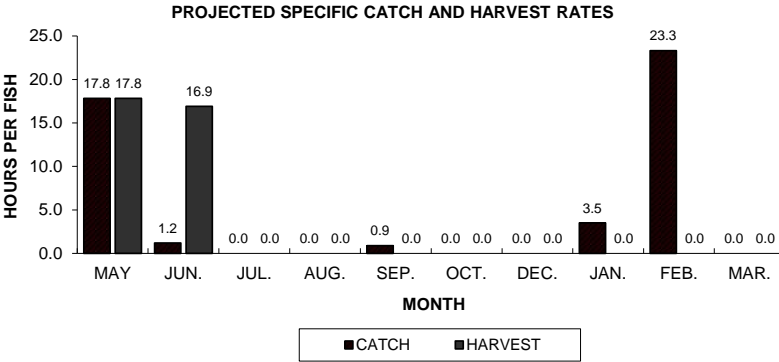
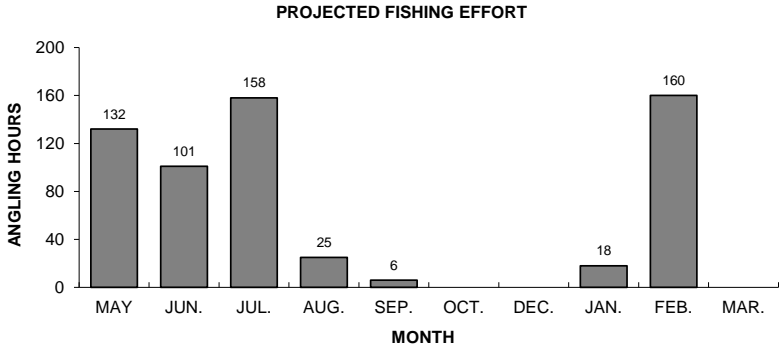
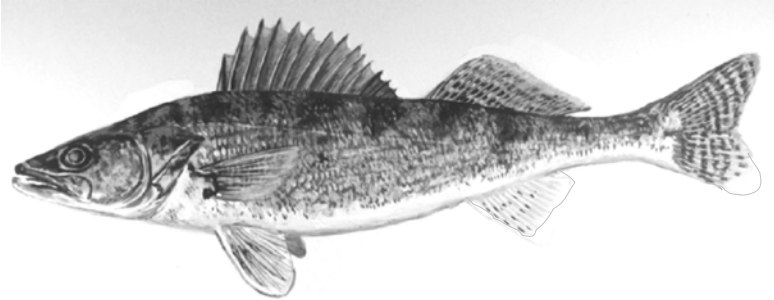
\*\* A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 2002-03

<b>SPECIES</b>	<b>DIRECTED EFFORT (Hours)</b>	<b>PERCENT OF TOTAL</b>	<b>TOTAL CATCH</b>	<b>SPECIFIC CATCH RATE (Hrs/Fish)*</b>	<b>TOTAL HARVEST</b>	<b>SPECIFIC HARVEST RATE (Hrs/Fish)**</b>	<b>MEAN LENGTH OF HARVESTED FISH</b>
Walleye	275	17.7%	22	14.5	16	20.4	18.0
Largemouth Bass	491	31.6%	174	5.0	0		
Yellow Perch	87	5.6%	163	0.7	0		
Bluegill	449	28.9%	182	2.7	34	13.2	7.9
Black Crappie	254	16.3%	187	1.5	98	2.7	9.7
Rock bass	0	0.0%	128		0		



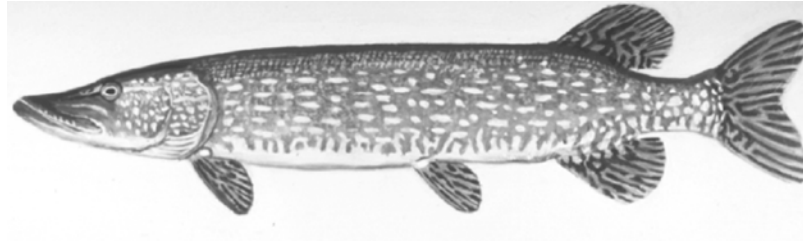
# WALLEYE



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Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# NORTHERN PIKE



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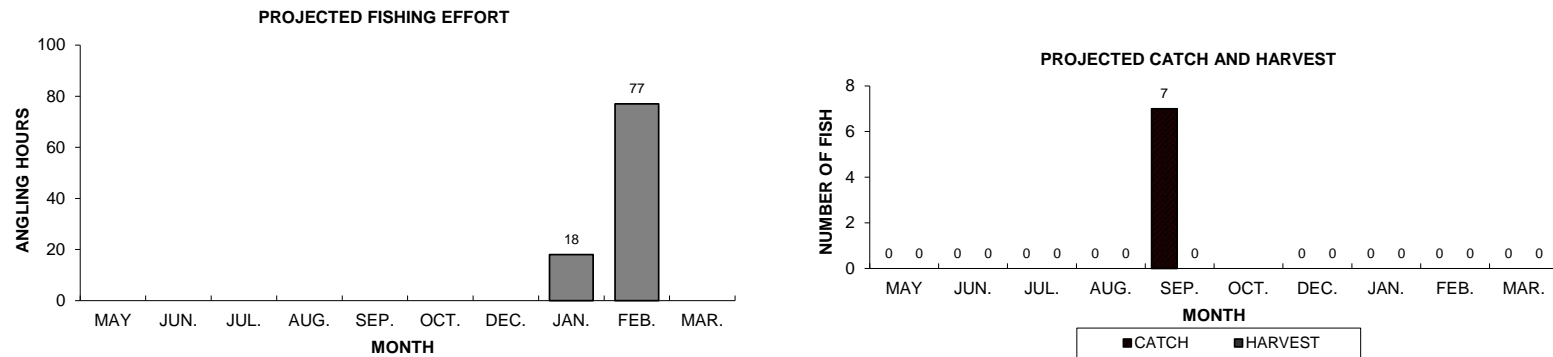
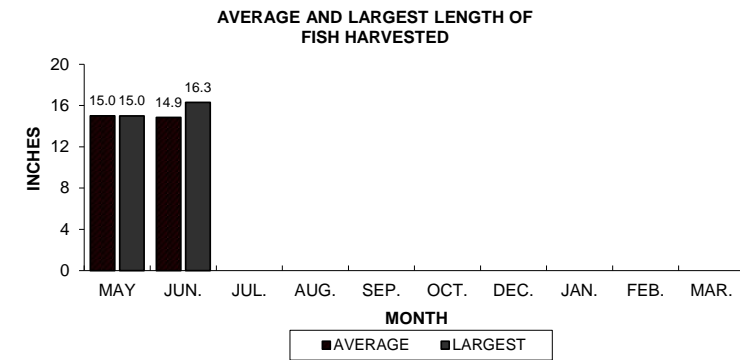
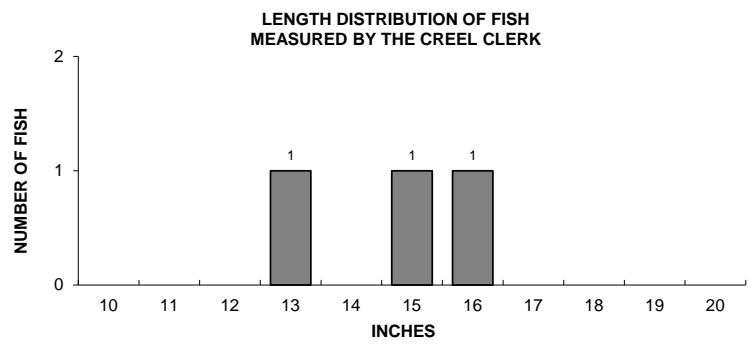
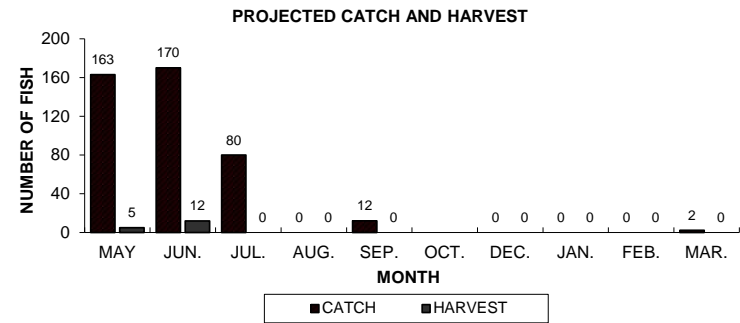
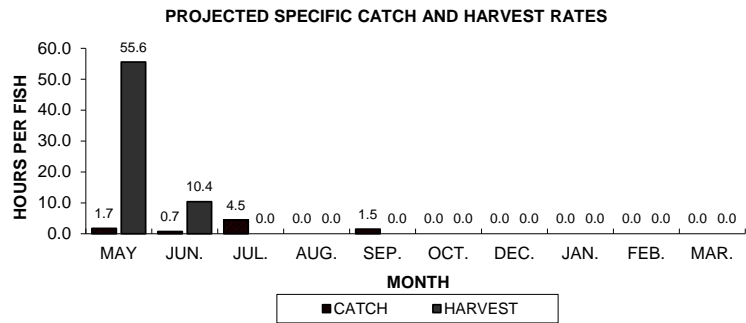
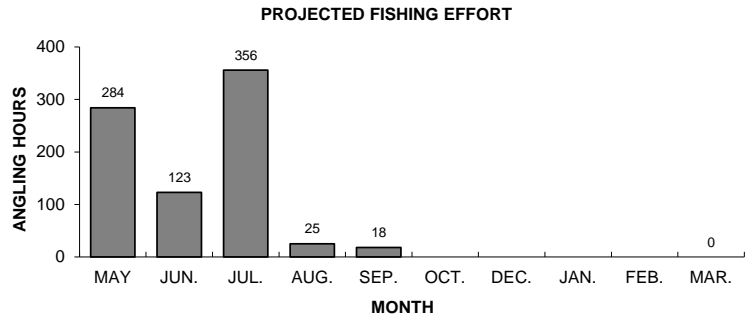
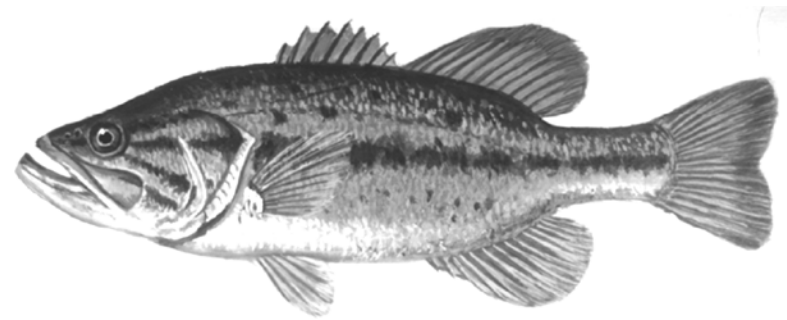


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# LARGEMOUTH BASS



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Figure 3. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# YELLOW PERCH

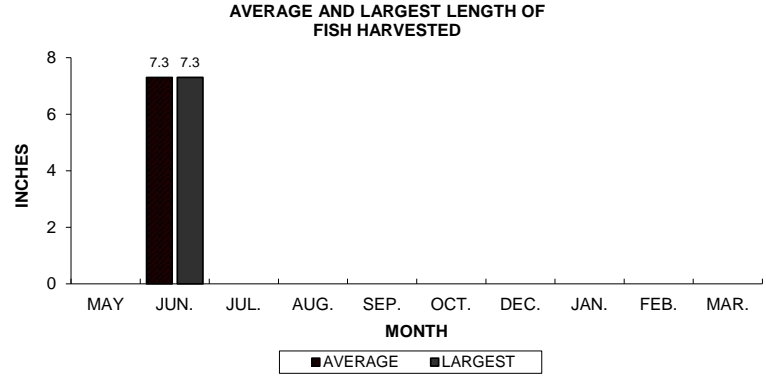
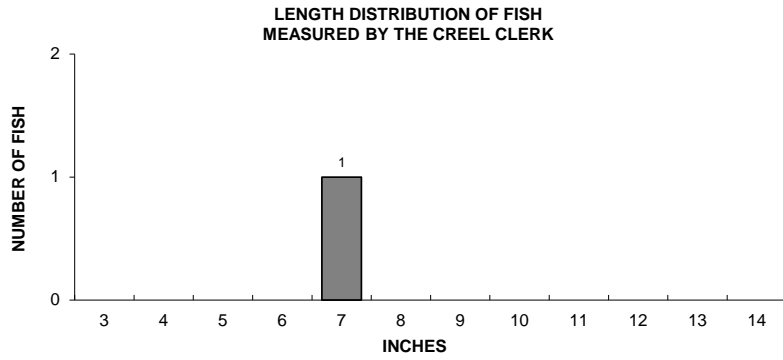
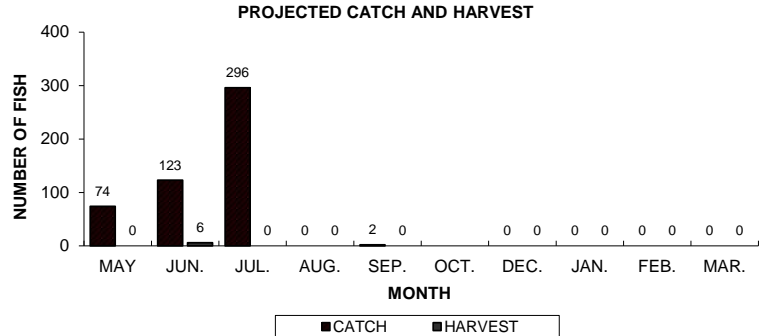
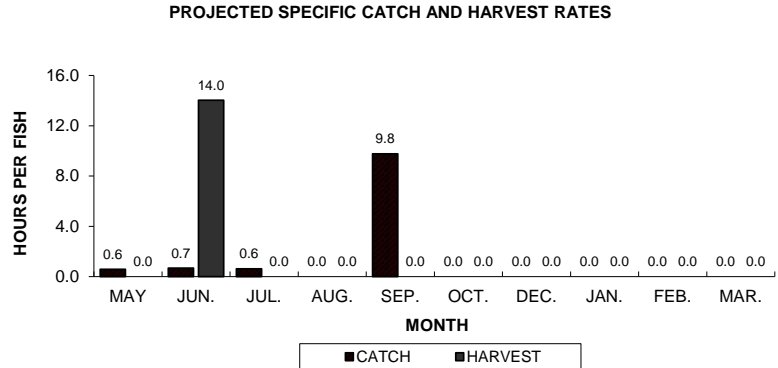
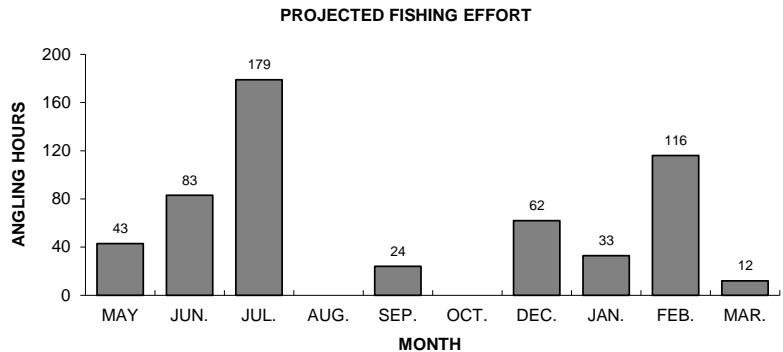


Figure 4. Yellow perch sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# BLUEGILL

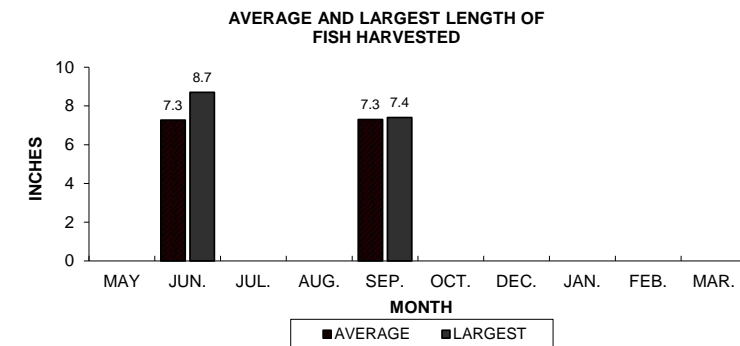
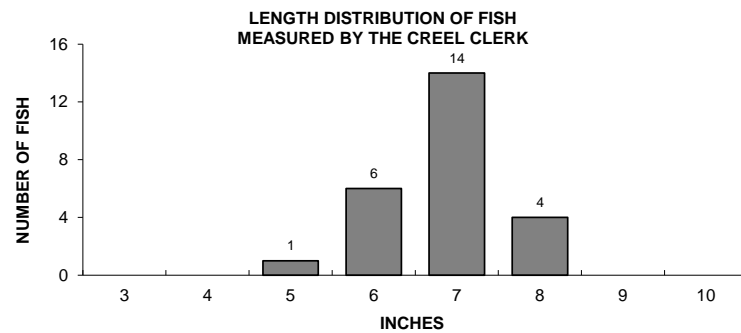
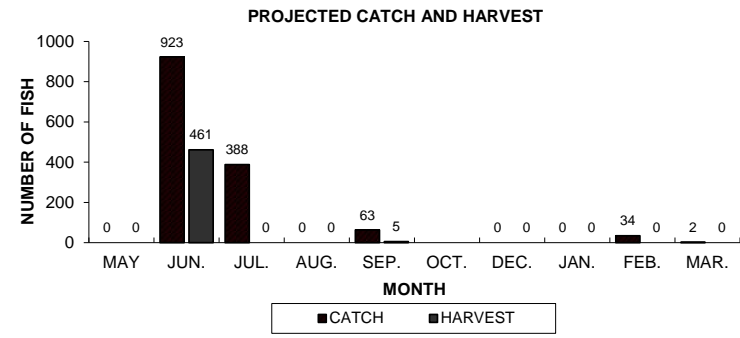
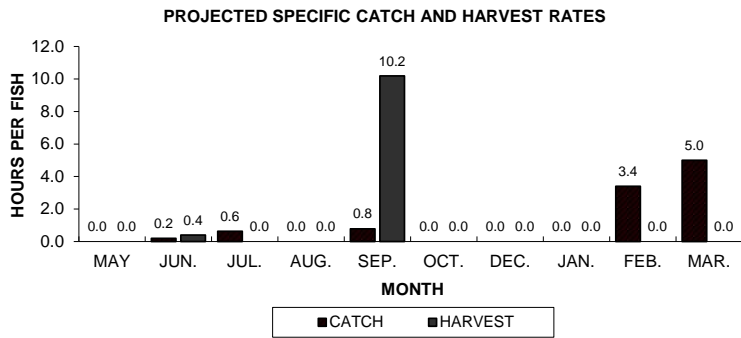
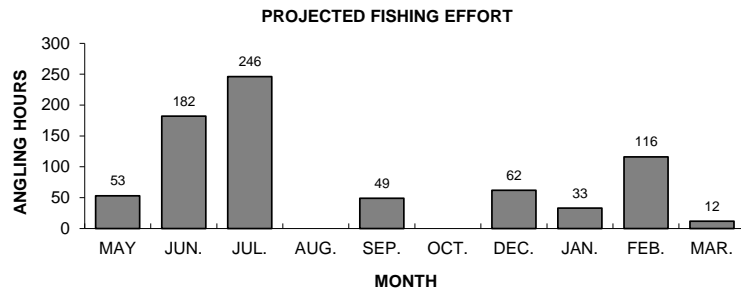
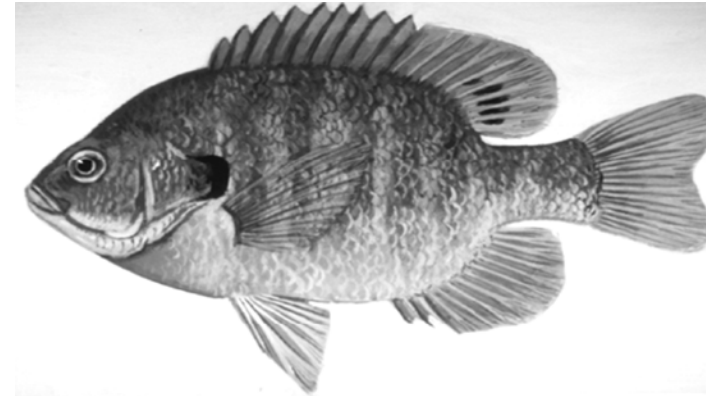


Figure 5. Bluegill sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# BLACK CRAPPIE

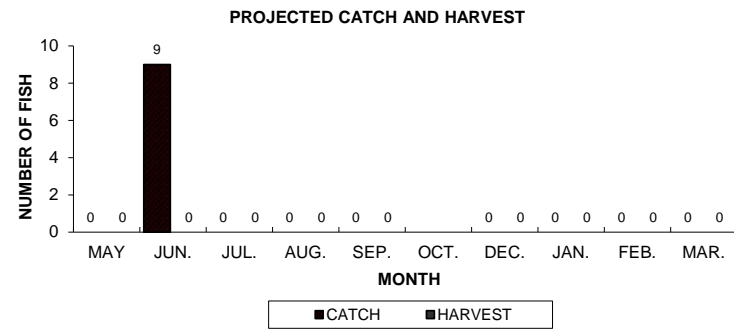
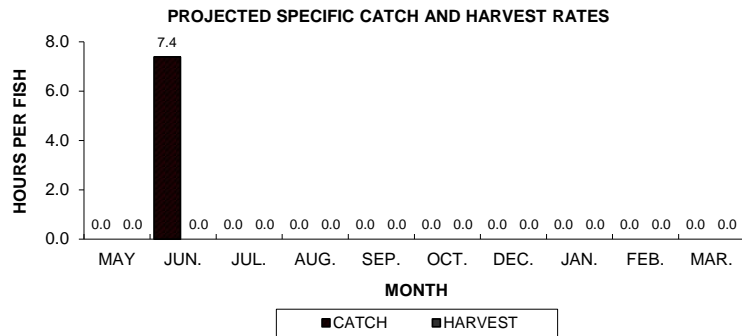
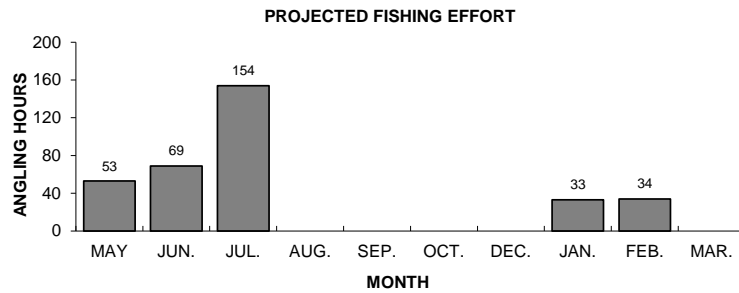
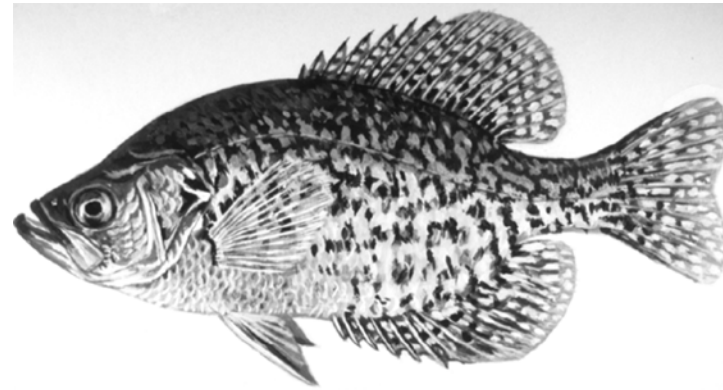


Figure 6. Black crappie sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# PUMPKINSEED

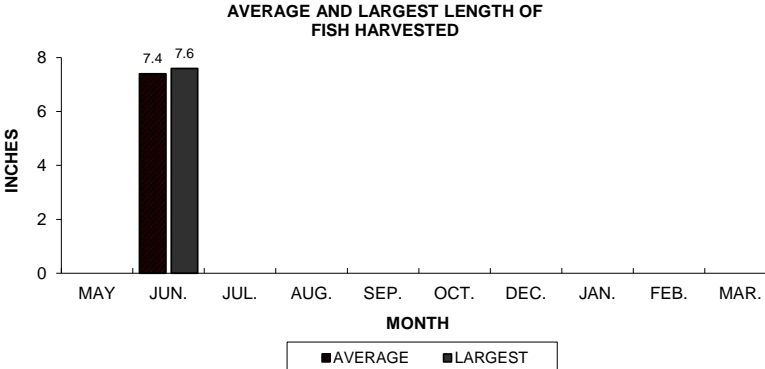
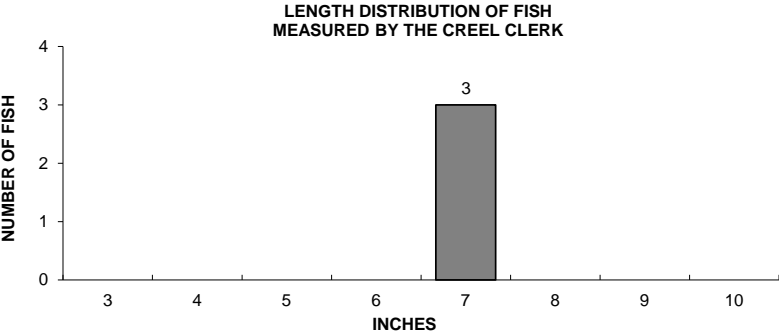
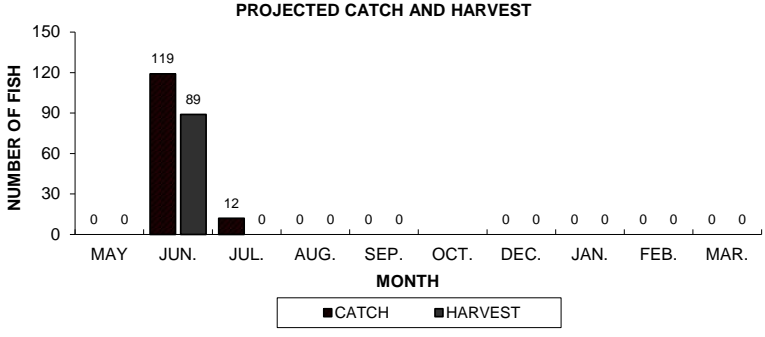
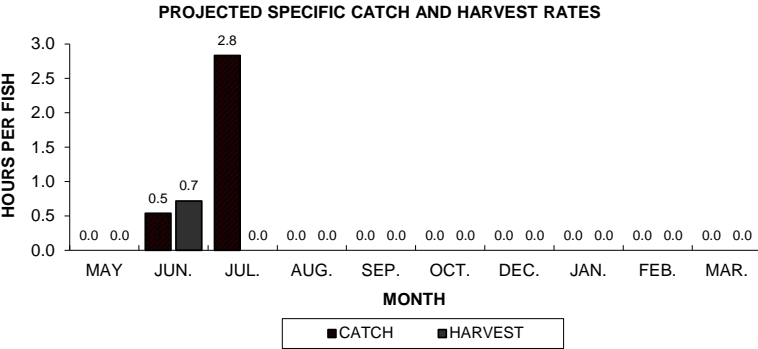
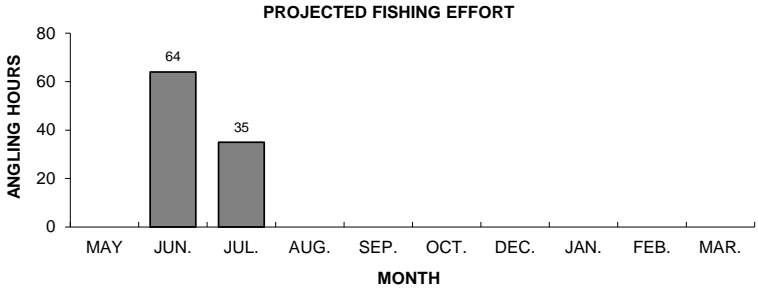
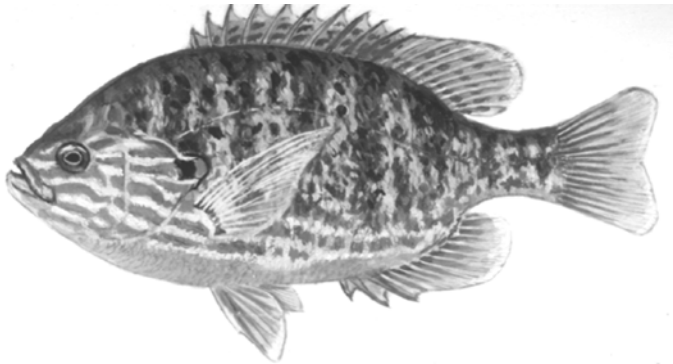


Figure 7. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.

# ROCK BASS

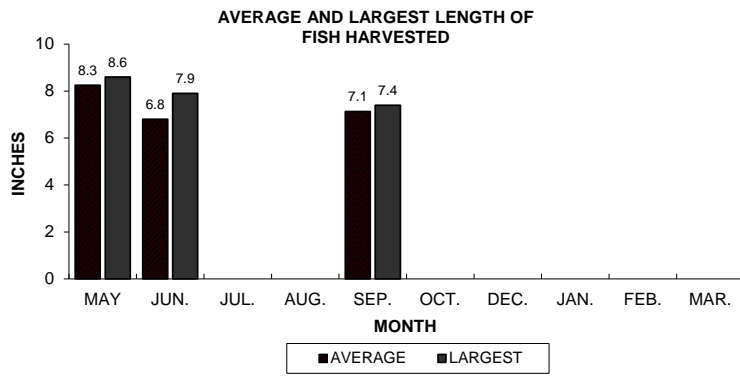
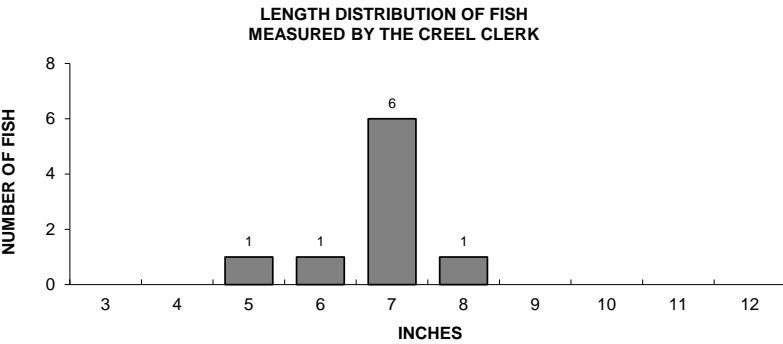
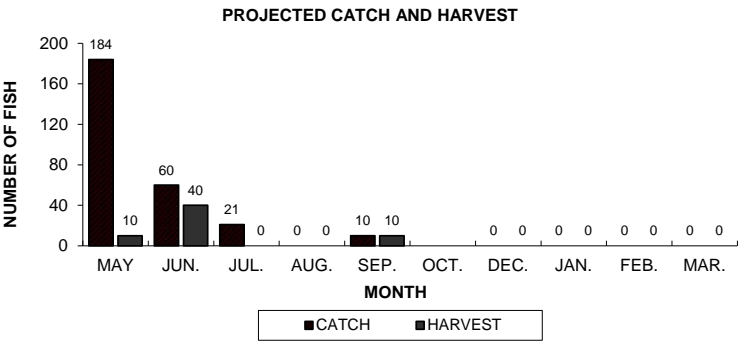
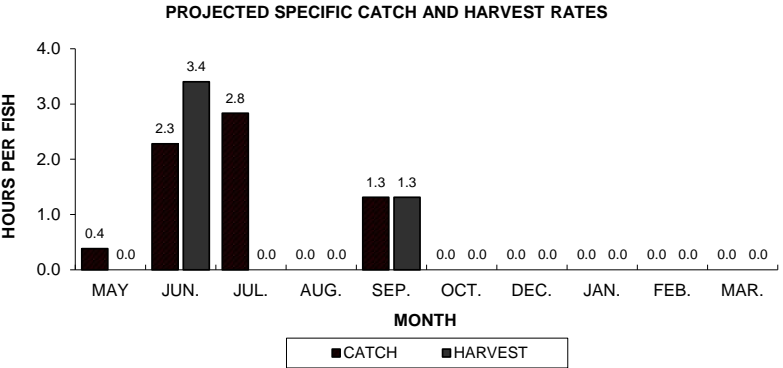
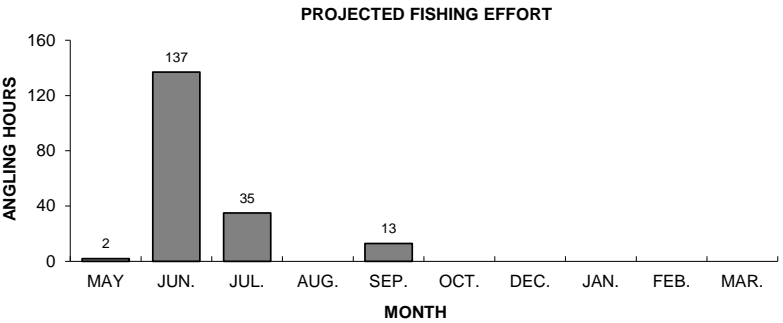
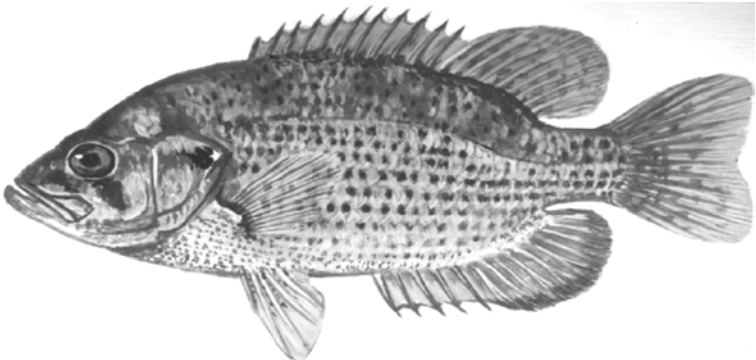


Figure 8. Rock bass sportfishing effort, catch, harvest, and length distribution, Bass Lake, during 2016-17 season.