

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

**TROUT LAKE**

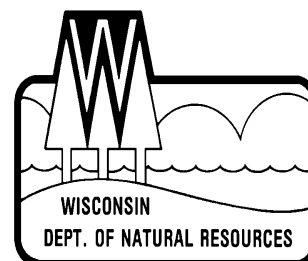
**VILAS COUNTY**

**2016-17**



**Treaty Fisheries Publication**

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Jason Halverson  
Treaty Fisheries Technicians**



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**Cover Art:** Steve Hilt, Portland, OR

**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.

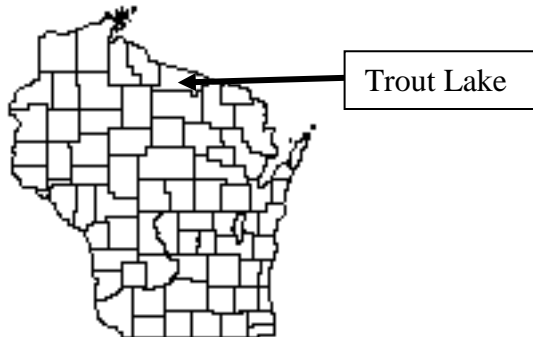
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time, and it gives the Department valuable information needed for management of the fishery.

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

## GENERAL LAKE INFORMATION



### Location

Trout Lake is located in Vilas County near the town of Boulder Junction.

### Physical Characteristics

Trout Lake is a 3,816-acre drainage lake with a maximum depth of 117. Littoral substrate consists mainly of gravel and sand, with rock and some muck. Trout 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, 2016 through March 5, 2017.

### Weather

Ice-out on Trout Lake was around April 21, 2016. Fishable ice formed on Trout

Lake in mid December.

## Fishing Regulations

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

Species	Season	Bag Limit	Min. Size
Largemouth Bass	5/7-3/5	1	18"
Smallmouth Bass	5/7-6/17	Catch&Release	
	6/18-3/5	1	18"
Musky	5/7-11/30	1	40"
Northern Pike	5/7-3/5	5	none
Walleye	5/7-3/5	3	15"
		20"-24" Protected Slot, 1>24"	
Lake Trout	5/4-9/30	1	30"
Whitefish/Ciscos	year round	10	none
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 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 eighth time the Department conducted a creel survey on Trout Lake. The last creel survey took place in 2013-14.

### **General Angler Information**

Anglers spent 19,258 hours, or 5.0 hours per acre, fishing Trout Lake during the 2016-17 season (Table 1). That was less than the Vilas County average of 35.2 hours per acre, and slightly less than the fishing effort documented during the 2013-14 creel survey (5.7 hours per acre). May was the most heavily fished month (5,317 hours). Fishing effort was lightest in December (152 hours). The creel clerks were able to conduct 543 interviews throughout the survey.

## **RESULTS BY SPECIES**

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

Walleyes received the most fishing effort

of any gamefish species during the 2016-17 season. Anglers spent 10,543 hours targeting walleye. The greatest fishing effort for walleyes was in May (4,618 hours). December had the least amount of walleye fishing effort (35 hours).

Total catch of walleyes was 2,083 fish with a harvest of 902 fish. Highest catch (954 fish) and highest harvest (544 fish) occurred in May. Anglers fished an average of 5.1 hours to catch, and 11.8 hours to harvest, a walleye during the survey. The mean length of harvested walleyes was 17.9 inches, and the largest walleye measured was a 29.6-inch fish.

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

Fishing effort directed at northern pike was 183 hours during the 2016-17 season. Northern pike fishing effort was greatest in July (98 hours). Total catch of northern pike was 83 fish with a harvest of 19 fish. The mean length of harvested northern pike was 25.8 inches, and the largest northern pike measured was a 27.5-inch fish.

### **Muskellunge** (Table 2, Figure 3)

Anglers spent 1,274 hours targeting muskellunge during the 2016-17 season. Muskellunge fishing effort was greatest in October (383 hours). There was no documented catch or harvest of muskellunge during the survey.

### **Smallmouth Bass** (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass was 1,866 hours during the 2016-17 season. Smallmouth bass fishing effort was greatest in June (470 hours). Total catch of smallmouth bass was 874 fish, with 8 harvested. Highest catch (414 fish) occurred in May. Anglers fished an average of 2.6 hours to catch a smallmouth bass during the survey.

### **Largemouth Bass** (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 164 hours during the 2016-17 season. Largemouth bass fishing effort was greatest in October (104 hours). Total catch of largemouth bass was 64 fish, with no documented harvest. Highest catch (21 fish) occurred in May. Anglers fished an average of 101.0 hours to catch a largemouth bass during the survey.

### **Lake Trout** (Table 2, Figure 6)

There were 3,014 hours of lake trout fishing effort during 2016-17 fishing season. The greatest effort occurred during the month of July (1,172 hours). Total catch was 683 fish, with 24 harvested. Anglers fished 5.6 hours to catch, and 124.8 hours to harvest, a lake trout during the survey.

### **Cisco (Lake Herring)** (Table 2, Figure 7)

Fishing effort targeted at ciscoes was 181 hours during the 2016-17 season. Cisco fishing effort was greatest in January (104 hours). Total catch of ciscoes was 112 fish, with 20 harvested. Highest catch (58 fish) occurred in January. Anglers fished an average of 3.4 hours to catch a cisco during the survey.

### **Lake Whitefish** (Table 2, Figure 8)

Fishing effort targeted at lake whitefish was 2,405 hours during the 2016-17 season. Lake whitefish fishing effort was greatest in February (971 hours). Total catch of lake whitefish was 920 fish, with 557 harvested. Highest catch (315 fish) occurred in February. Anglers fished an average of 2.8 hours to catch a lake whitefish during the survey. The mean length of harvested lake whitefish was 15.2 inches.

### **Panfish** (Table 2, Figures 9-10)

**Yellow Perch** were the most sought after panfish species during the survey. Fishing effort directed at yellow perch was

1,053 hours. Total catch of yellow perch was 3,479 fish, with 610 being harvested. The mean length of yellow perch harvested was 9.4 inches.

**Bluegills** received 143 hours of directed fishing effort, with 24 bluegills caught, and 11 harvested.

**Black Crappies** received 27 hours of directed fishing effort, with no documented catch or harvest.

**Pumpkinseeds** and **Rock Bass** were also caught in low numbers during the 2016-17 season.

## **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, Steve Gilbert, and Tim Tobias. Matt Meulemans, John Davis, Mike Rynski, Eric Brown, and Doug Day were the creel clerks on Trout 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, Jim Wallner and Trout Lake Forestry Headquarters, who generously allowed the department to keep a boat and/or snowmobile on their property during this survey.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger, and Hadley Boehm 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/trtycrsrvys.html>

**Table 1. Sportfishing effort summary, Trout 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>2013-14 Total Angler Hours/Acre</b>	<b>Vilas County Average Hours/Acre</b>	<b>Ceded Territory Average Hours/Acre</b>
May	123	5317	1.4	1.3	5.3	4.9
June	72	2525	0.7	1.4	6.9	6.3
July	87	3580	0.9	0.9	7.3	6.7
August	68	2497	0.7	0.6	6.4	5.4
September	46	1909	0.5	0.5	4.2	3.3
October	69	1267	0.3	0.2	2.0	1.5
December	7	152	0.0	0.2	0.7	1.1
January	40	836	0.2	0.3	1.1	1.7
February	26	1061	0.3	0.1	1.2	1.6
March	5	115	0.0	0.0	0.1	0.2
*Summer Total	465	17094	4.5	5.0	32.1	28.1
*Winter Total	78	2164	0.6	0.7	3.1	4.6
Grand Total	543	19258	5.0	5.7	35.2	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 Trout 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 Trout Lake to other lakes.

**2013-14 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 Trout 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 Trout Lake to other lakes in northern Wisconsin.

**Table 2. Comparison of creel survey synopses, Trout Lake, 2016-17 and 2013-14 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	10543	57.1%	2083	5.1	902	11.8	17.9
Northern Pike	183	1.0%	83	8.3	19	12.3	25.8
Muskellunge	1274	6.9%	0		0		
Smallmouth Bass	1866	10.1%	874	2.6	8	243.9	18.5
Largemouth Bass	164	0.9%	64	101.0	0		
Lake Trout	3014	29.2%	683	5.6	24	125.0	32.1
Yellow Perch	1053	5.7%	3479	0.4	610	1.9	9.4
Bluegill	143	0.8%	24	9.0	11	12.9	7.8
Black Crappie	27	0.1%	0		0		
Pumpkinseed	0	0.0%	8		0		
Rock Bass	5	0.0%	70		0		
Cisco	181	1.0%	112	3.4	20	14.7	9.3
Whitefish	2405	23.3%	920	2.8	557	4.7	15.2

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

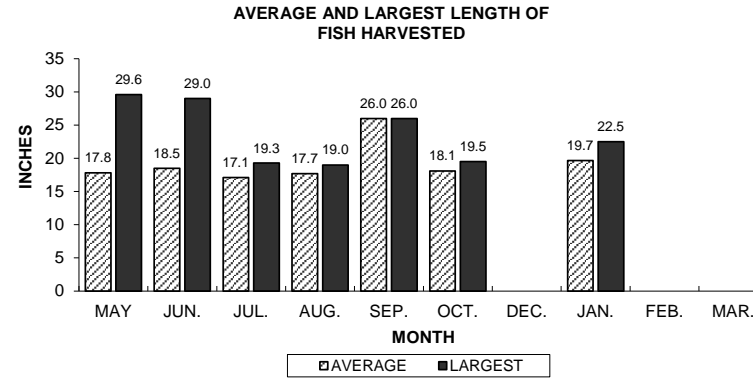
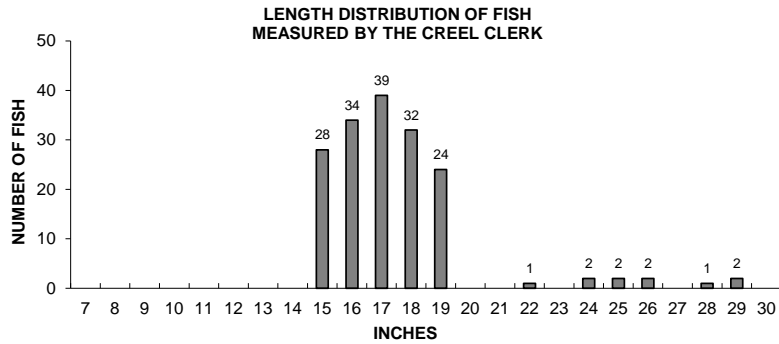
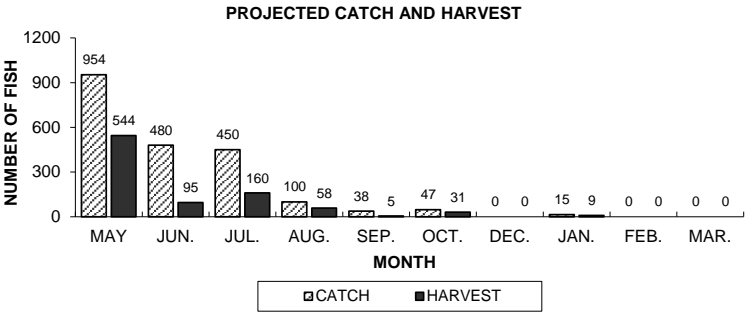
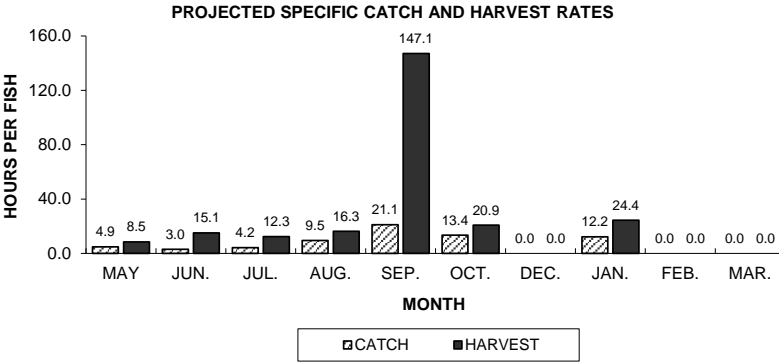
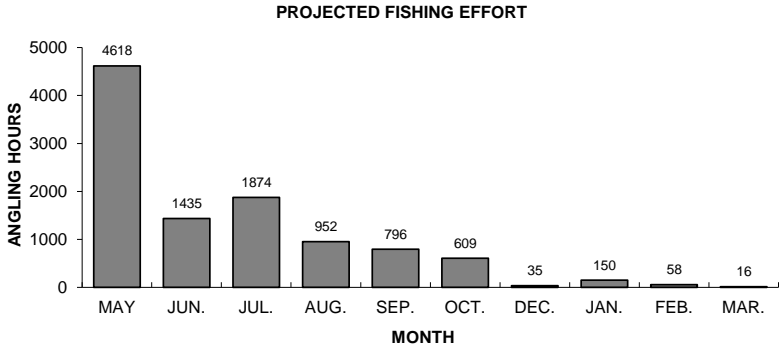
\*\* A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 2013-14

<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	14080	55.9%	4289	3.3	2084	6.8	18.4
Northern Pike	445	1.8%	59	69.9	6	69.9	20.3
Muskellunge	1714	6.8%	6	285.7	0		
Smallmouth Bass	2566	10.2%	1183	3.2	4	714.3	19.3
Largemouth Bass	571	2.3%	41	28.7	0		
Lake Trout	1422	13.3%	514	4.4	6	250.0	31.5
Yellow Perch	632	5.7%	826	2.0	235	5.6	8.9
Bluegill	307	1.2%	130	2.5	34	9.0	7.4
Black Crappie	128	1.2%	17	7.6	17	7.6	10.5
Pumpkinseed	194	1.8%	3		3		6.8
Rock Bass	0	0.0%	3		3		7.0
Cisco	145	0.6%	170	4.3	24	6.1	8.9
Whitefish	2986	11.9%	1060	2.9	1001	3.0	16.7



# WALLEYE



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

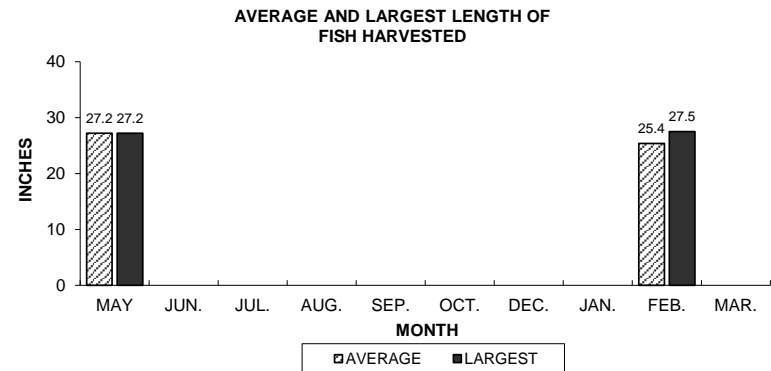
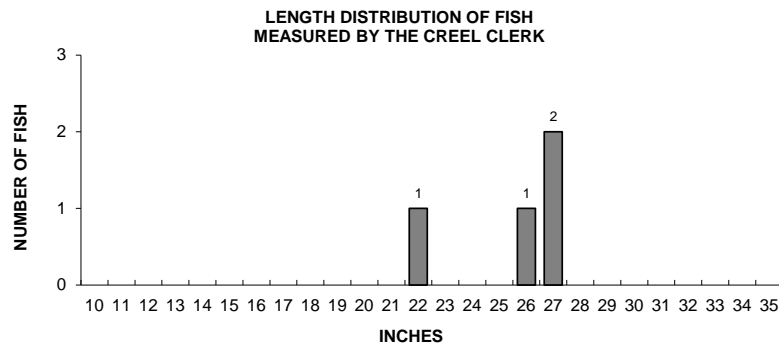
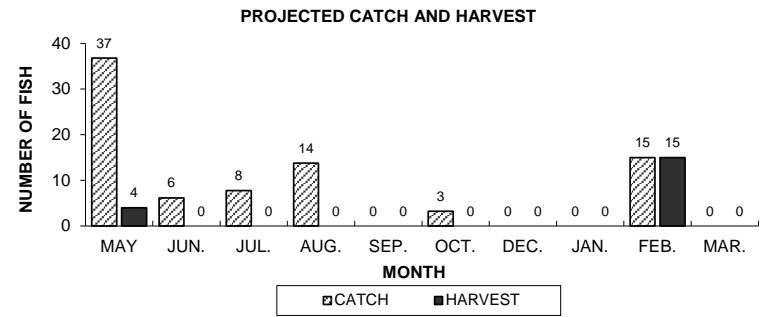
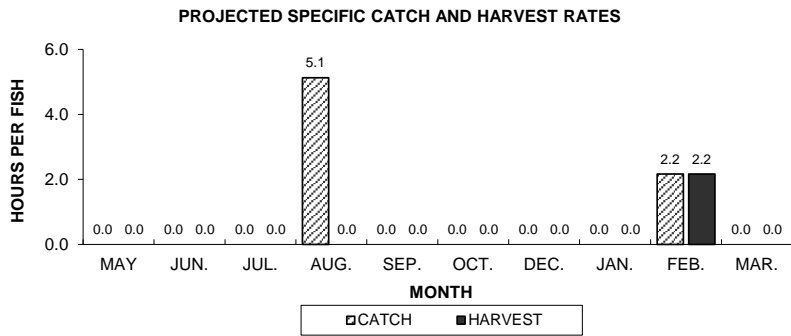
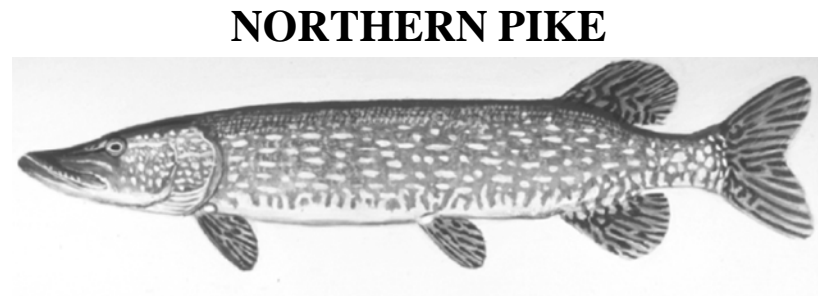
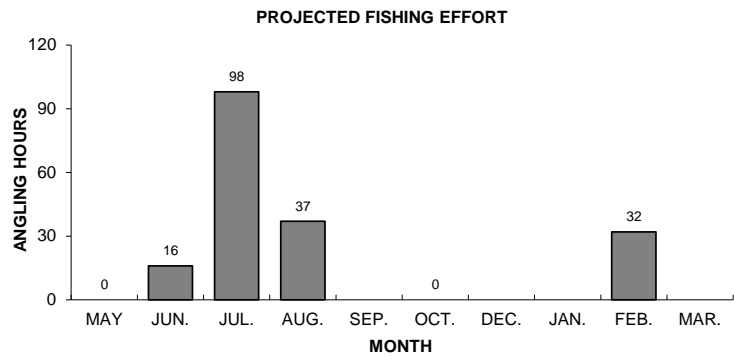
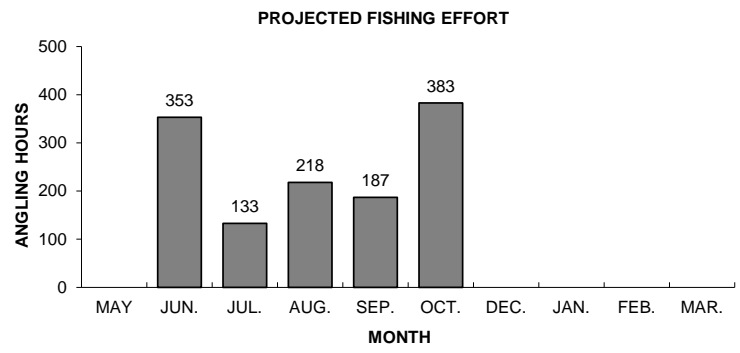


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.



# MUSKELLUNGE



Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# SMALLMOUTH BASS

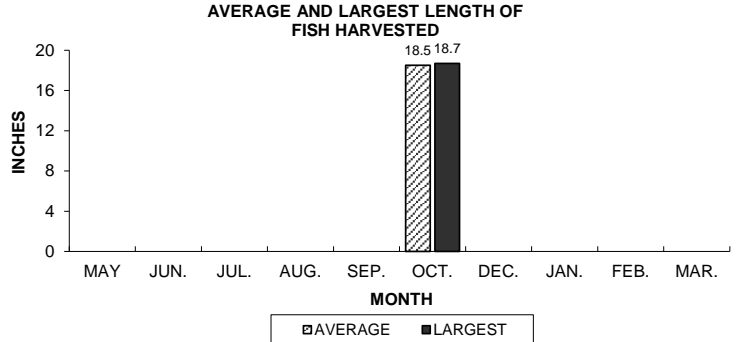
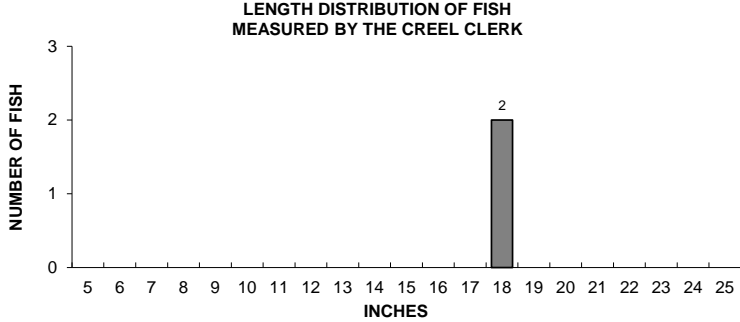
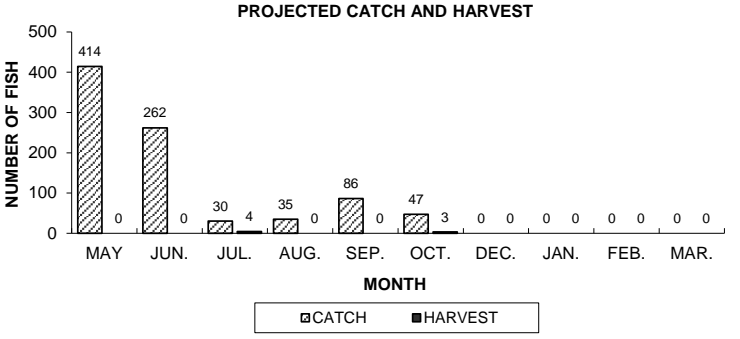
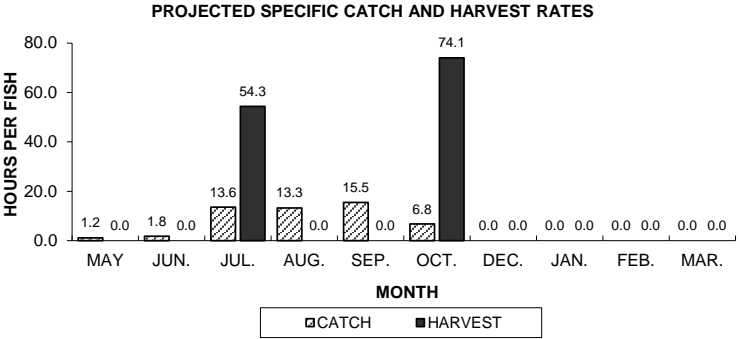
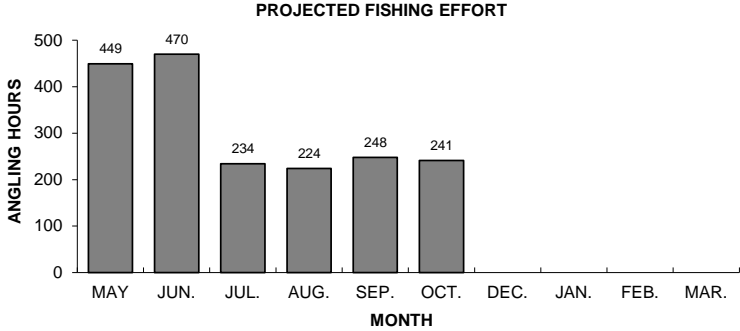
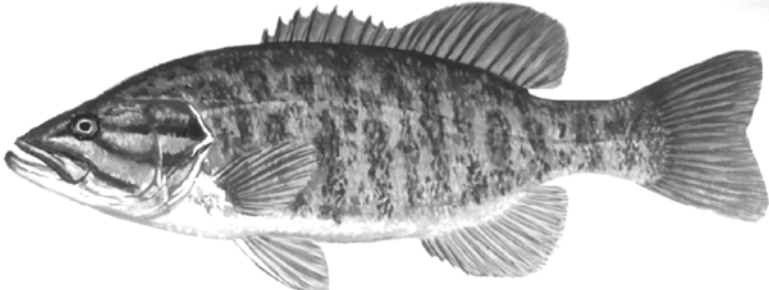
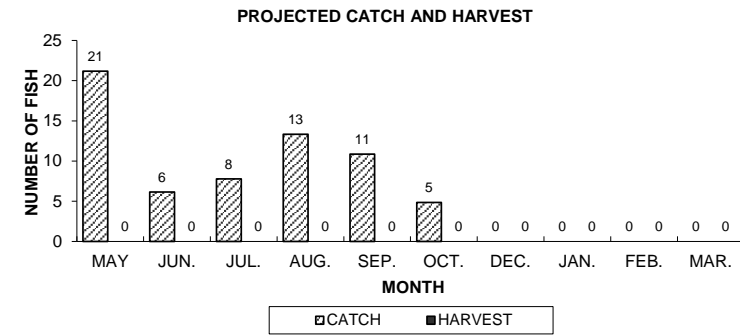
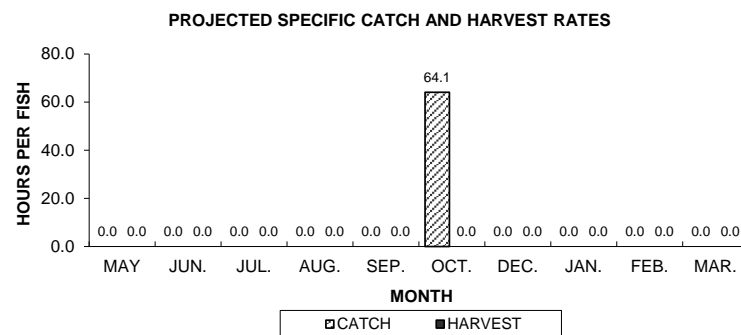
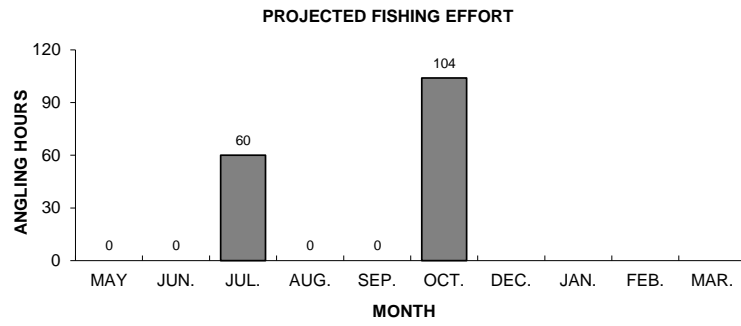
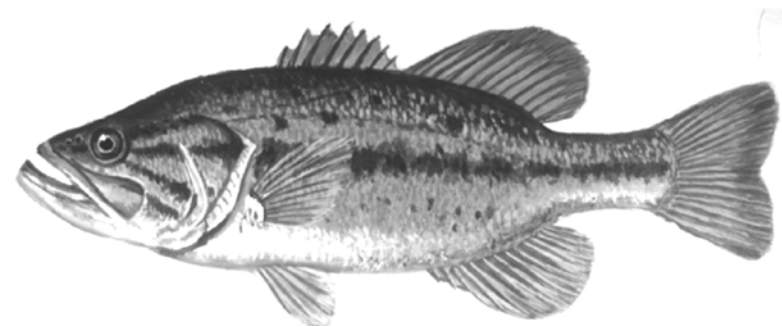


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# LARGEMOUTH BASS



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Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# LAKE TROUT

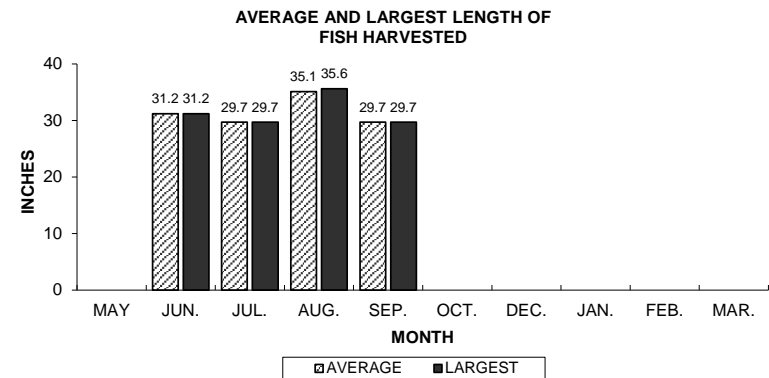
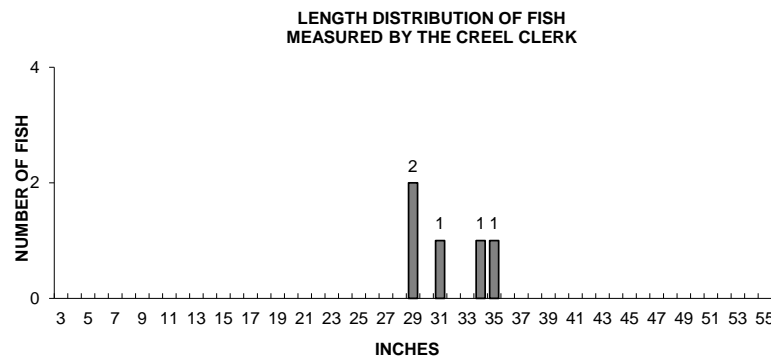
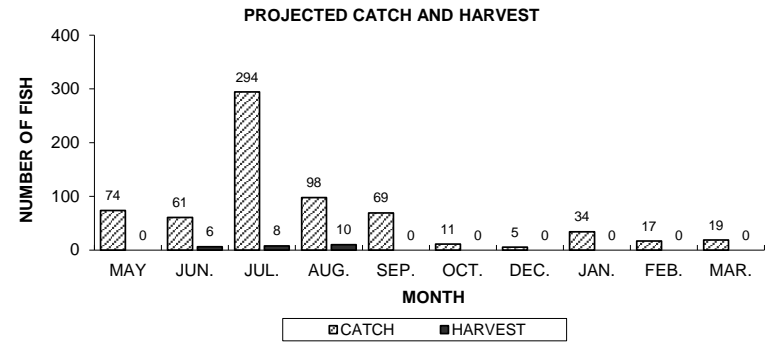
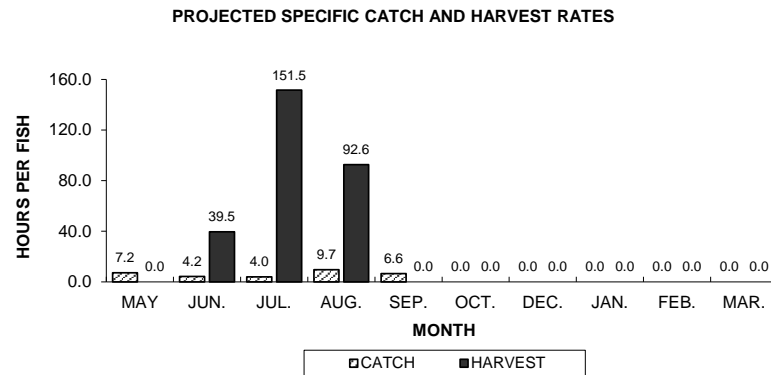
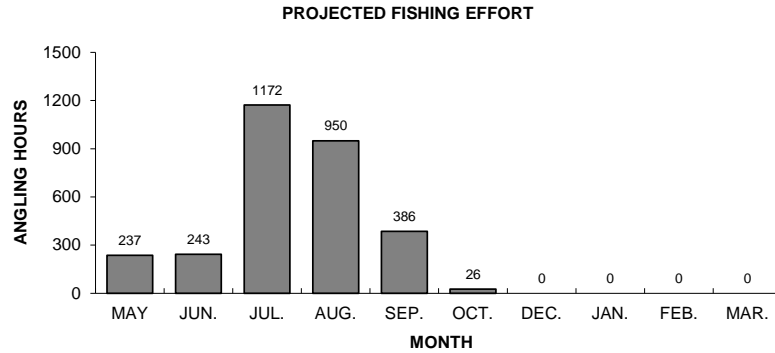


Figure 6. Lake Trout sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# CISCO OR LAKE HERRING

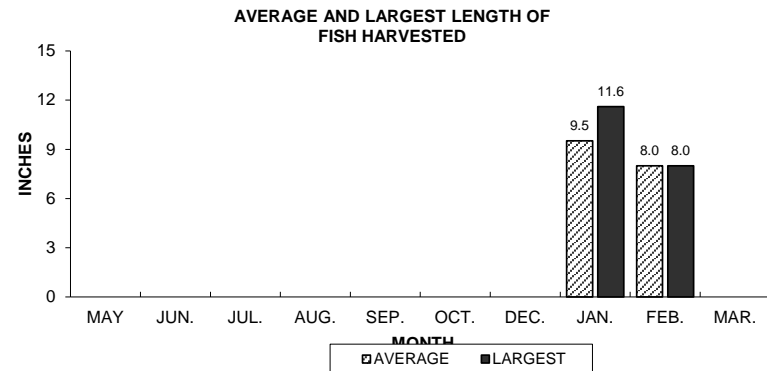
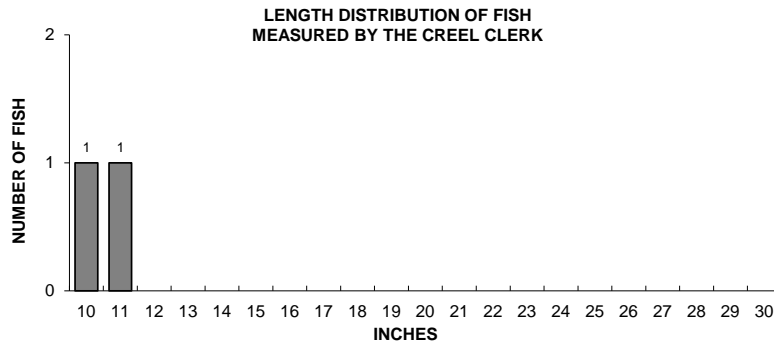
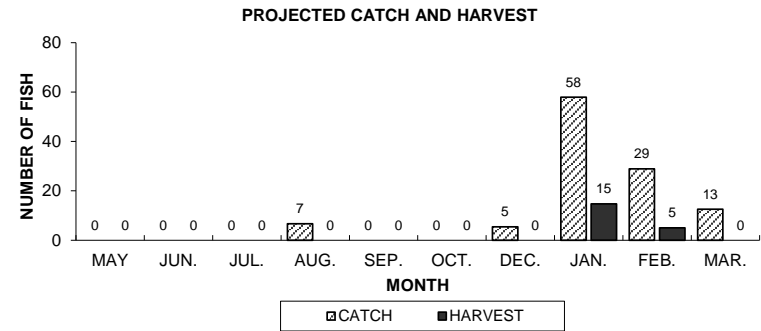
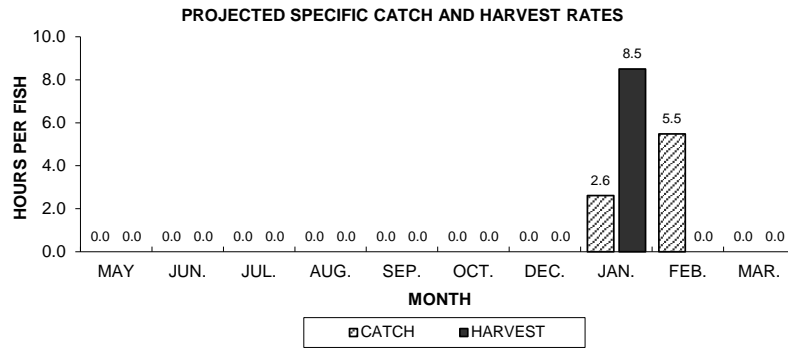
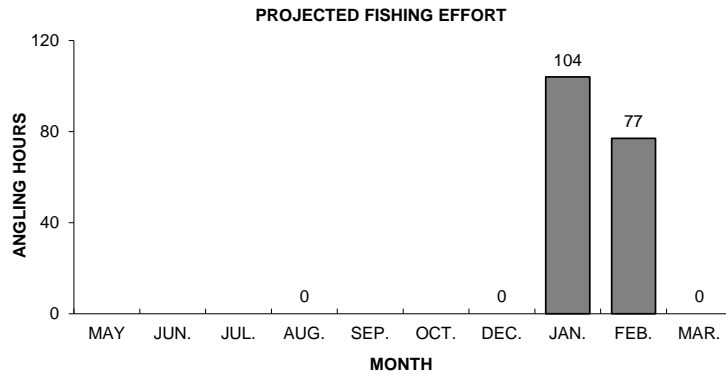


Figure 7. Ciscos sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# LAKE WHITEFISH

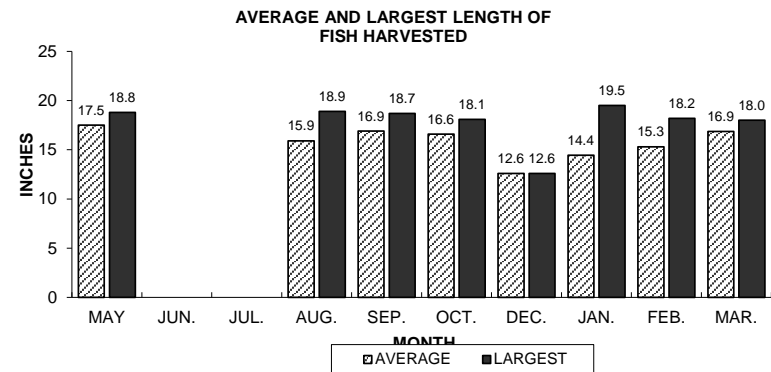
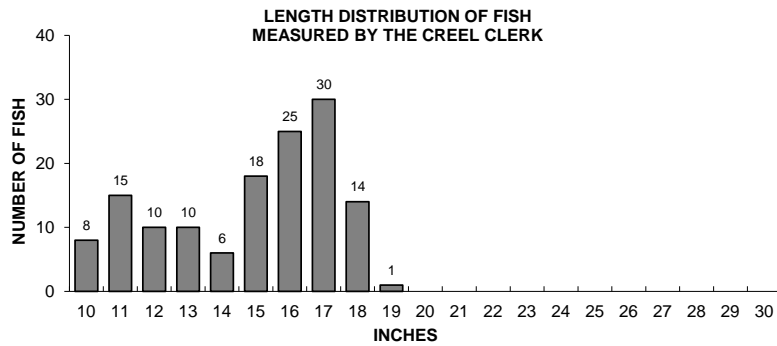
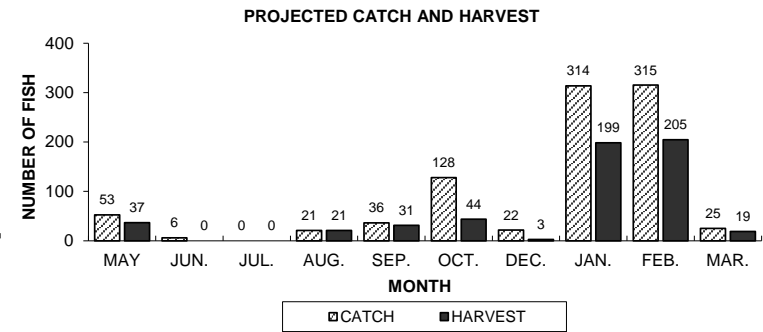
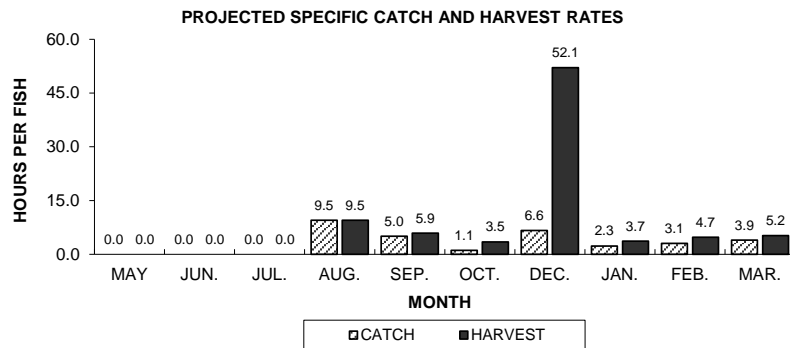
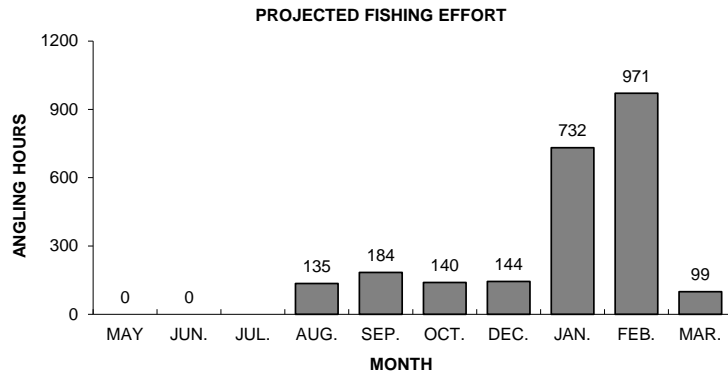


Figure 8. Lake Whitefish sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.



# YELLOW PERCH

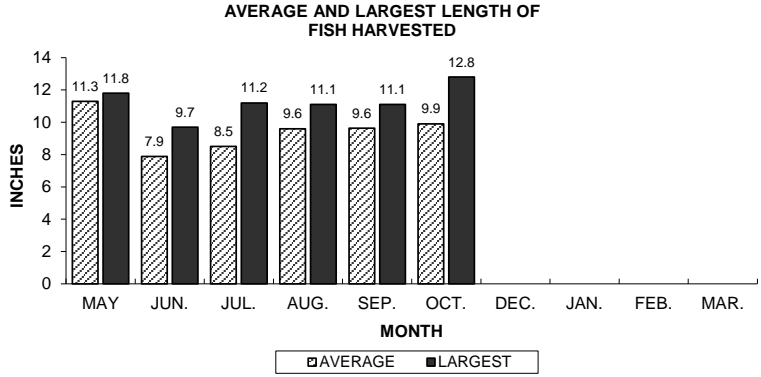
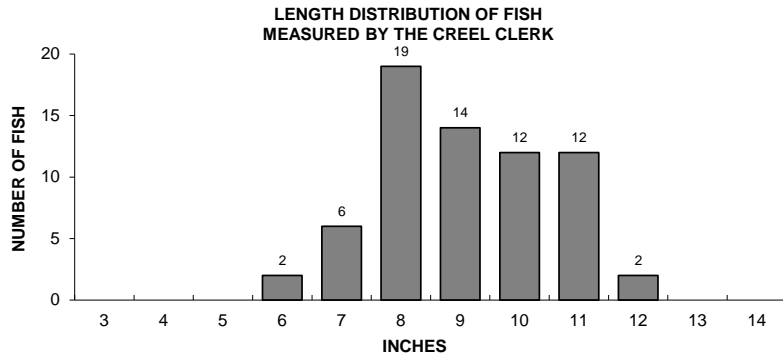
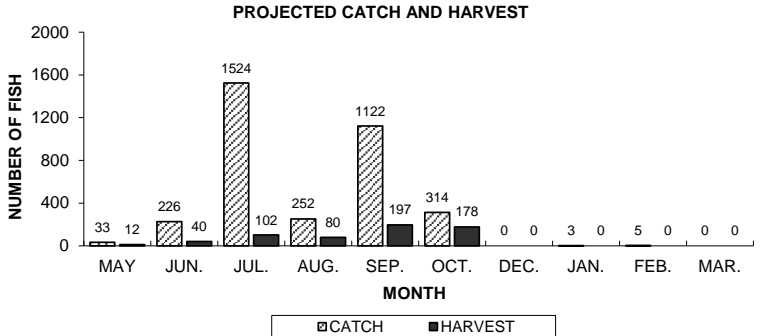
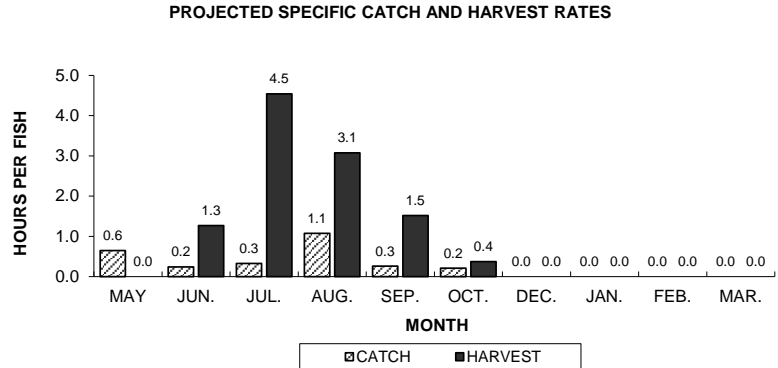
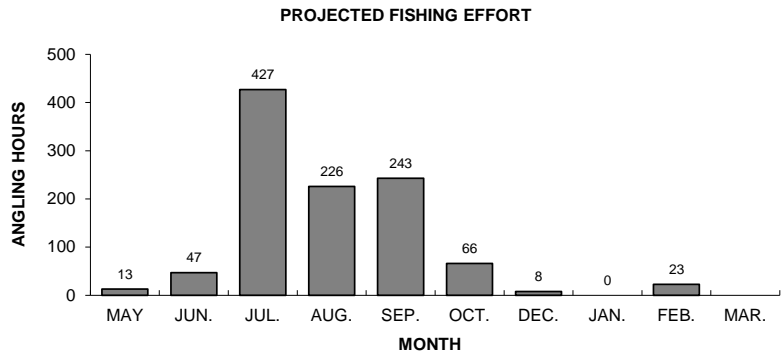


Figure 9. Yellow perch sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.

# BLUEGILL

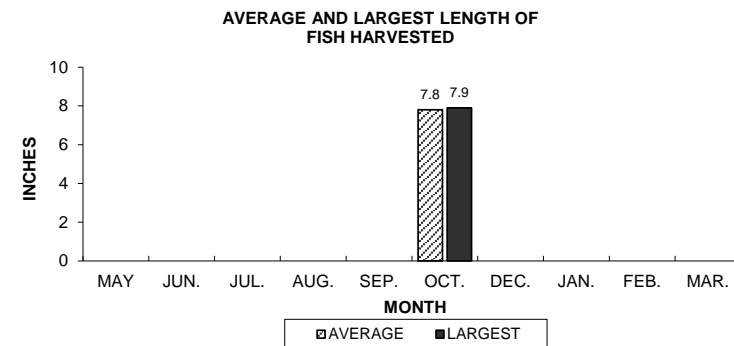
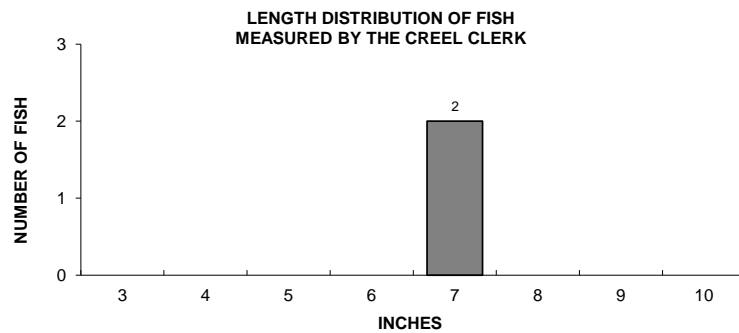
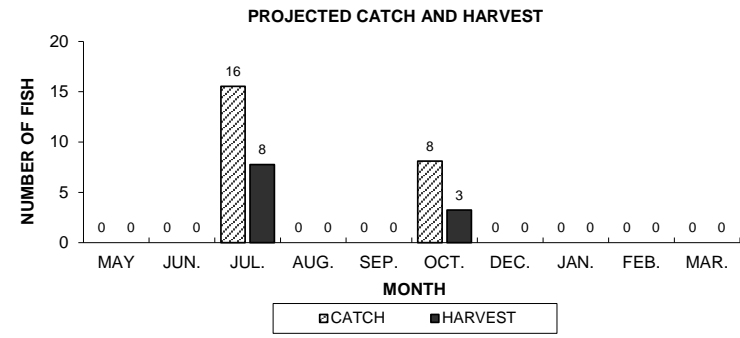
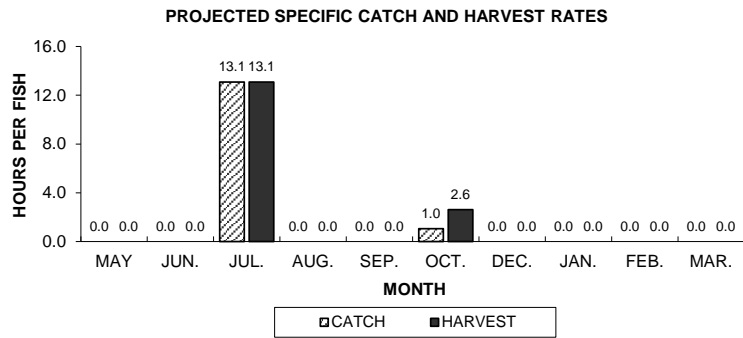
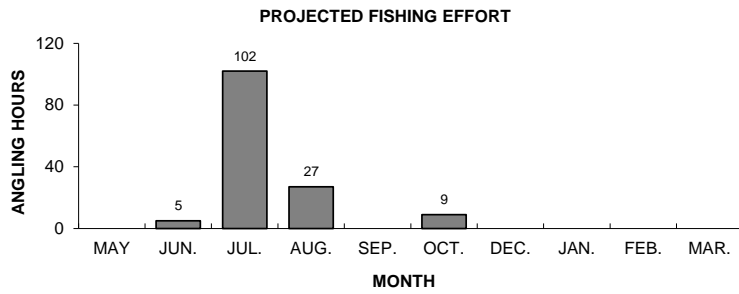
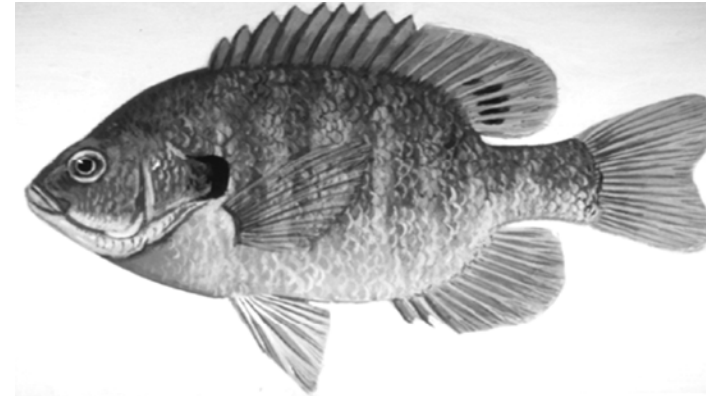


Figure 10. Bluegill sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2016-17 season.