

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

TROUT LAKE

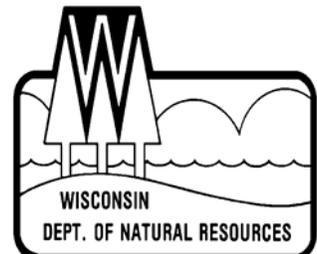
VILAS COUNTY

2007-08



Treaty Fisheries Publication

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CONTENTS

INTRODUCTION	1
GENERAL LAKE INFORMATION	2
Location	2
Physical Characteristics	2
Seasons Surveyed	2
Weather	2
Sportfishing Regulations.....	2
SPECIES CATCH AND HARVEST INFORMATION	2
CREEL SURVEY RESULTS AND DISCUSSION	3
Survey Logistics	3
General Angler Information.....	3
SPECIES INFORMATION	3-4
ACKNOWLEDGMENTS	5

SUMMARY TABLES

Table 1. Sportfishing effort summary	6
Table 2. Creel survey synopsis	7
SPECIES CATCH AND HARVEST INFORMATION	
Gamefish	
Figure 1. Walleye.....	8
Figure 2. Northern Pike	9
Figure 3. Muskellunge	10
Figure 4. Smallmouth Bass	11
Figure 5. Largemouth Bass	12
Figure 6. Lake Trout.....	13
Panfish	
Figure 6. Yellow Perch	14
Figure 7. Bluegill	15
Figure 9. Rock Bass	16
Other Species	
Figure 10. Cisco	17
Figure 11. Lake Whitefish	18

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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 good 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). But 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 harvest to assess its impact on the fishery. But because it would be highly impractical and very costly to conduct a complete census of every angler who fishes on a lake, 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 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, except during the month of 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 numbers of anglers on a lake at predetermined times, and to interview anglers who have completed their fishing trip to collect data on what species they fished for, catch, harvest, lengths of fish harvested, marks (finclips 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 projections of total catch and harvest of each species, catch and harvest rates, and total fishing effort, by month and for the year in total. Keep in mind that these are only projections based on the best information available, and not a complete accounting of effort, catch, and harvest. Accurate projections 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 projections of:

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 are a physical description of the lake; discussion of results of the survey; and detailed summaries, by species, of fishing effort, catch and harvest.

GENERAL LAKE INFORMATION



Trout Lake

Location

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

Physical Characteristics

Trout Lake is a 3,816-acre drainage lake with a maximum depth of 117 feet and a mean depth of 49 feet making it the largest and deepest lake in Vilas County. Littoral substrate consists primarily of sand, gravel, and rubble, with lesser amounts of boulder and muck. Trout Lake is moderately fertile, with slightly alkaline water of high clarity. Relative density of aquatic plants in Trout Lake is low.

Seasons Surveyed

The period referred to in this report as the 2007-08 fishing season ran from May 5, 2007 through March 2, 2008. The open water creel survey ran from May 5 through October 31, 2007 and the ice fishing creel

survey ran from December 1, 2007 through March 1, 2008.

Weather

Ice-out on Trout Lake was around April 24, 2007, which is considered normal for northern Wisconsin. Spring and summer weather was hot and dry. Fishable-ice formed on Trout Lake around mid December.

Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Trout Lake during the 2007-08-fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth & Smallmouth Bass	5/05-6/15	Catch&Release	
	6/16-3/02	1	18"
Musky	5/26-11/30	1	45"
Northern Pike	5/05-3/02	5	none
Walleye	5/05-3/02	3	15"
Panfish	all year	25	none
Lake Trout	5/05-09/30	1	30"
Lake Whitefish	all year	10	none
Rock Bass	all year	none	none

SPECIES CATCH AND HARVEST INFORMATION

Angling information is summarized for each species (Figures 1-12) with effort and/or catch information. Information presented about species whose fishing season extends beyond March 1 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

1. **PROJECTED FISHING EFFORT**
Total calculated number of hours during each month that anglers spent fishing for a species.
2. **PROJECTED 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 this species is reported.

3. PROJECTED 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 fifth time the department conducted a creel survey of Trout Lake. The two previous surveys took place in 2001 and 2004.

General Angler Information

Anglers spent 28,908 hours or 7.6 hours per acre fishing Trout Lake during the 2007-08 season (Table 1). That was much lower than the statewide average of 33.6 hours per acre

and the Vilas County average of 36.2 hours per acre. May and June were tied for the most heavily fished month (1.6 hours per acre).

SPECIES INFORMATION

Walleye (Table 2; Figure 1)

Walleye received the most fishing pressure in Trout Lake during the 2007 season. Anglers spent 20,505 hours targeting walleye compared to 14,911 in 2004. Walleye fishing effort was greatest in May (5,200 hours). December (231 hours) received the least walleye effort.

The 2007 Trout Lake adult walleye population was estimated at 3.1 fish per acre, 46 % higher than the 2004 estimate of 1.7 per acre. Anglers caught 6,694 and harvested 3,011 walleye from Trout Lake during the 2007 season. The 2007 projected harvest of walleye was 60% higher than the 2004 harvest of 1,191 fish. Highest catch (2,153 fish) occurred in June and harvest (1,302 fish) occurred in May. Anglers fished 3.1 hours to catch and 6.8 hours to harvest a walleye during 2007 season compared to 4.4 and 12.6 during the 2004 season.

The mean length of harvested walleye was 17.8 inches and the largest walleye measured was a 28.7-inch fish harvested in May.

Northern Pike (Table 2; Figure 2)

Northern pike currently are a minor part of the Trout Lake fishery with less than one percent of the directed effort (119 hours).

Total catch and harvest have declined from 118 caught and 35 kept in 2004 survey to 41 caught and only 4 kept during the 2007 survey.

Muskellunge (Table 2; Figure 3)

Muskellunge anglers spent 3,638 hours fishing Trout Lake during the 2007 season, down 28% from the 2004 survey.

Muskellunge fishing effort was greatest in July (739 hours). Although fishing effort has diminished during the past three surveys (2001, 2004 and 2007), adult muskellunge populations have stayed consistent at about 1 fish for every 20 acres of water.

During the 2007 survey anglers caught 93 muskies with no fish harvested. Highest catch (≈ 25 fish) occurred in June, July and August. Anglers fished 48 hours to catch a muskellunge during 2007.

Smallmouth Bass (Table 2; Figure 4)

Fishing effort targeted at smallmouth bass was 3,697 hours during the 2007 season. Smallmouth bass fishing effort was greatest in June (1,531 hours).

Catch was 2,156 fish and harvest was 16 fish. Highest catch (1,011 fish) and harvest (13 fish) occurred in June. Anglers fished 2.4 hours to catch a smallmouth bass during 2007.

Four smallmouth bass were measured during the survey, the largest was an 18.2-inch fish harvested in September.

Largemouth Bass (Table 2; Figure 5)

Only 113 hours of fishing effort was directed at largemouth bass during the 2007 season. Catch was 61 largemouth bass with a harvest of 4 fish. Highest catch (31 fish) occurred in July.

Panfish (Table 2; Figures 6-10)

Yellow perch was the most sought after panfish during the 2007 survey. Yellow perch comprised 81% of panfish effort, 88% of panfish catch, and 88% of panfish harvest. The mean length of harvested

yellow perch was 9.4 inches and the largest yellow perch measured was a 13.2-inch fish caught in May. Anglers fished 54 minutes to catch and 2.5 hours to harvest a yellow perch during 2007.

Other panfish caught during the survey, all in relatively low numbers, included bluegill, pumpkinseed and rock bass.

Lake Whitefish (Table 2; Figure 11)

Anglers fished 3,280 hours for lake whitefish during the 2007 season, which was about the same as the 2004 season (3,330 hours). Lake whitefish fishing effort was greatest in February (1,062 hours). May and June received no lake whitefish effort.

Catch was 1,669 fish and harvest 1,558 fish during the 2007 season, about 17% and 13% higher than the 2004 season. Highest catch (522 fish) and harvest (522 fish) occurred in October. Anglers fished 2.0 hours to catch and 2.2 hours to harvest a lake whitefish during 2007.

The mean length of harvested lake whitefish was 15.8 inches and the largest lake whitefish measured was a 23.0-inch fish harvested in October.

Lake Trout (Table 2; Figure 12)

There were 1,322 hours of lake trout fishing effort during 2007, almost identical to the 1,294 hours of directed effort during the 2004 season. 2007 Lake trout fishing effort was greatest in August (427 hours).

The 2007 catch of lake trout was 461 fish with a harvest of 25 fish. The 461 lake trout caught was 35% higher than the 2004 catch of 299 fish. Anglers fished less time to catch (7.0 hours) a lake trout in 2007 than the 2004 season (8.0 hours). In 2007 it was estimated to take 79.5 hours to harvest a lake trout.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the technical staff of the Treaty Fisheries Unit. Treaty staff responsible for ensuring completion of this survey include Jeff Blonski, Joelle Underwood, Steve Kramer, Jason Halverson and Tim Tobias. Dean Johnson and Mike Rynski were the creel clerks on Trout Lake during the survey period.

We also thank fish management staff who worked in conjunction with the creel survey performing in-water sampling of the fish community.

We also 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.

This creel survey report was reviewed by Mike Coshun, Steve Gilbert and Dennis Scholl 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. Requests should be directed to:

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Table 1. Sportfishing effort summary, Trout Lake, 2007-08 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	6254	1.6	5.4	5.8
June	6046	1.6	7.1	6.1
July	5082	1.3	7.7	6.4
August	4357	1.1	6.7	5.4
September	2446	0.6	4.2	3.8
October	2190	0.6	2.0	1.6
December	423	0.1	0.5	1.7
January	860	0.2	0.7	1.5
February	1073	0.3	0.9	1.3
March	178	0.0	0.1	**
*Summer Total	26374	6.9	34.1	29.1
*Winter Total	2534	0.7	2.1	4.5
Grand Total	28908	7.6	36.2	33.6

*"Summer" is May-October; "Winter" is December-March

**Too few lakes have been surveyed in March to give a meaningful statewide average.

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 if you wish to compare effort on Trout Lake to other lakes.

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.

Statewide Average Hours/Acre is the average angler effort in hours per acre for inland lakes in the state surveyed between 1990 and 1995. This value can be used to compare Trout Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, Trout Lake, 2004-05 and 2007-08 fishing seasons.

CREEL YEAR: 2007-08

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	20505	60.98%	6694	3.1	3011	6.8	17.8
Northern Pike	119	0.35%	41		4		24.7
Muskellunge	3638	10.82%	93	48.1	0		
Smallmouth Bass	3697	10.99%	2156	2.4	16	232.6	17.2
Largemouth Bass	113	0.34%	61	3.8	4		19.0
Yellow Perch	841	2.50%	1465	0.9	371	2.5	9.4
Bluegill	53	0.16%	31	15.2	9	15.2	10.0
Lake Trout	1322	3.93%	461	7.0	25	79.4	31.6
Rock Bass	37	0.11%	159	0.5	40	1.0	9.0
Cisco	23	0.07%	43	3.9	6	3.9	9.6
Whitefish	3280	9.75%	1669	2.0	1558	2.2	15.8

* 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: 2004-05

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	14911	48.68%	3417	4.4	1191	12.6	19.5
Northern Pike	657	2.14%	118	24.0	35	24.0	26.8
Muskellunge	5047	16.48%	122	46.5	0		
Smallmouth Bass	3023	9.87%	1006	4.4	6	526.3	20.5
Largemouth Bass	387	1.26%	51	61.7	0		
Yellow Perch	1467	4.79%	610	3.0	345	4.8	9.0
Bluegill	256	0.84%	0		0		
Rock Bass	90	0.29%	166	1.3	166	1.3	9.0
Black Crappie	168	0.55%	0		0		
Lake Whitefish	3330	10.87%	1383	2.5	1350	2.5	15.0
Lake Trout	1294	4.22%	299	8.0	0		

WALLEYE

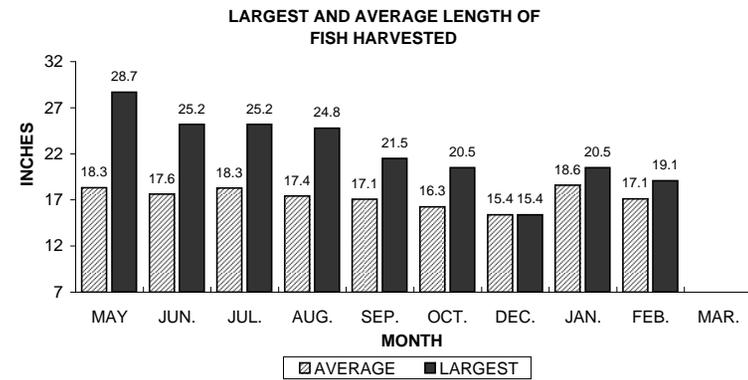
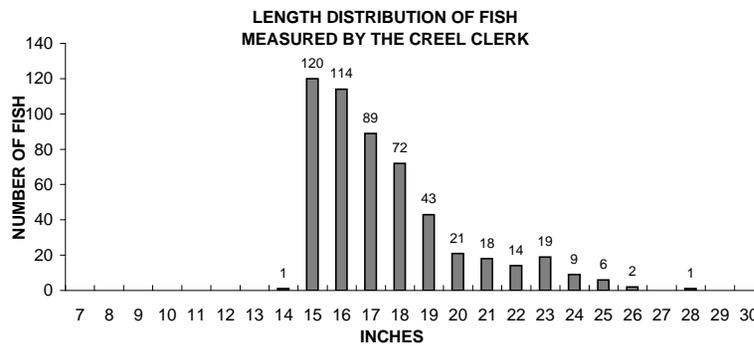
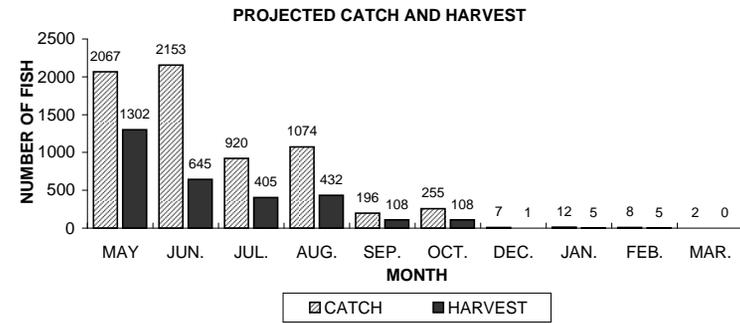
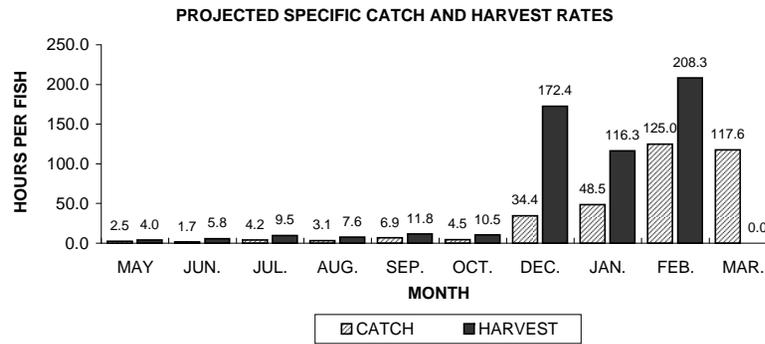
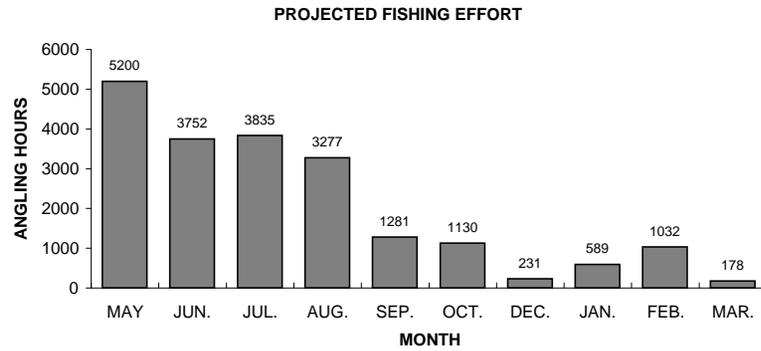
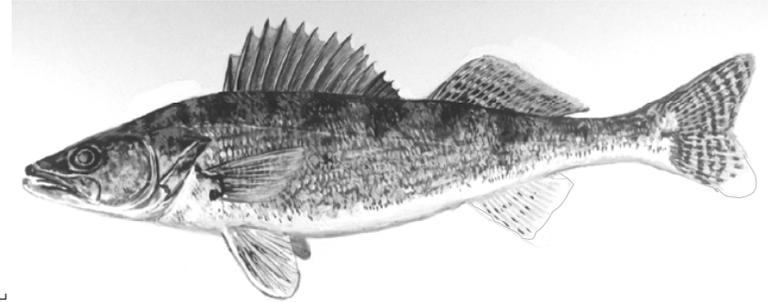


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

NORTHERN PIKE

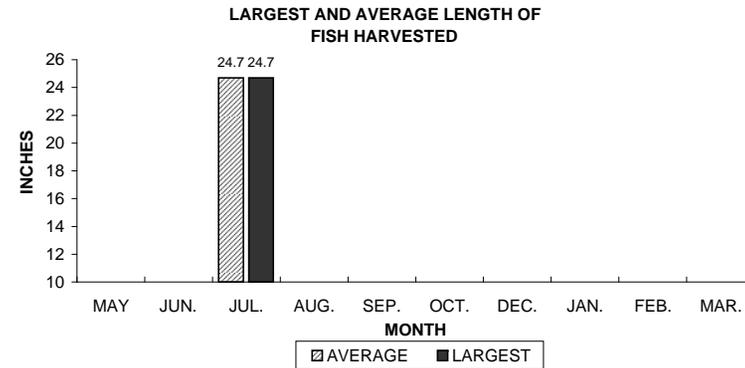
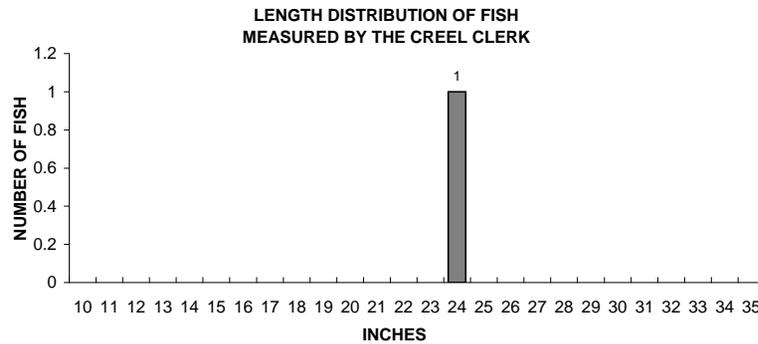
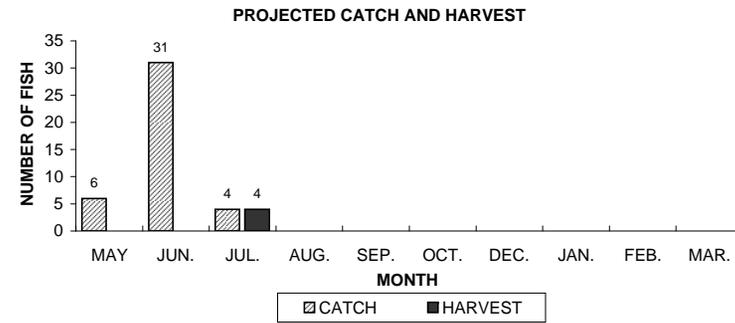
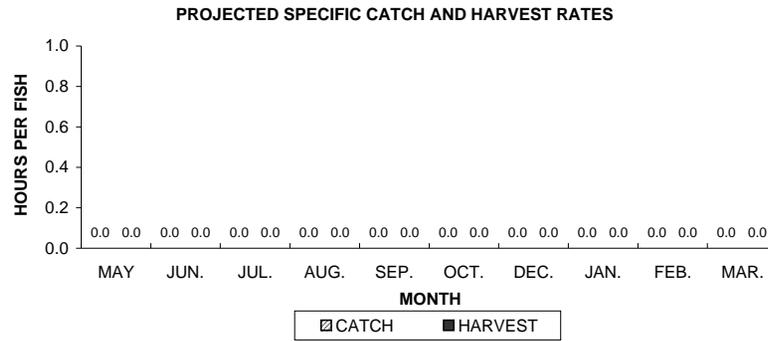
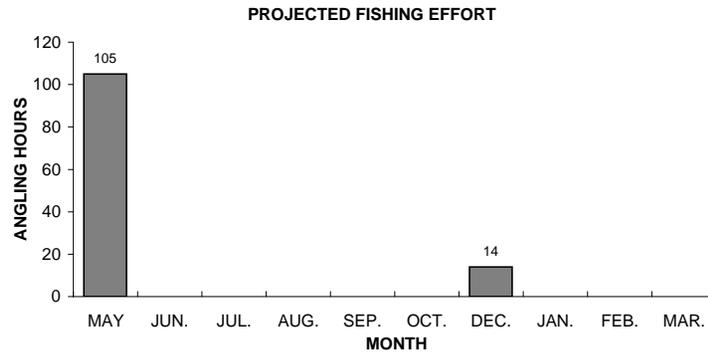
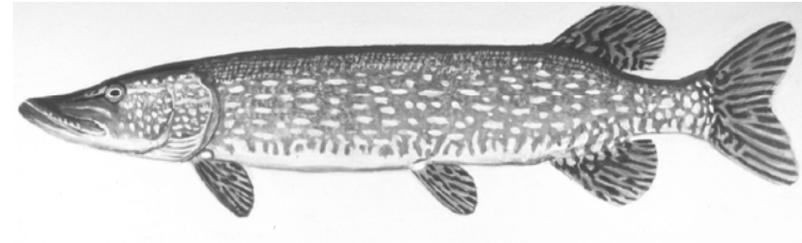


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

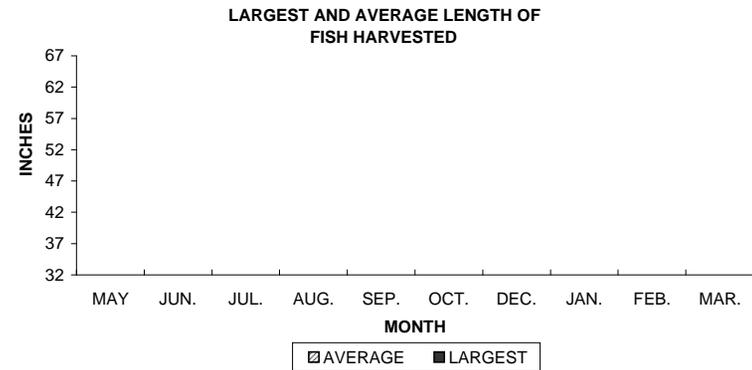
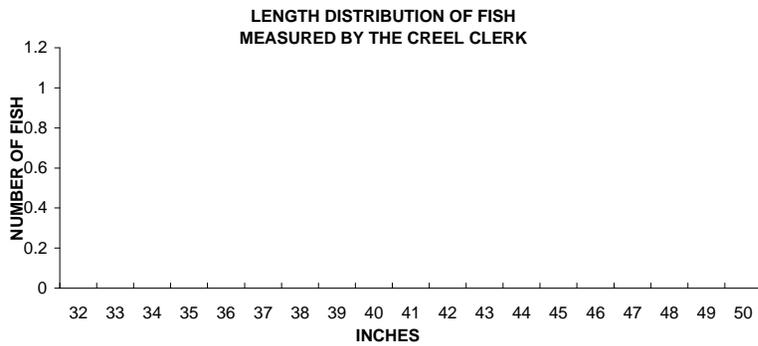
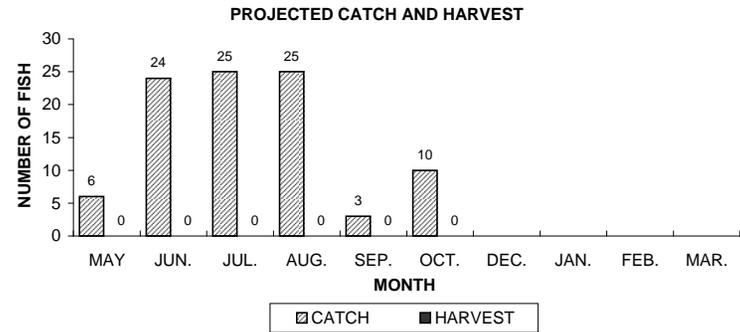
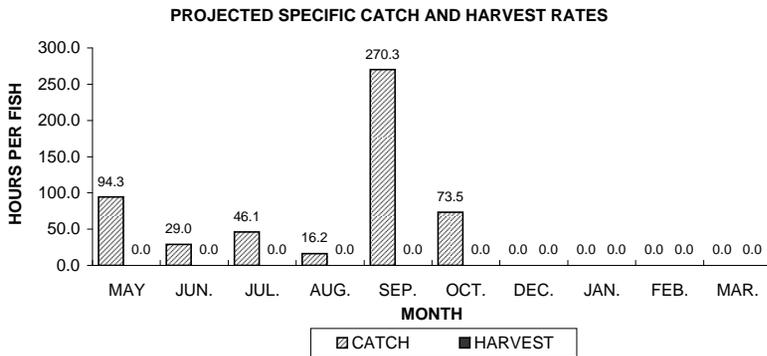
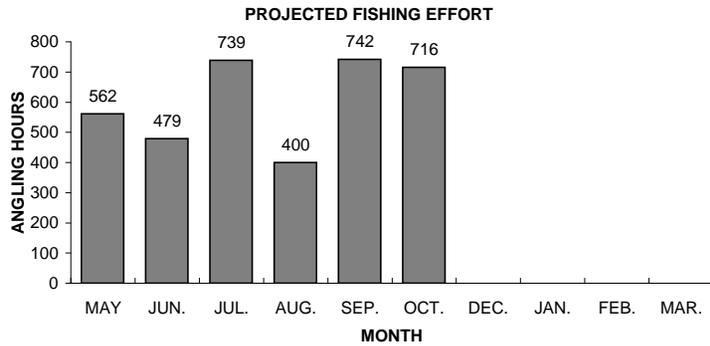


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

SMALLMOUTH BASS

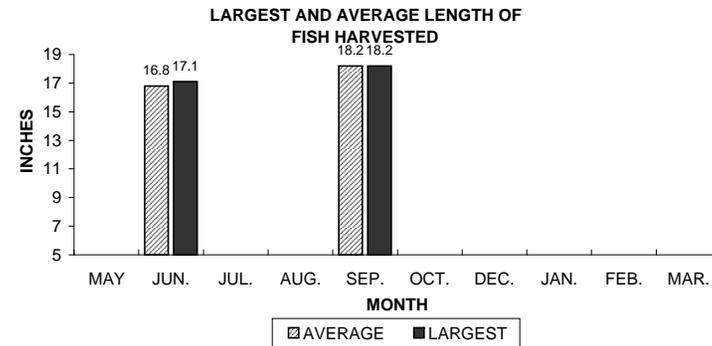
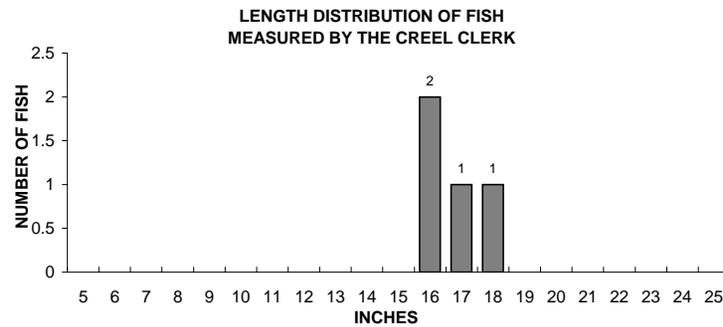
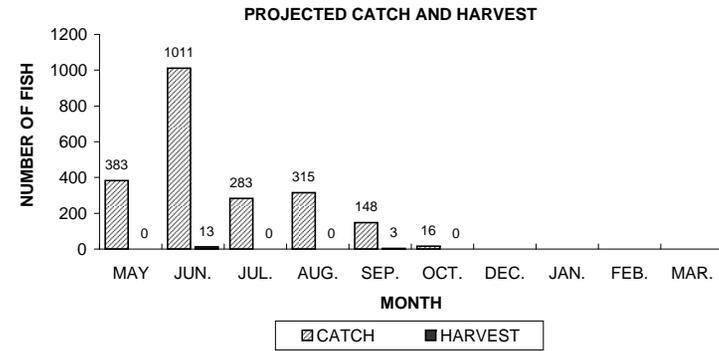
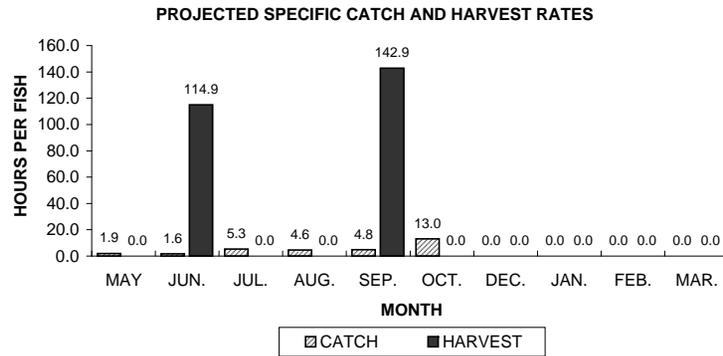
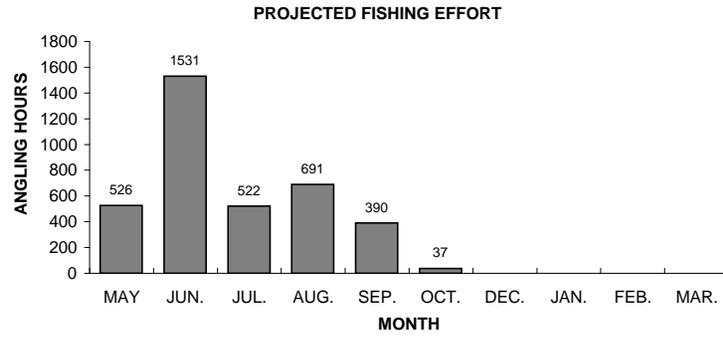
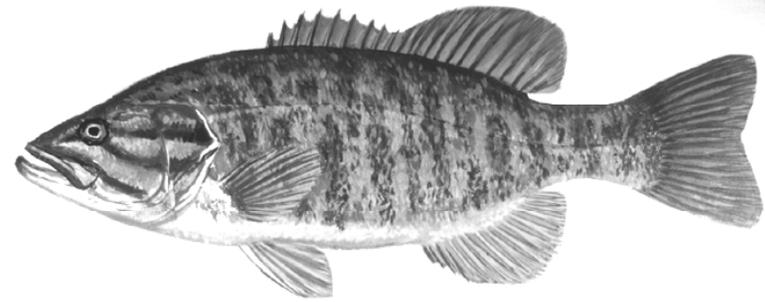


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

LARGEMOUTH BASS

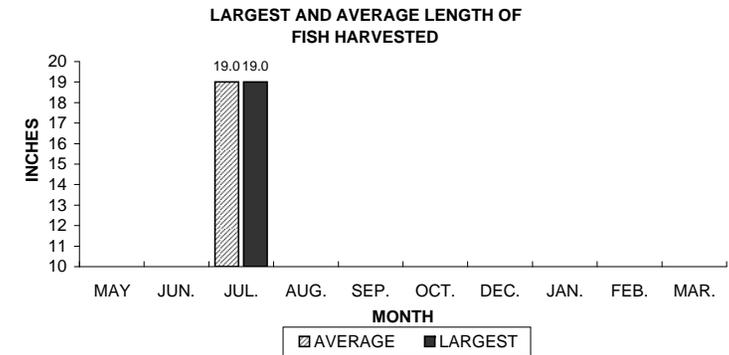
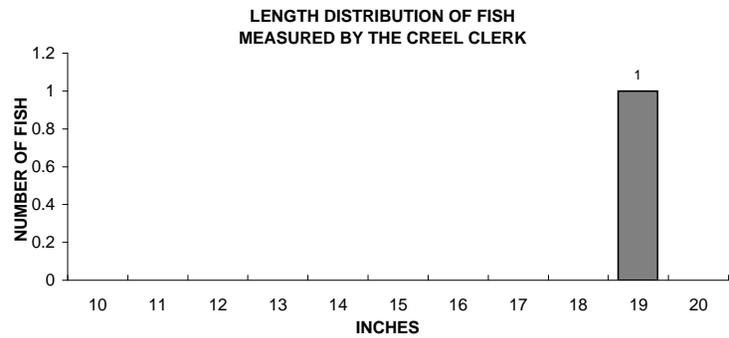
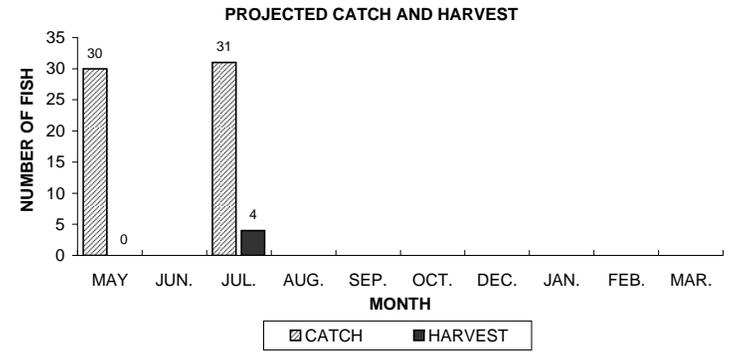
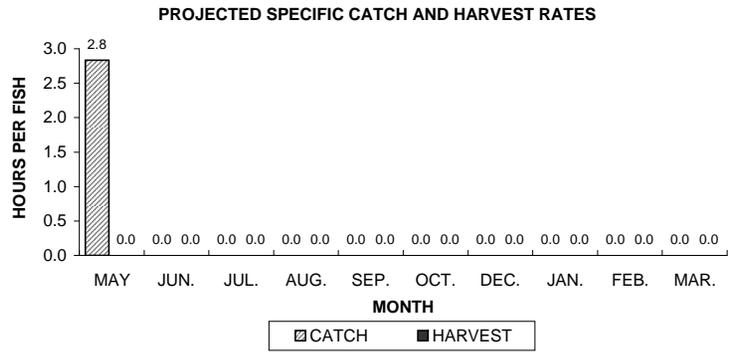
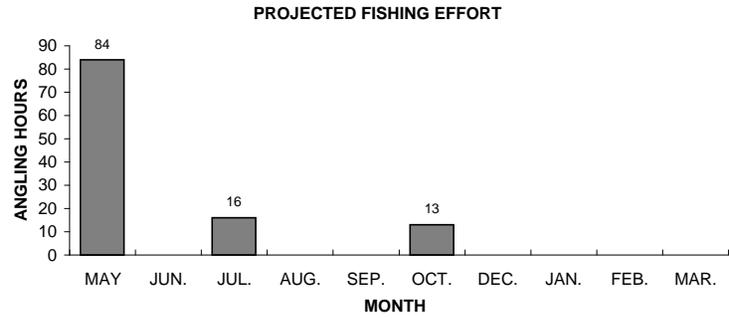
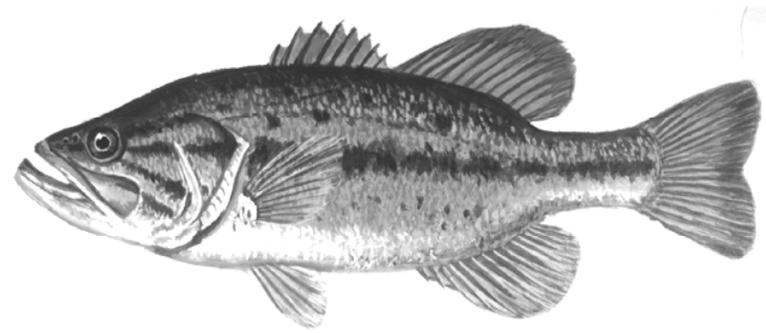


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

LAKE TROUT

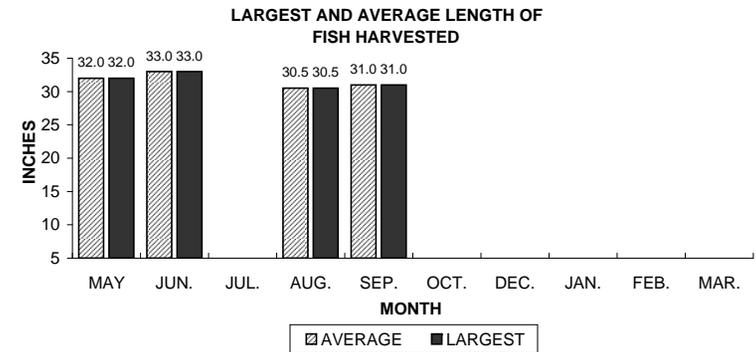
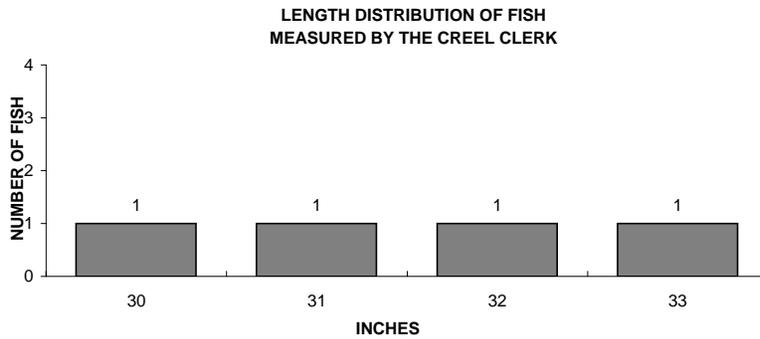
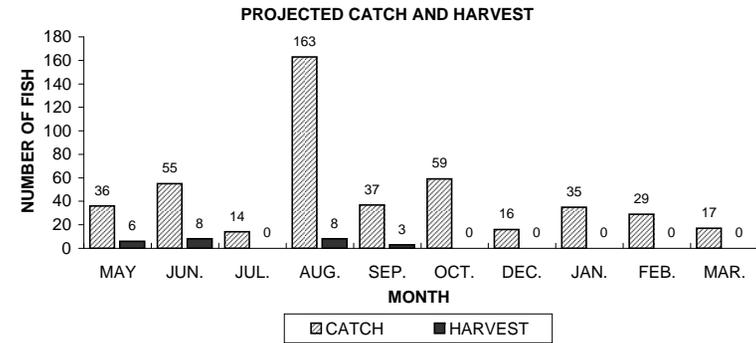
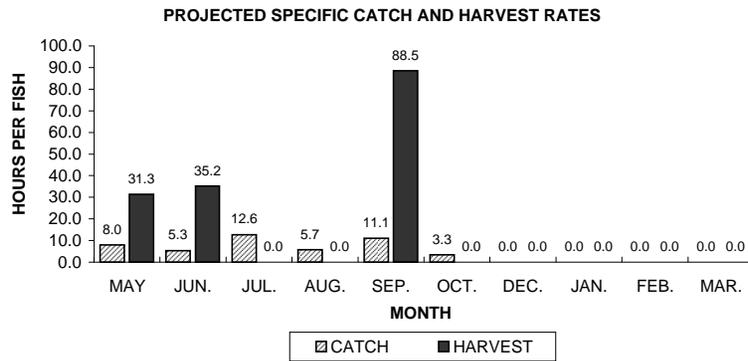
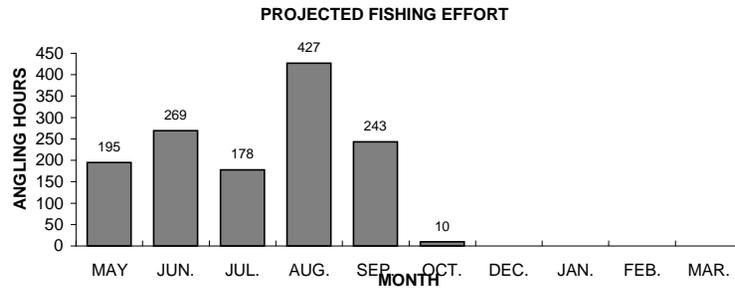


Figure 6. Lake Trout sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

YELLOW PERCH

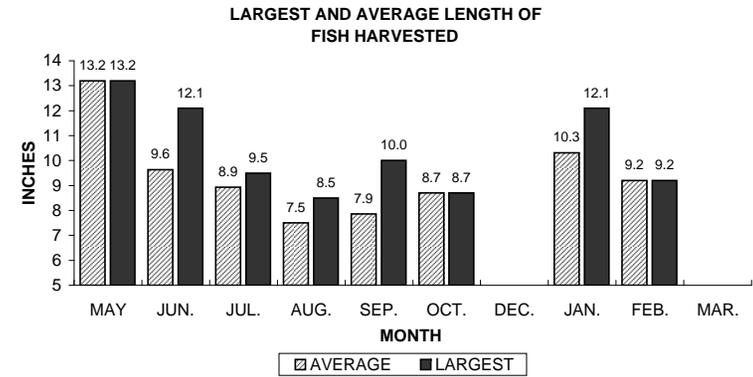
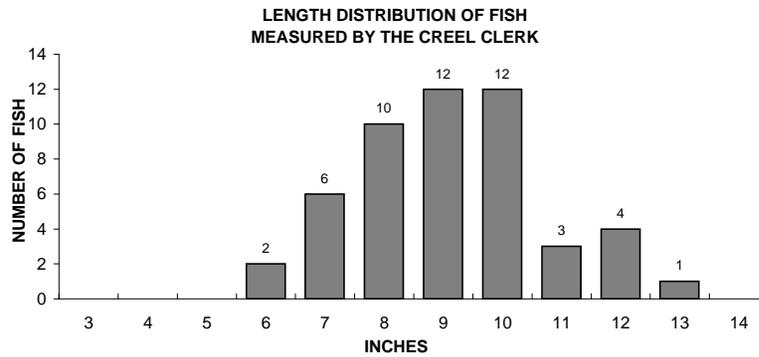
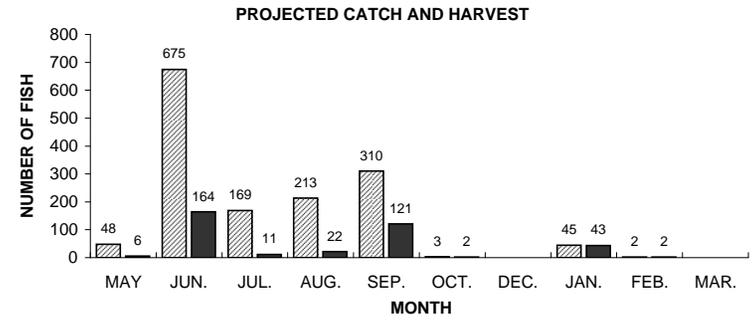
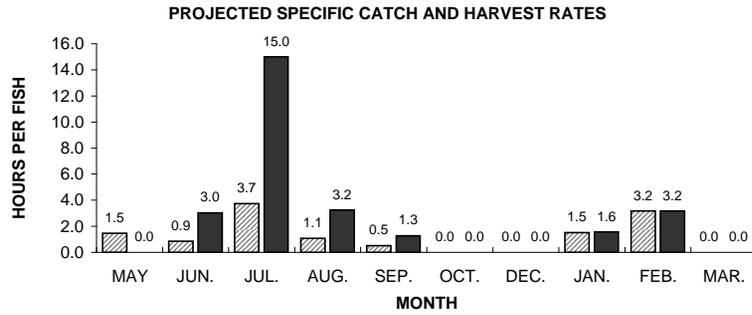
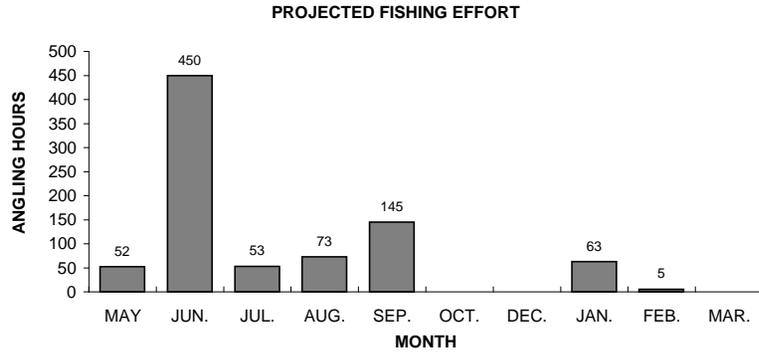
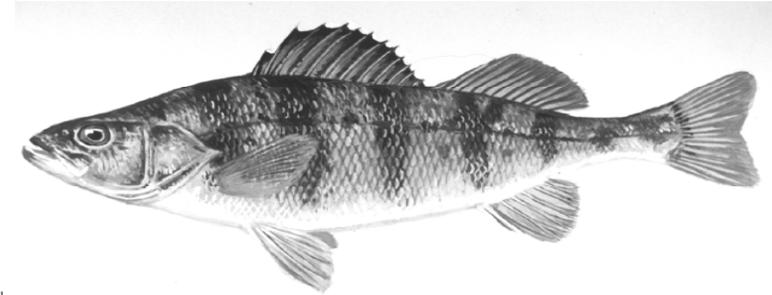


Figure 7. Yellow perch sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

BLUEGILL

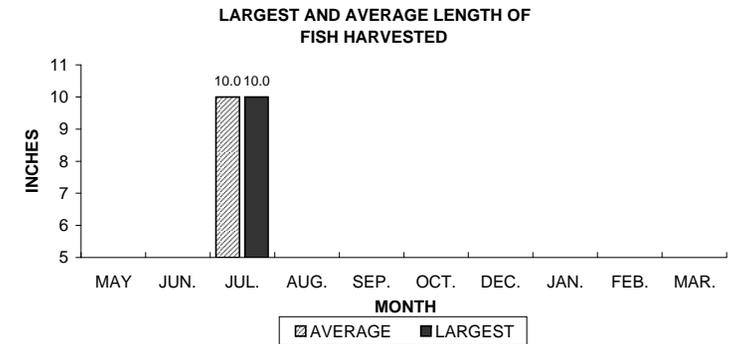
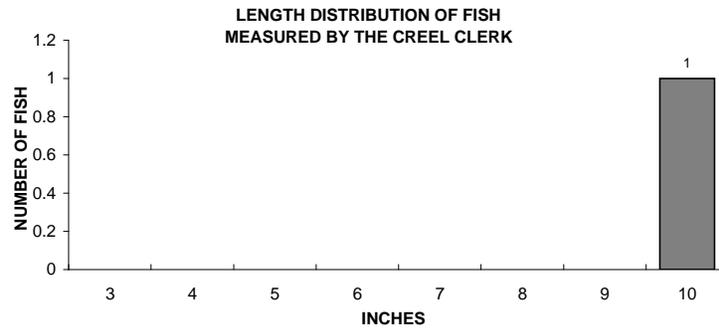
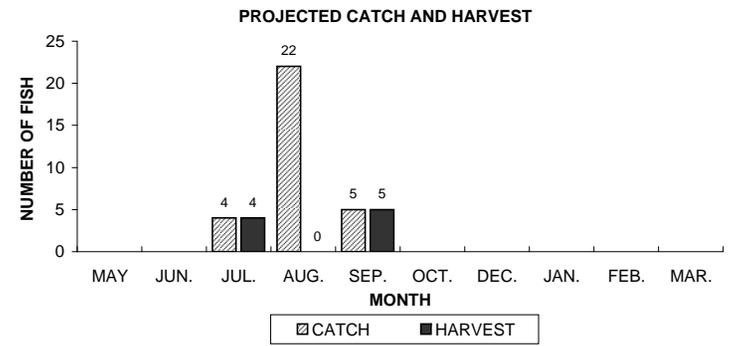
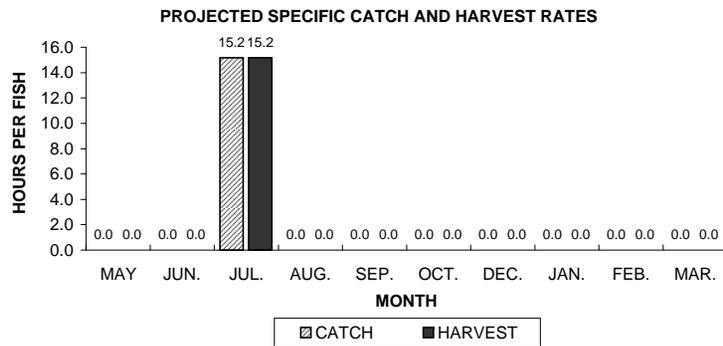
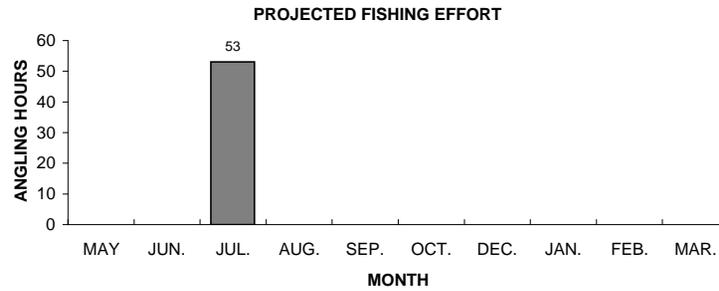
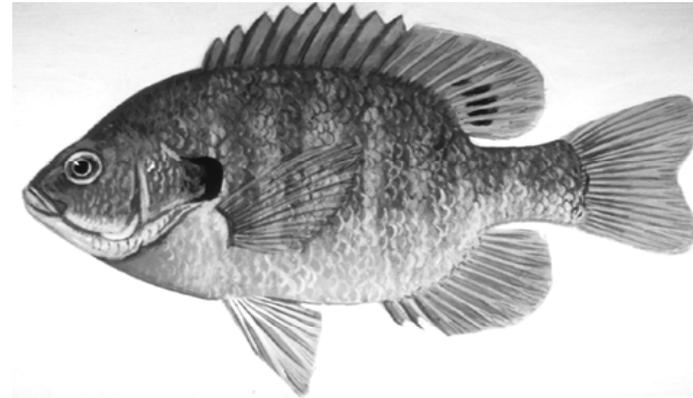


Figure 8. Bluegill sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

ROCK BASS

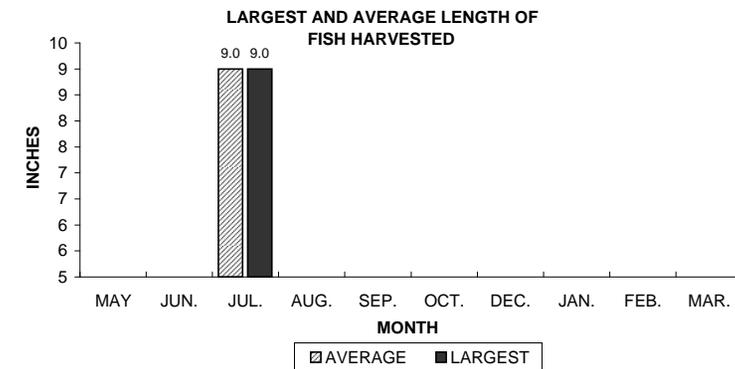
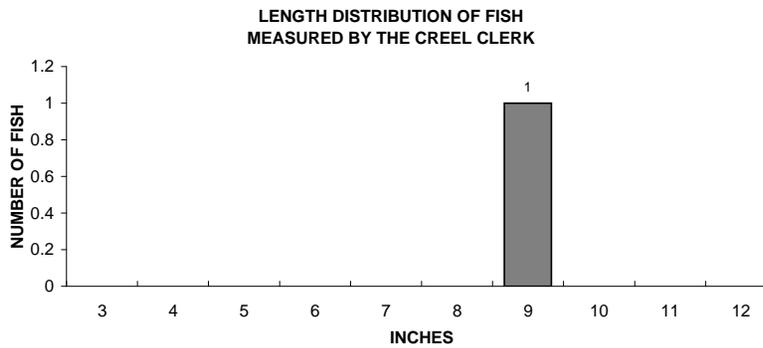
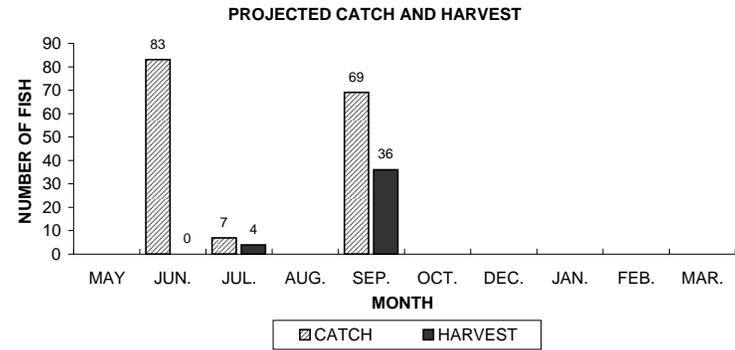
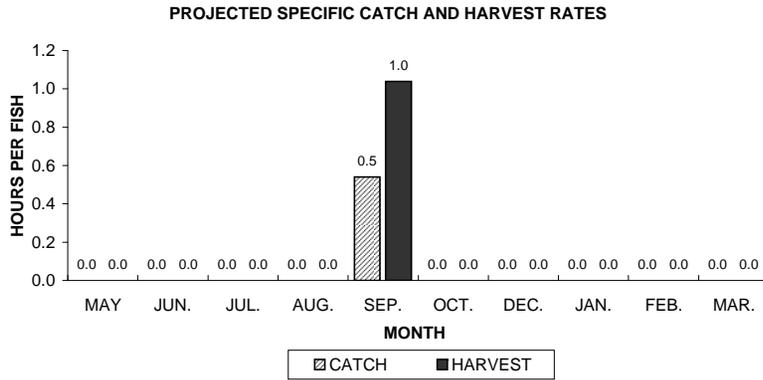
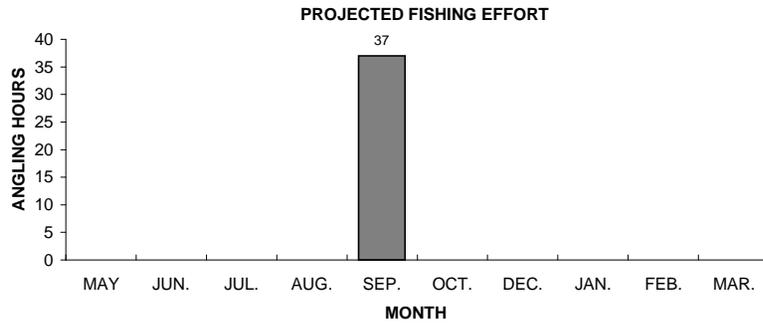
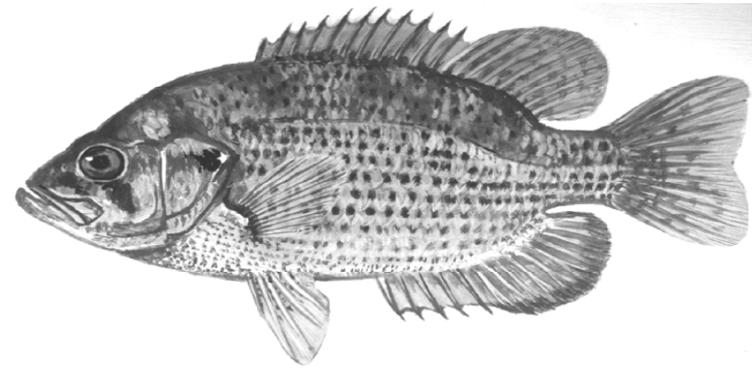


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

CISCO OR LAKE HERRING

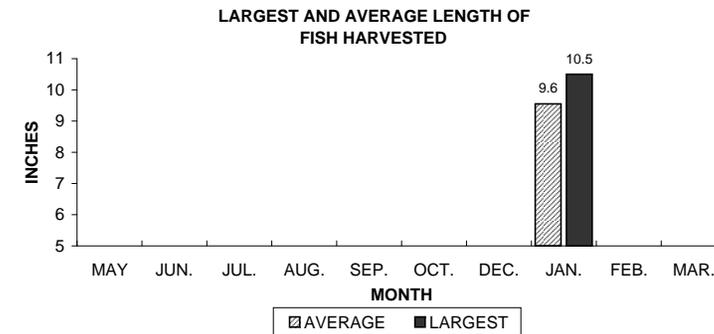
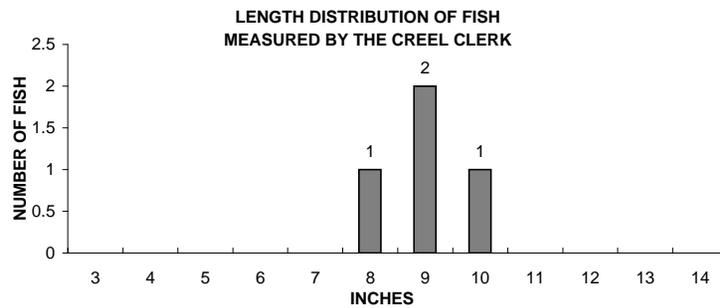
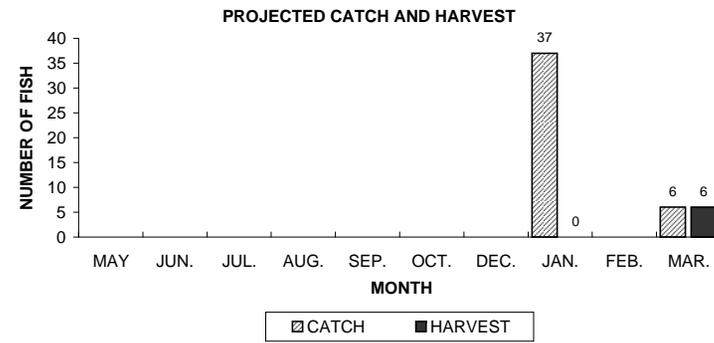
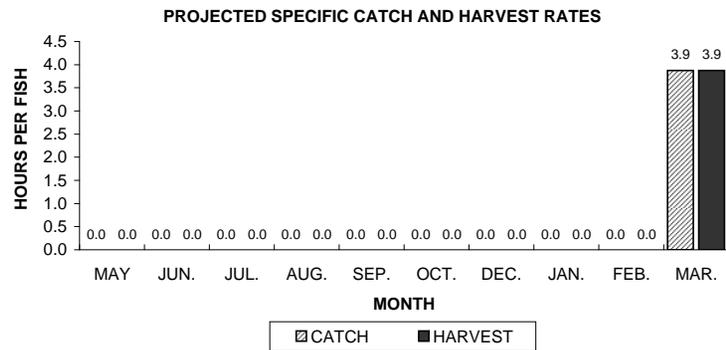
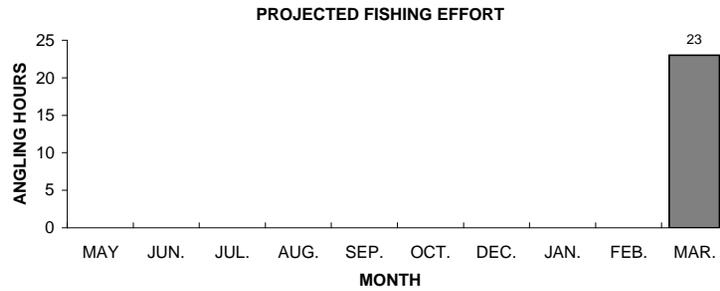
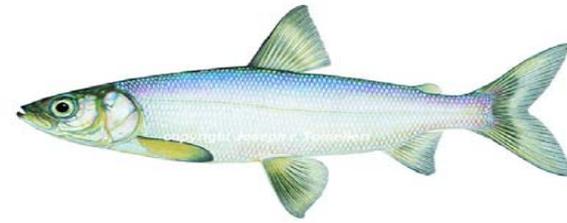


Figure 10. Cisco sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.

LAKE WHITEFISH

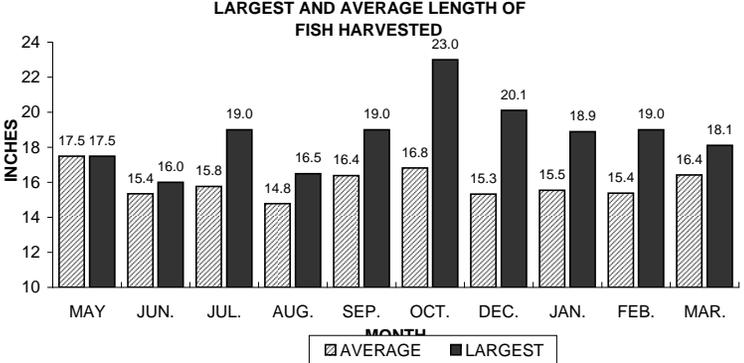
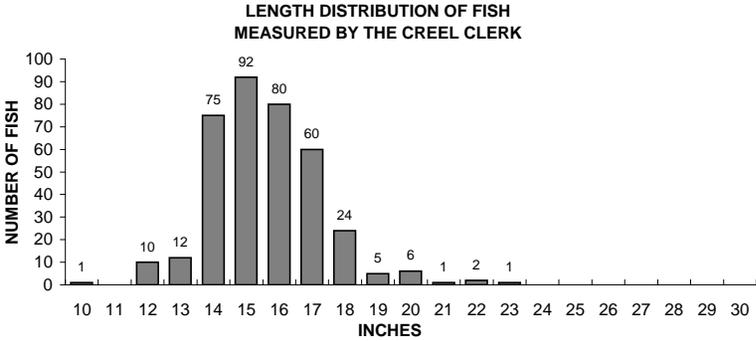
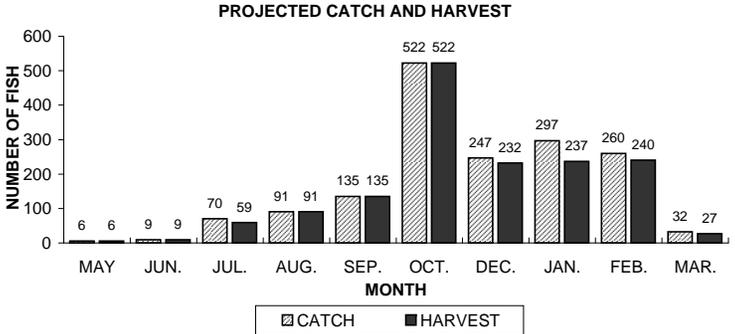
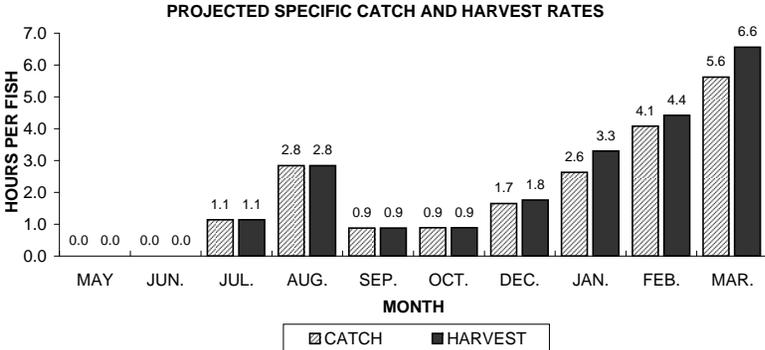
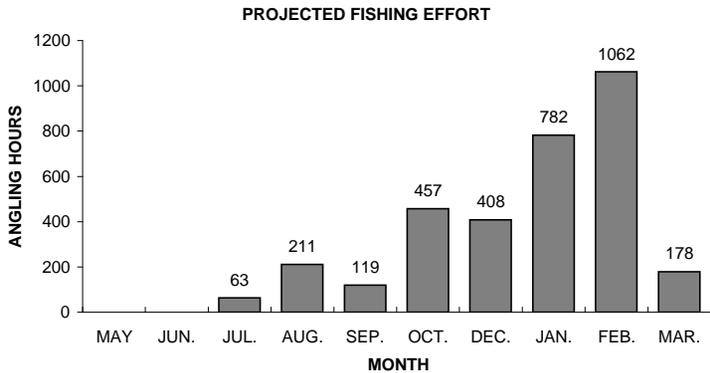


Figure 11. Lake Whitefish sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2007-08.