

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

TROUT LAKE

2022 – 2023 CREEL SURVEY REPORT

VILAS COUNTY



Treaty Fisheries Publication

Created by
Eric Brown & Jason Halverson
DNR 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 FIGURES	
Gamefish	
Figure 1. Walleye	7
Figure 2. Northern Pike.....	8
Figure 3. Muskellunge	9
Figure 4. Smallmouth Bass.....	10
Figure 5. Largemouth Bass	11
Panfish	
Figure 6. Yellow Perch	12
Figure 7. Bluegill.....	13
Figure 8. Black Crappie.....	14
Figure 9. Pumpkinseed	15
Figure 10. Rock Bass.....	16
Other Species	
Figure 11. Lake Trout	17
Figure 12. Lake Whitefish	18
Figure 13. Cisco.....	19

INTRODUCTION

Fish populations can fluctuate due to a variety of factors including natural forces like climate, reproductive success, predation and competition. Human activities such as fish harvest, stocking, habitat change and invasive species introduction can also have significant impacts. The Wisconsin Department of Natural Resources (DNR) fisheries crews regularly conduct fishery surveys on 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, measuring such parameters as species composition, population size, reproductive success, size and age distribution and growth rates. Harvest is another key component of fisheries that we need to measure.

On many lakes in the Ceded Territory of northern Wisconsin, harvest of fish is divided between sport anglers and the six Ojibwe bands who harvest fish under rights reserved by federal treaties. The tribes harvest fish primarily using spearing, a highly efficient method, during a relatively short time in the spring. Every fish in the spear harvest is counted and reported, creating a complete census of the harvest.

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

A creel survey is an assessment tool used to sample the fishing activities of anglers on a body of water to make estimates of harvest and other fishery parameters. Creel survey clerks work on randomly-selected days and shifts, forty hours per week. The survey is conducted during daylight hours throughout 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.

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

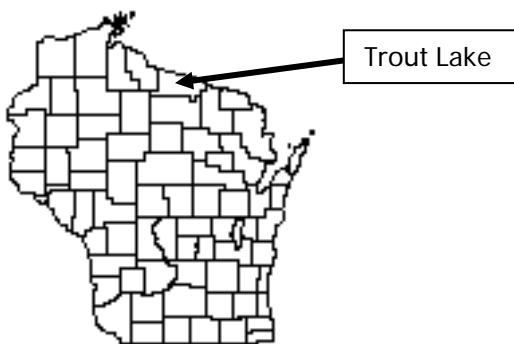
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a few minutes of your time and it gives the DNR valuable information needed for management of the fishery.

This report provides estimates of:

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

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 115 feet. Littoral substrate consists mainly of gravel and sand, with lesser amounts of rock and muck. Trout Lake contains slightly alkaline, clear water of high transparency.

SEASONS SURVEYED

The period referred to in this report as the 2022-23 fishing season ran from May 7, 2022 through March 5, 2023. The summer creel survey ran from May 7 through Oct. 31, 2022, and the winter creel survey ran from Dec. 1, 2022 through March 5, 2023.

WEATHER

Ice-out on Trout Lake was early May. Fishable ice formed on Trout Lake in late December.

FISHING REGULATIONS

The following seasons, daily bag limits and length limits were in place on Trout Lake during the 2022-23 fishing season:

SPECIES	SEASON	BAG LIMIT	MIN. SIZE
Largemouth Bass	5/ 07 - 3/ 05	1*	18"
Smallmouth Bass	5/ 07 - 6/ 17	Catch&Release	
	6/ 18 - 3/ 05	1*	18"
*Bass species have a combined bag limit of 1.			
Musky	5/ 28 - 12/ 31	1	50"
	On open water		
Northern Pike	5/ 07 - 3/ 05	5	None
Walleye	5/ 07 - 3/ 05	3	15"
	20" - 24" Protected Slot, 1>24"		
Panfish	Open all year	25	None
Rock Bass	Open all year	None	None
Lake Trout	5/ 07 - 9/ 30	1	30"
Lake Whitefish & Cisco	Open all year	10	None

SPECIES CATCH AND HARVEST INFORMATION

Summaries of angling effort, catch and harvest information for each species are in Table 2 and Figures 1-13, along with a comparison of these statistics with the previous creel survey in Table 2. Information about species with fishing seasons extending beyond March 5, 2023 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

- DIRECTED FISHING EFFORT**
 Estimated number of hours during each month that anglers spent fishing for a species.
- TOTAL CATCH AND HARVEST**
 Estimated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.
- SPECIFIC CATCH AND HARVEST RATES**
 Estimated 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.
- 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**

Largest and average (mean) length of a species of fish harvested. Only fish measured by the creel survey clerk are reported.

CREEL SURVEY RESULTS AND DISCUSSION

SURVEY LOGISTICS

We encountered no unusual problems conducting the survey or calculating the projections contained in the report. This was the tenth time the DNR conducted a creel survey on Trout Lake. The last creel survey took place during 2019-20.

GENERAL ANGLER INFORMATION

Anglers spent 32,550 hours, or 8.5 hours per acre, fishing Trout Lake during the 2022-23 season (Table 1). That was less than the Vilas County average of 33.4 hours per acre but more than the fishing effort documented during the 2019-20 creel survey (6.9 hours per acre). May was the most heavily fished month (5,904 hours). Creel clerks were able to conduct 802 interviews throughout the survey.

RESULTS BY SPECIES

WALLEYE (Table 2, Figure 1)

Walleyes received the most fishing effort of any species during the season. Anglers spent 24,503 hours targeting walleyes. Fishing effort for walleye was highest in May (5,337 hours). Total catch of walleye was 9,685 fish, and total harvest was 2,762 fish. Highest catch (2,294 fish) occurred in August, and highest harvest (728 fish) occurred in May. Anglers fished an estimated 2.6 hours to catch and 9.0 hours to harvest a walleye during the survey. Mean length of harvested walleyes was 17.5 inches and the largest measured was a 26.8-inch fish.

NORTHERN PIKE (Table 2, Figure 2)

Fishing effort directed at northern pike was 470 hours during the season. Northern pike fishing effort was greatest in May (140 hours).

Total catch of northern pike was 376 fish, and total harvest was 132 fish. Anglers fished an estimated 11.8 hours to catch a northern pike during the survey. Mean length of harvested northern pike was 25.6 inches, and the largest measured was a 30.0-inch fish.

MUSKELLUNGE (Table 2, Figure 3)

Anglers spent 756 hours targeting muskellunge during the season. Muskellunge fishing effort was greatest in October (276 hours). Total catch of muskellunge was 28 fish, and the highest catch (10 fish) occurred in August. Anglers fished an estimated 98.0 hours to catch a muskellunge, and there was no documented harvest during the survey.

SMALLMOUTH BASS (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass was 3,143 hours during the season. Smallmouth bass fishing effort was greatest in June (952 hours). Total catch of smallmouth bass was 2,696 fish, with 13 fish harvested. Highest catch (993 fish) occurred in June. Anglers fished an estimated 1.9 hours to catch a smallmouth bass during the survey.

LARGEMOUTH BASS (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 244 hours during the season. Largemouth bass fishing effort was greatest in September (92 hours). Total catch of largemouth bass was 39 fish, but no harvest was documented. The highest catch (22 fish) occurred in August. Anglers fished an estimated 19.7 hours to catch a largemouth bass during the survey.

YELLOW PERCH (Table 2, Figure 6)

Yellow perch were the most sought-after panfish species during the survey. Yellow perch received 1,510 hours of directed fishing effort. Total catch of yellow perch was 3,946 fish, and total harvest was 851 fish. Mean length of yellow perch harvested was 8.8 inches.

BLUEGILL (Table 2, Figure 7)

Fishing effort directed at bluegills was 394 hours. Total catch of bluegill was 759 fish, and total harvest was 60 fish. Mean length of bluegills harvested was 7.5 inches.

BLACK CRAPPIE (Table 2, Figure 8)

Black crappies received 45 hours of directed fishing effort. Anglers caught 25 black crappies and harvested seven fish. One black crappie was measured and was 10.7 inches.

PUMPKINSEED (Table 2, Figure 9)

Pumpkinseeds received 52 hours of directed fishing effort. Anglers caught 176 pumpkinseeds and harvested 46 fish. Mean length of pumpkinseeds harvested was 6.7 inches.

ROCK BASS (Table 2, Figure 10)

Rock bass received 206 hours of directed fishing effort. Anglers caught 387 rock bass and harvested seven fish. One rock bass was measured and was 9.0 inches.

LAKE TROUT (Table 2, Figure 11)

Lake trout received 1,929 hours of directed fishing effort. Lake trout fishing effort was greatest in July (630 hours). Anglers caught 378 lake trout and harvested seven fish. The highest catch occurred in January (72 fish). Only one lake trout was measured and was 28.6 inches. Anglers fished an estimated 10.3 hours to catch a lake trout during the survey.

LAKE WHITEFISH (Table 2, Figure 12)

Lake whitefish received 5,549 hours of directed fishing effort. Anglers caught 2,102 lake whitefish and harvested 1,306 fish. Anglers fished an estimated 3.1 hours to catch and 4.8 hours to harvest a lake whitefish during the survey. Mean length of lake whitefish harvested was 15.9 inches.

CISCO (Table 2, Figure 13)

Cisco received 138 hours of directed fishing effort. Anglers caught 157 cisco and harvested 45 fish. Mean length of cisco harvested was 8.7 inches.

ACKNOWLEDGMENTS

The DNR would like to thank all the anglers who took the time to offer information about their fishing trip to the survey clerk. The survey would not have been possible without their cooperation.

We also thank our cooperators, Jim Walner and Northern Highland American Legion State Forest, who generously allowed the DNR to keep a boat and snowmobile (respectively) on their property during this survey.

Completion of this survey was possible because of the efforts of the following fisheries management and treaty fisheries staff: John Kubisiak, Lawrence Eslinger, Joelle Underwood, Jason Halverson, Mark Love, Eric Brown and Bob Consolo. Creel clerks on Trout Lake during the survey period were Matt Lorenzoni and Mike Rynski.

Additional copies of this report, and those covering other local lakes, can be obtained from the DNR Woodruff Service Center or online at:

<http://dnr.wisconsin.gov/topic/Fishing/north/trtycrlsruvys.html>

Table 1. Sportfishing effort summary, Trout Lake, 2022-23 season; compared to 2019-20 creel results, Vilas County averages and Ceded Territory averages.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	2019-20 Total Angler Hours/Acre	Vilas County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	134	5,904	1.5	1.4	5.1	4.7
June	101	5,349	1.4	1.0	6.6	6.1
July	126	5,748	1.5	1.2	7.1	6.5
August	135	5,028	1.3	1.1	6.2	5.1
September	104	4,205	1.1	0.8	4.1	3.2
October	81	1,913	0.5	0.3	1.9	1.4
December	10	217	0.1	0.1	0.6	1.0
January	58	2,061	0.5	0.4	0.9	1.7
February	47	1,820	0.5	0.5	1.0	1.6
March	6	305	0.1	0.0	0.2	0.2
Summer Total	681	28,147	7.4	5.9	30.9	26.9
Winter Total	121	4,403	1.2	1.0	2.7	4.6
Grand Total	802	32,550	8.5	6.9	33.4	31.2

Note: 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.

2019-20 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, 2022-23 and 2019-20 fishing seasons.

CREEL YEAR: 2022-23

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hours/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hours/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	24,503	62.9%	9,685	2.6	2,762	9.0	17.5
Northern Pike	470	1.2%	376	11.8	132	12.5	25.6
Muskellunge	756	1.9%	28	98.0	0	*	**
Smallmouth Bass	3,143	8.1%	2,696	1.9	13	358.4	18.1
Largemouth Bass	244	0.6%	39	19.7	0	*	**
Yellow Perch	1,510	3.9%	3,946	0.6	851	2.8	8.8
Bluegill	394	1.0%	759	0.6	60	11.0	7.5
Black Crappie	45	0.1%	25	11.9	7	0.0	10.7
Pumpkinseed	52	0.1%	176	1.2	46	4.1	6.7
Rock Bass	206	0.5%	387	12.8	7	*	9.0
Lake Trout	1,929	5.0%	378	10.3	7	291.5	28.6
Lake Whitefish	5,549	14.3%	2,102	3.1	1,306	4.8	15.9
Cisco	138	0.4%	157	2.6	45	4.1	8.7

9

CREEL YEAR: 2019-20

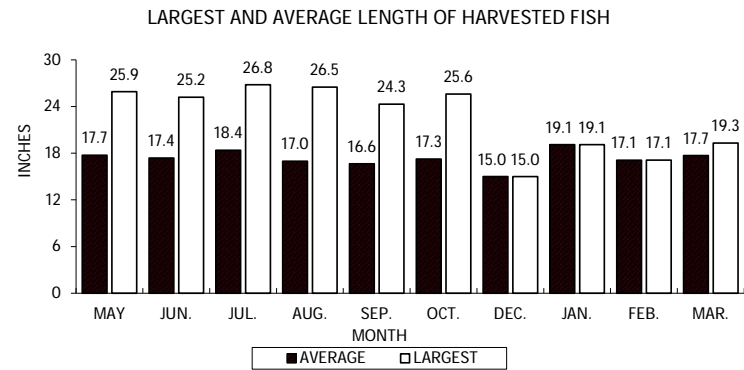
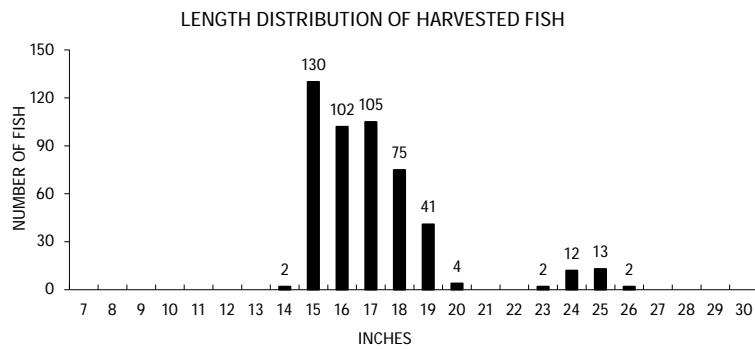
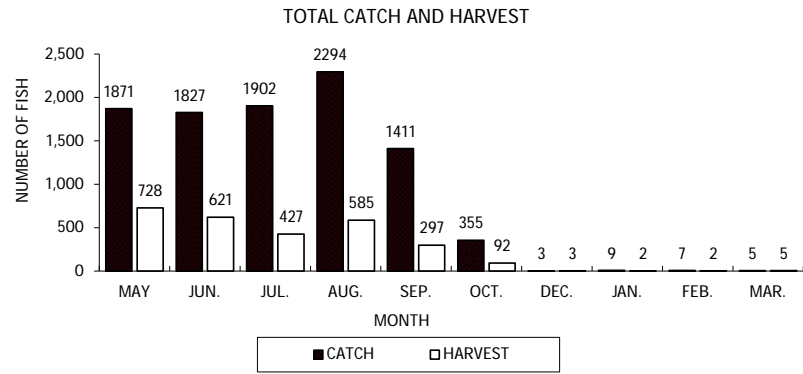
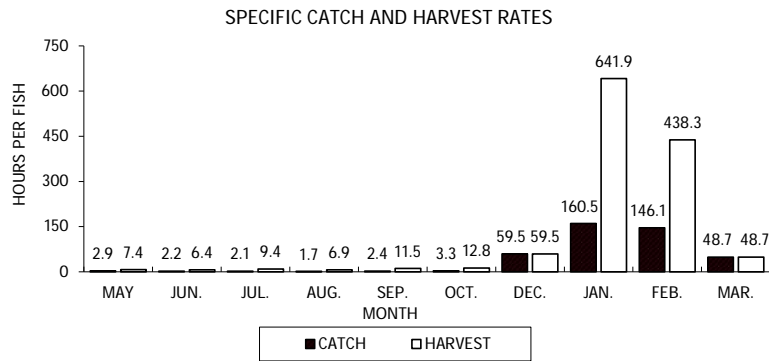
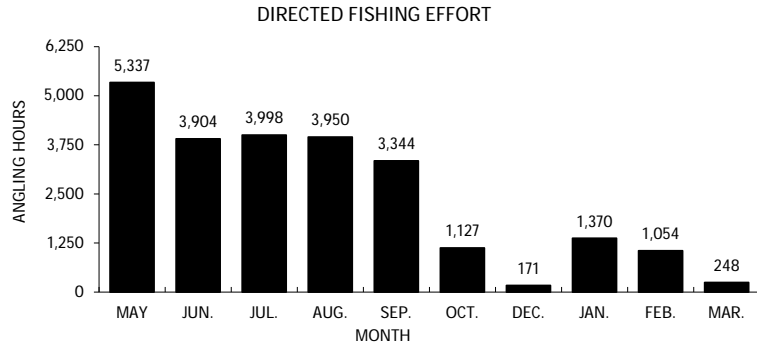
SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hours/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hours/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	18,053	59.6%	5,727	3.2	1,943	9.4	17.7
Northern Pike	459	1.5%	844	4.9	129	8.2	25.0
Muskellunge	867	2.9%	15	97.7	0	*	**
Smallmouth Bass	2,588	8.5%	1,128	3.0	6	*	19.6
Largemouth Bass	276	0.9%	22	35.1	0	*	**
Yellow Perch	738	2.4%	1,504	0.8	218	4.2	9.2
Bluegill	247	0.8%	344	0.9	82	3.0	7.4
Black Crappie	34	0.1%	0	*	0	*	**
Rock Bass	0	0.0%	163	*	0	*	**
Lake Trout	2,448	8.1%	389	12.3	4	0.0	31.0
Lake Whitefish	4,444	14.7%	2,516	2.4	1,507	3.3	16.0
Cisco	40	0.1%	45	3.4	29	3.4	10.2
Burbot	91	0.3%	22	6.3	15	6.3	17.5

Note: If a species is not shown in a table, no data was collected by the creel clerks for that species.

* Indicates that no fish of this species were caught or harvested (depending on the column) by anglers who specifically targeted this species.

** Indicates that no fish were measured by the creel clerks for this species.

WALLEYE



7

Figure 1. Walleye fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

NORTHERN PIKE

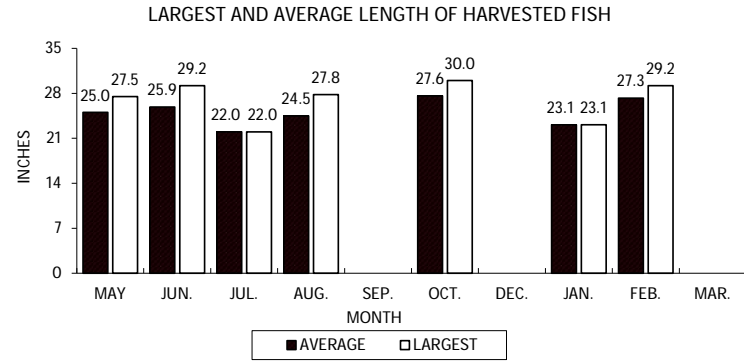
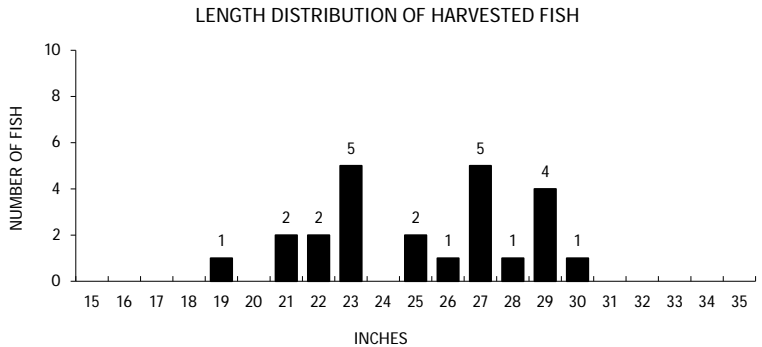
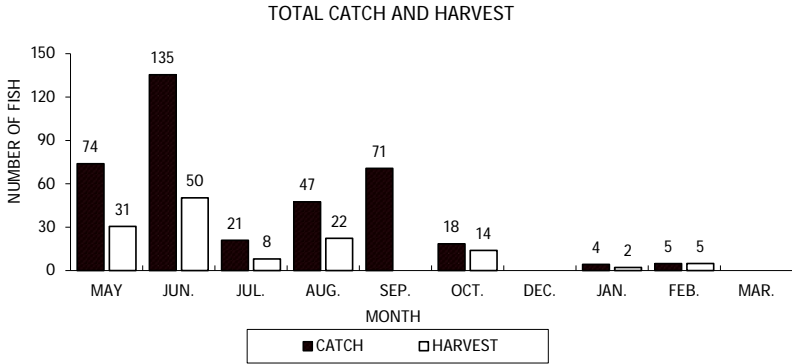
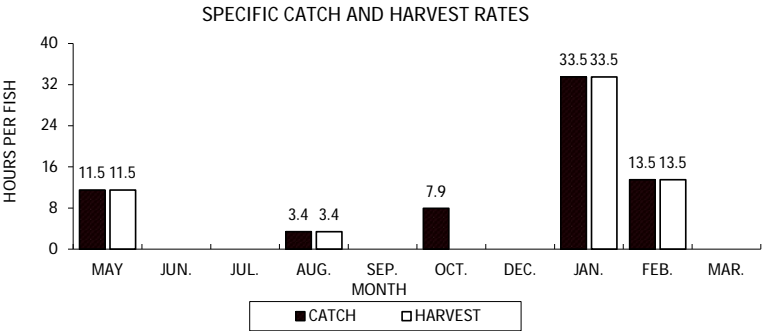
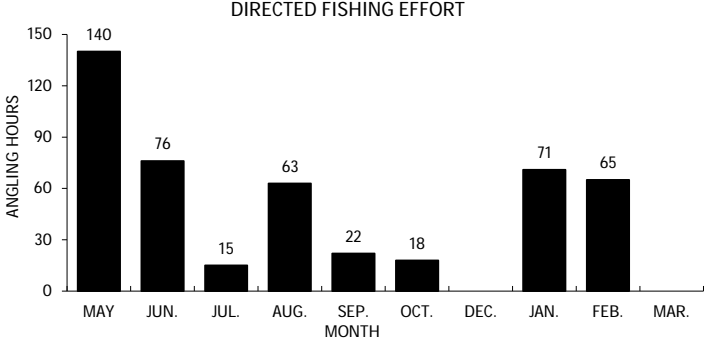
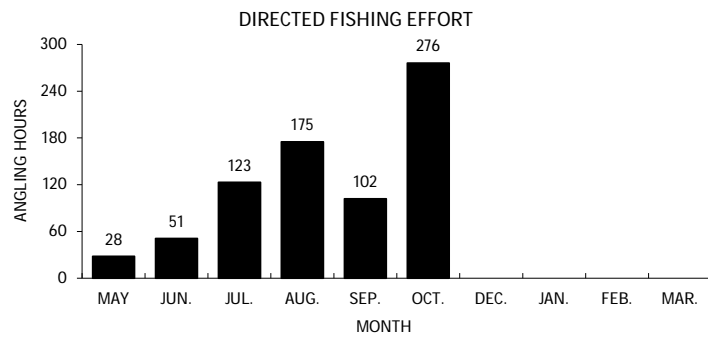


Figure 2. Northern pike fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.



MUSKELLUNGE

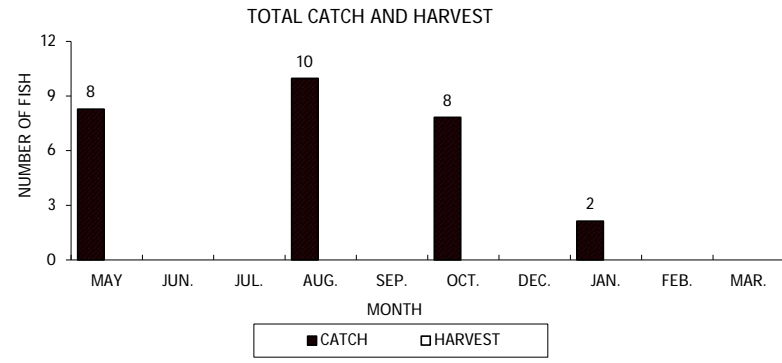
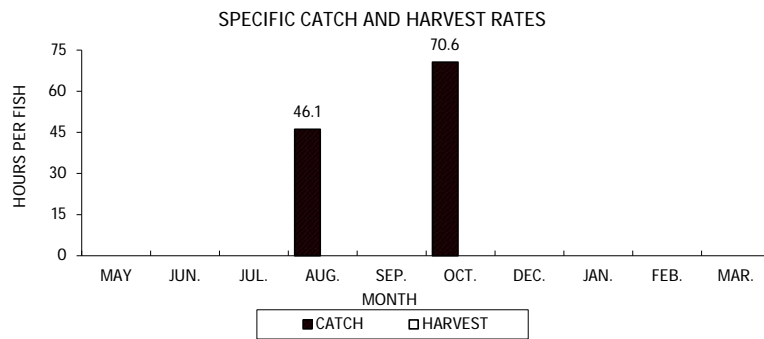


Figure 3. Muskellunge fishing effort, catch and harvest, Trout Lake, during 2022-23.

SMALLMOUTH BASS

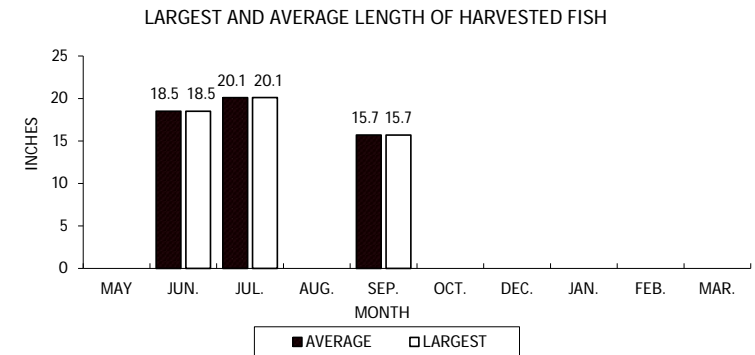
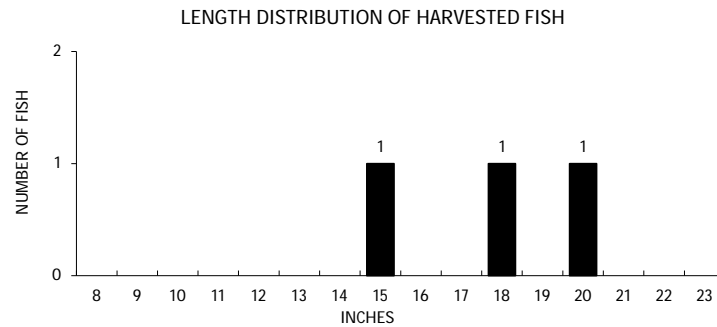
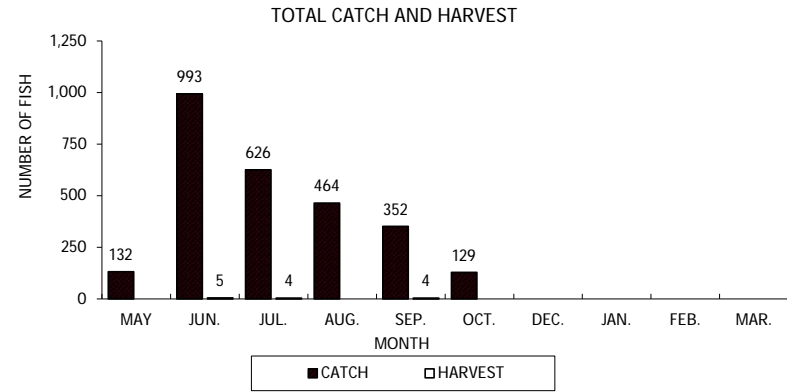
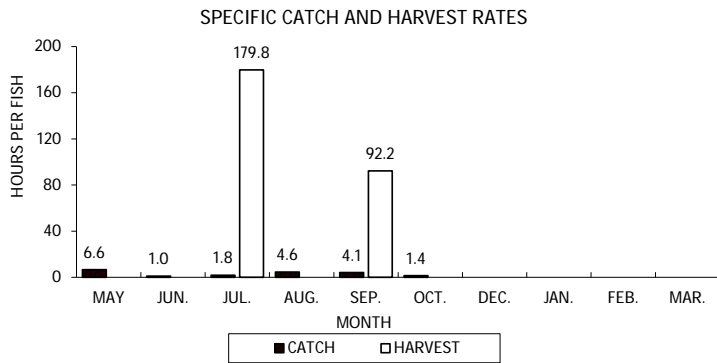
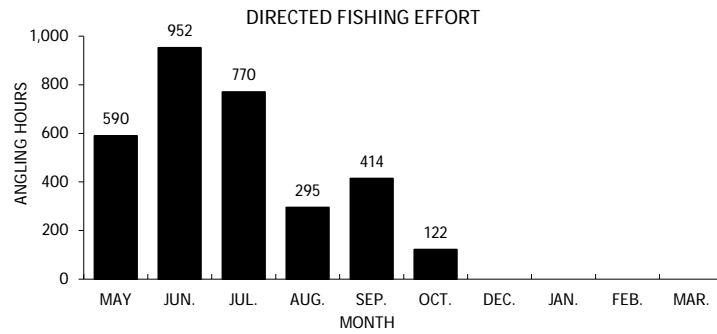


Figure 4. Smallmouth bass fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

LARGEMOUTH BASS

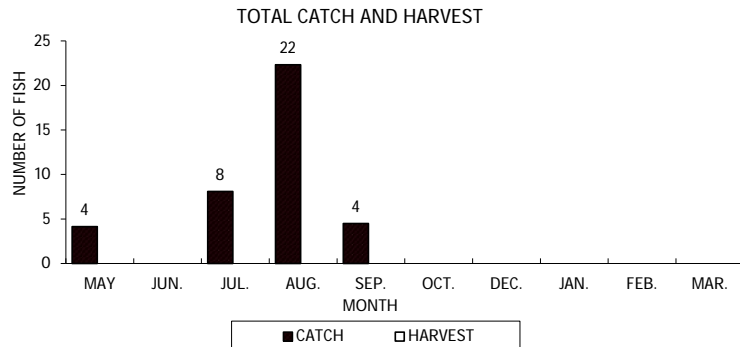
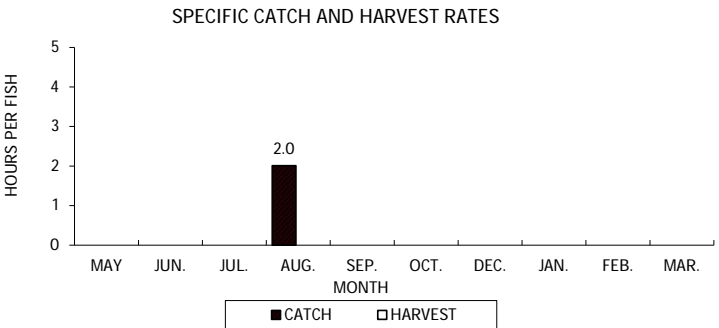
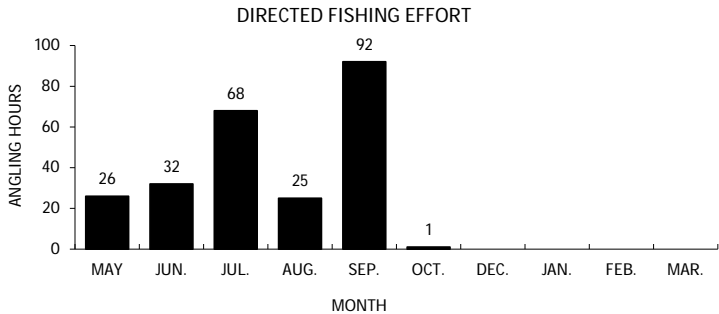


Figure 5. Largemouth bass fishing effort, catch and harvest, Trout Lake, during 2022-23.

YELLOW PERCH

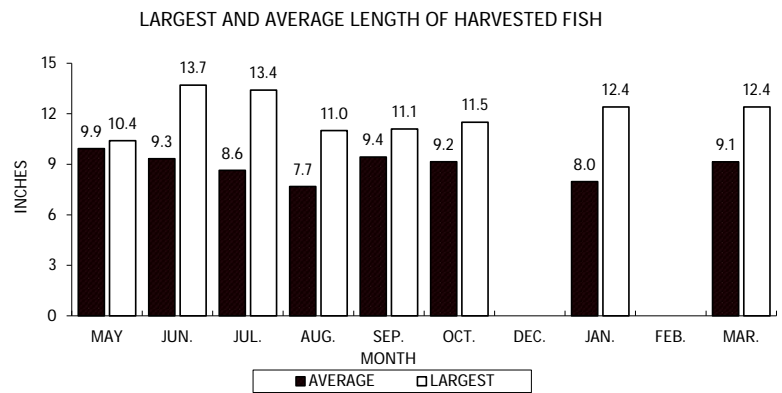
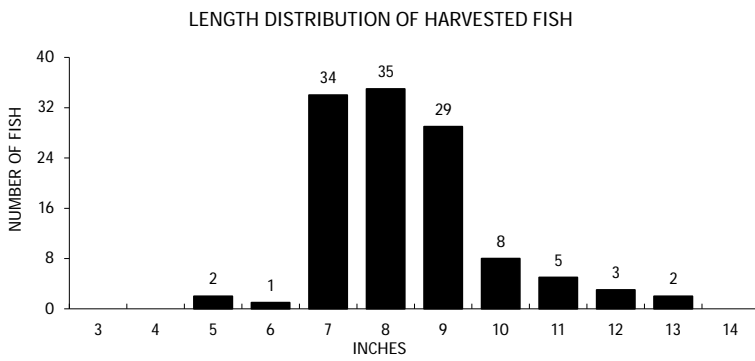
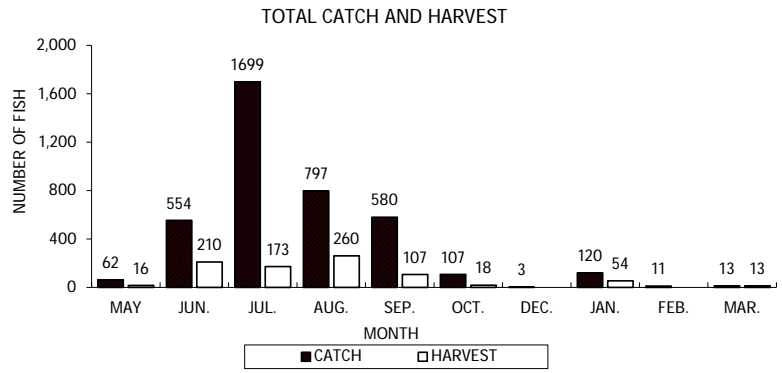
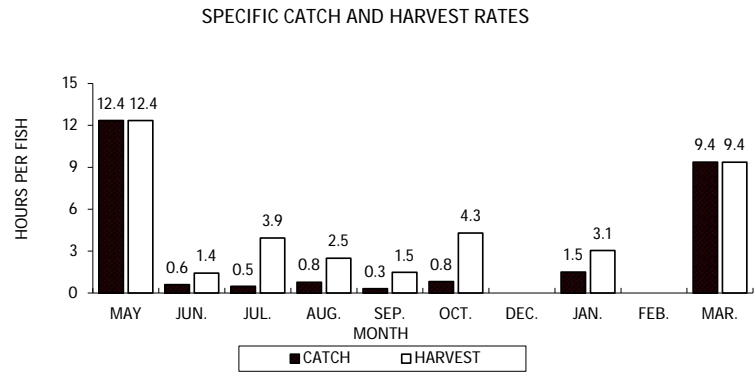
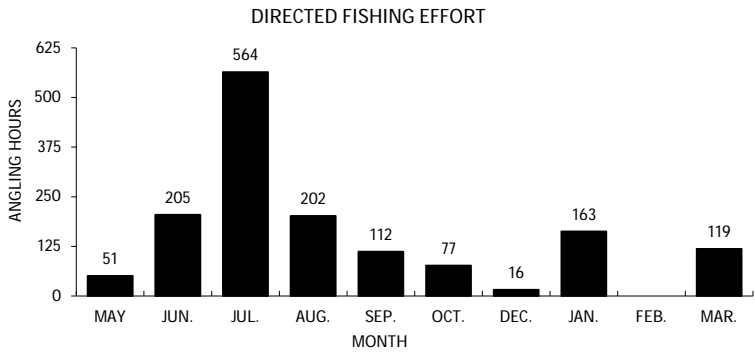


Figure 6. Yellow perch fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

BLUEGILL

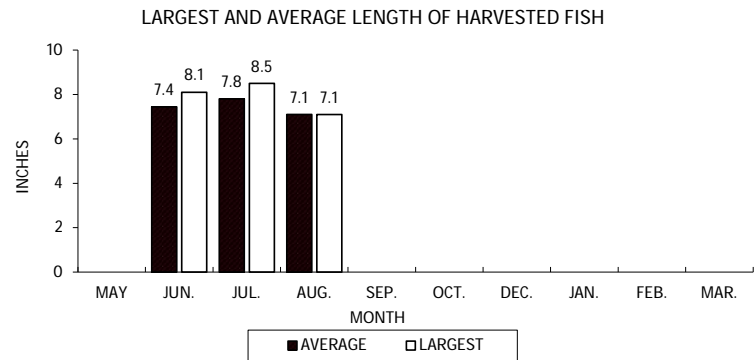
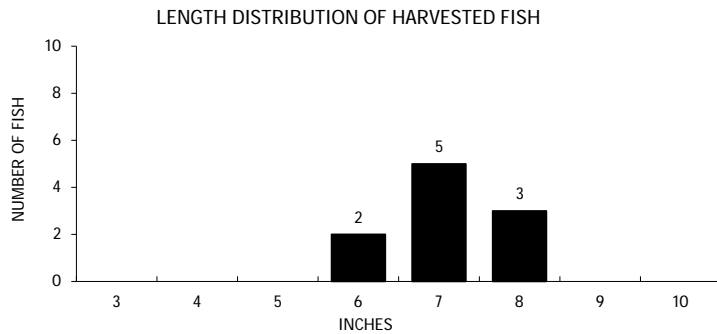
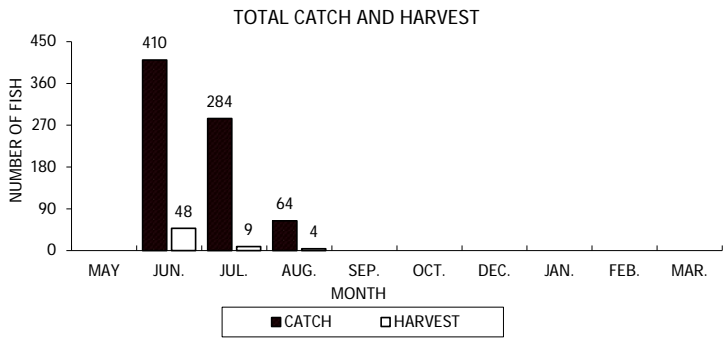
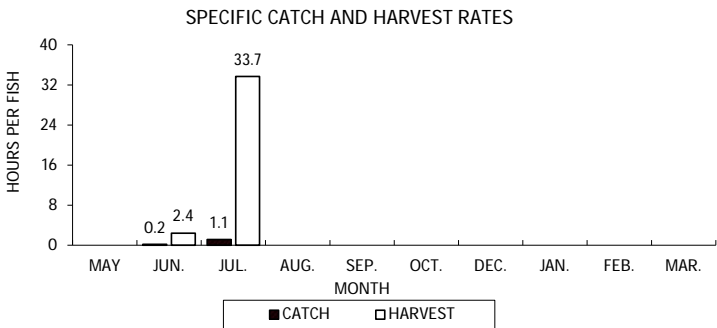
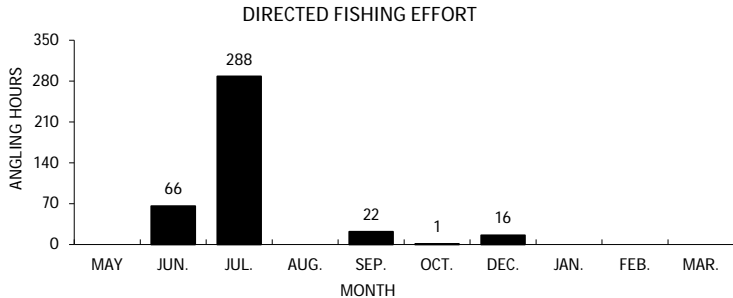


Figure 7. Bluegill fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

BLACK CRAPPIE

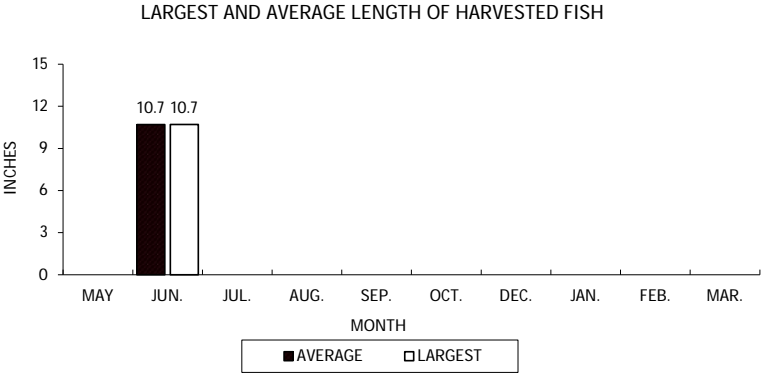
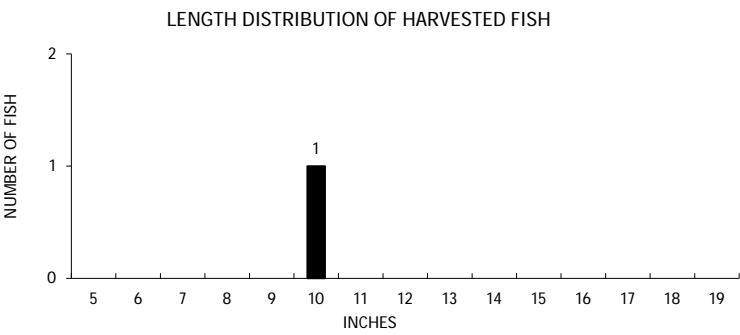
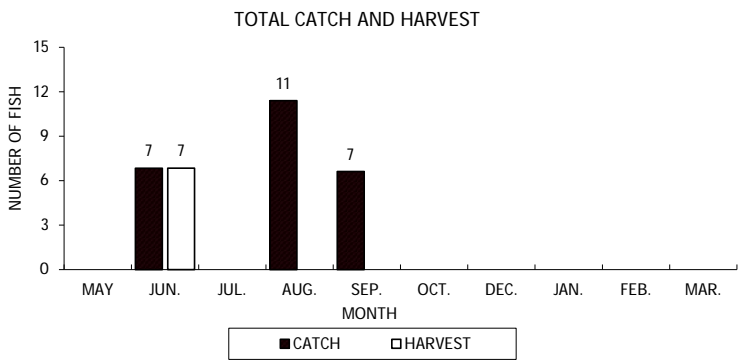
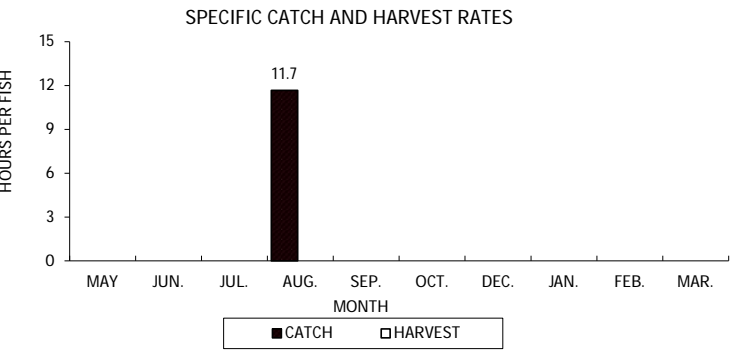
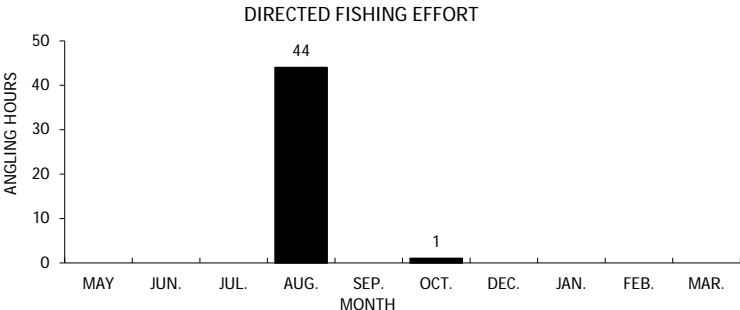
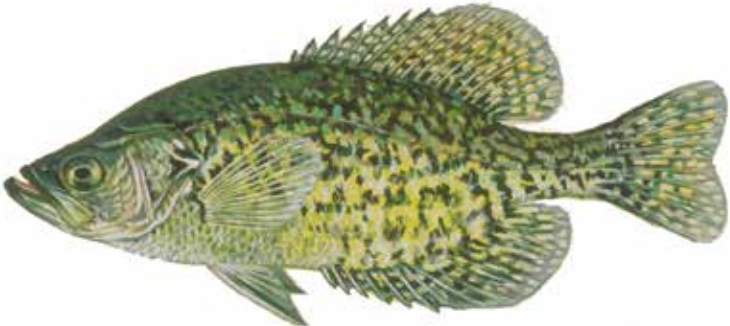


Figure 8. Black crappie fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

PUMPKINSEED

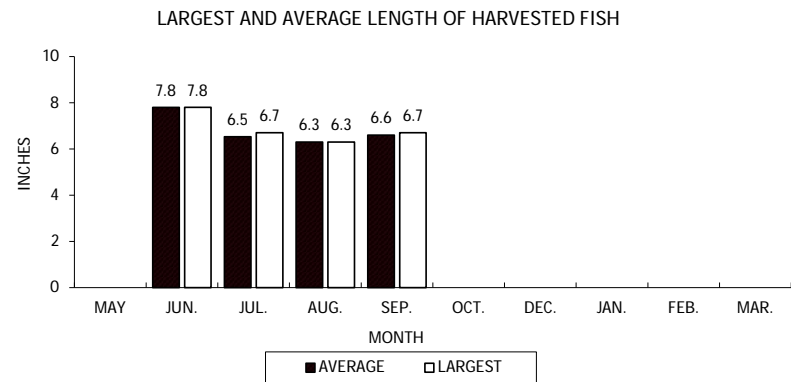
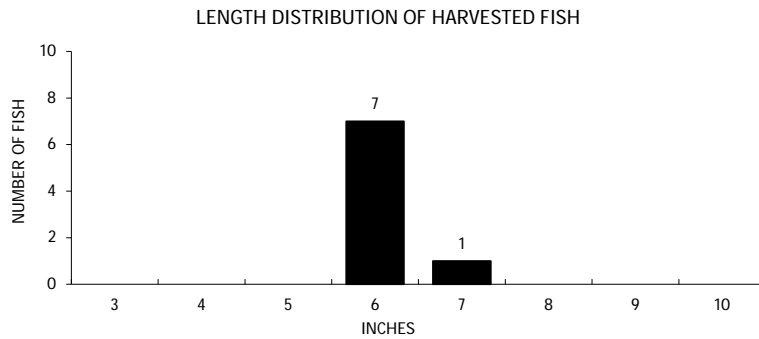
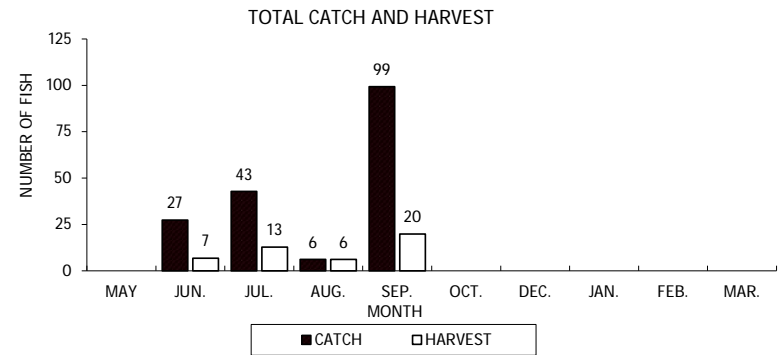
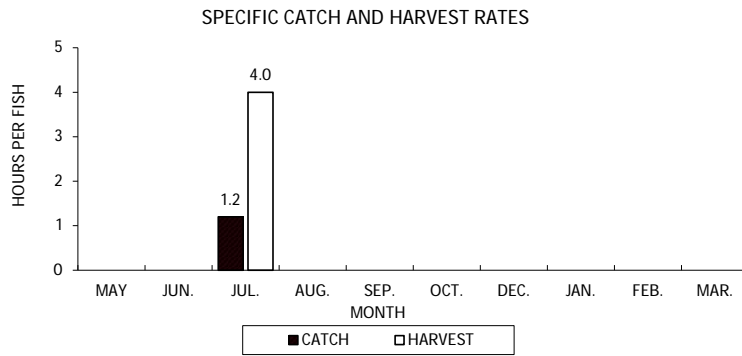
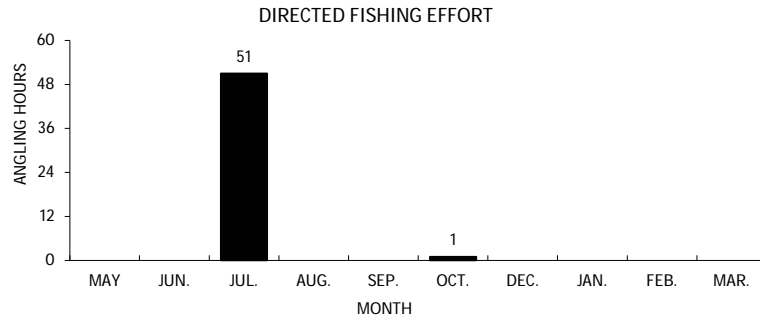
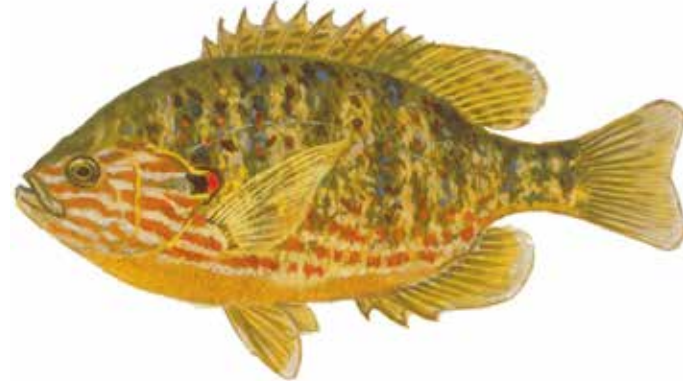


Figure 9. Pumpkinseed fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

ROCK BASS

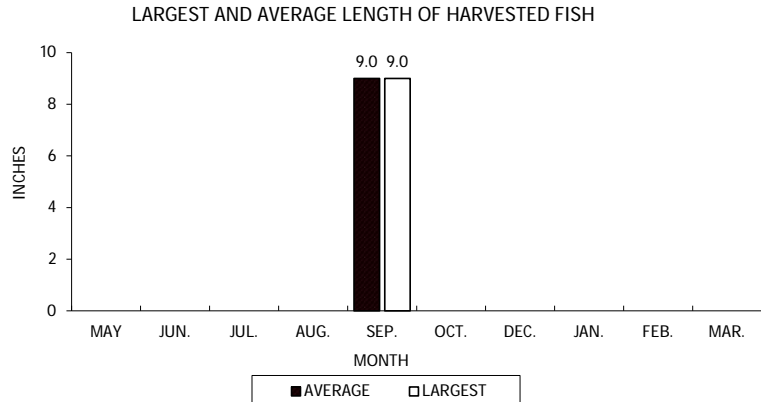
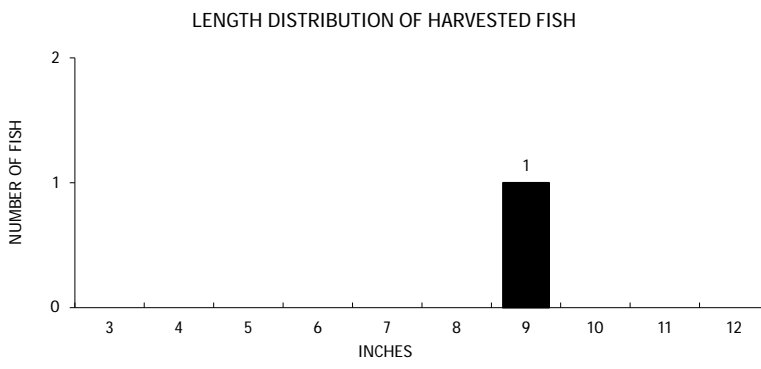
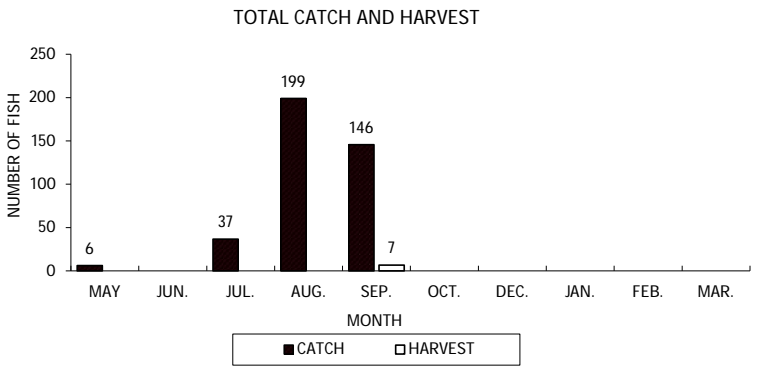
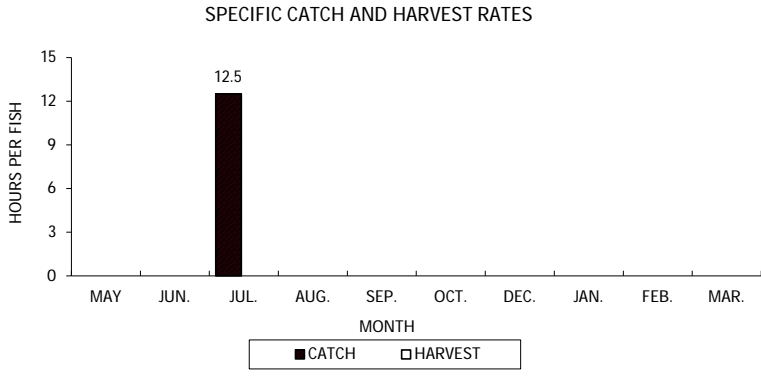
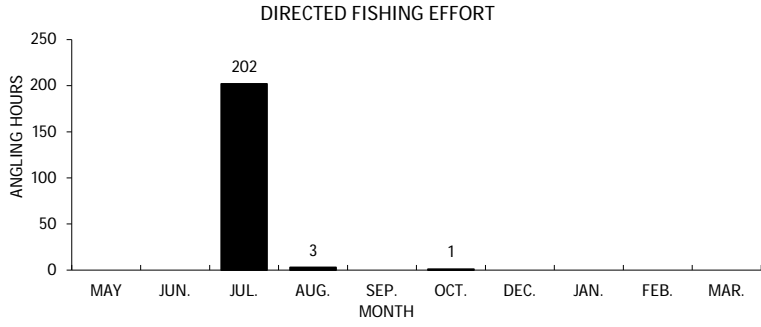


Figure 10. Rock bass fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

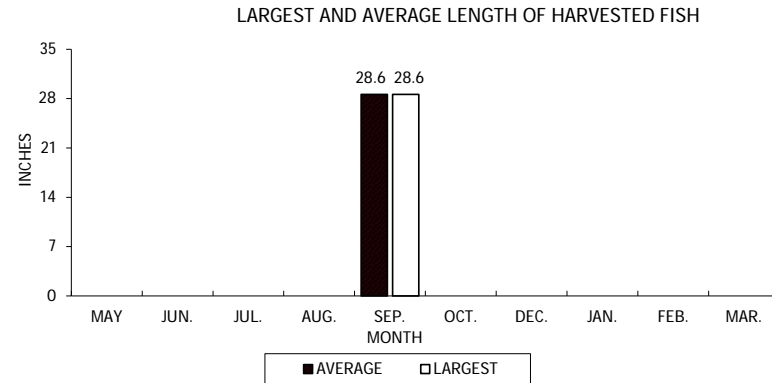
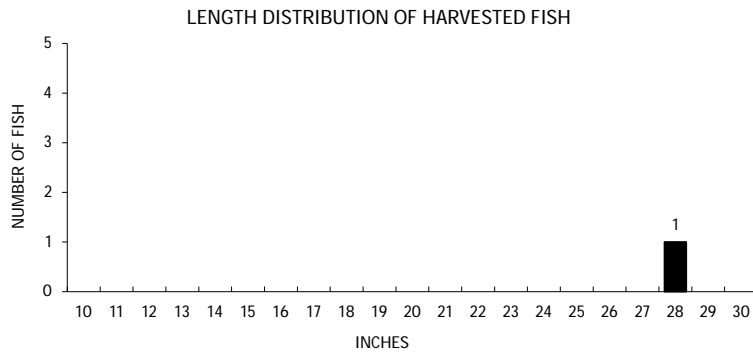
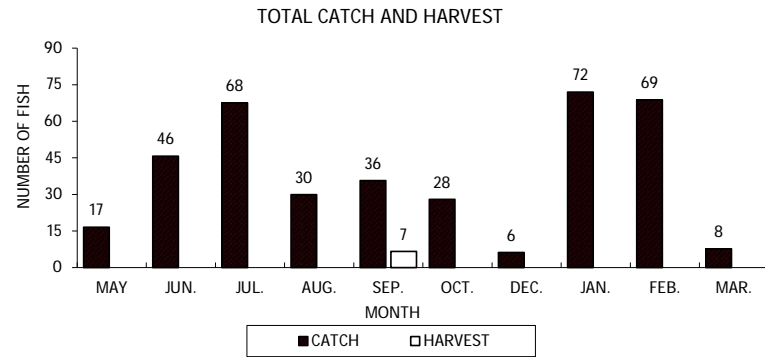
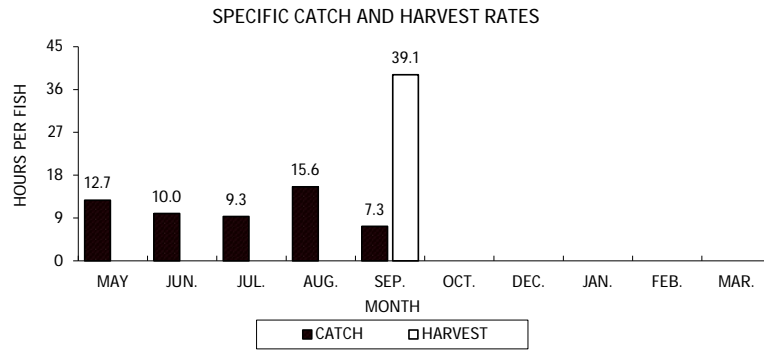
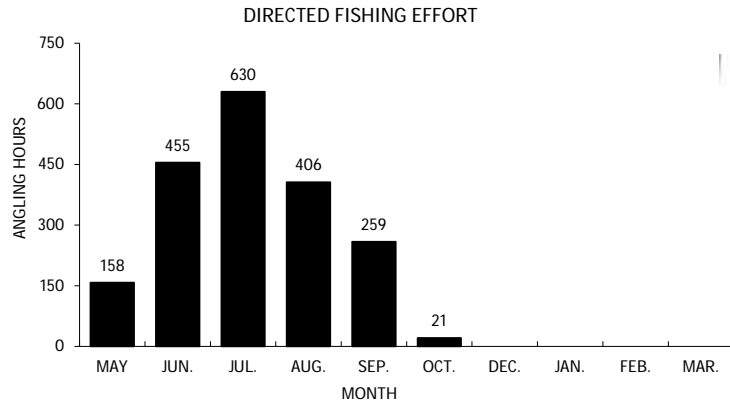


Figure 11. Lake trout fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

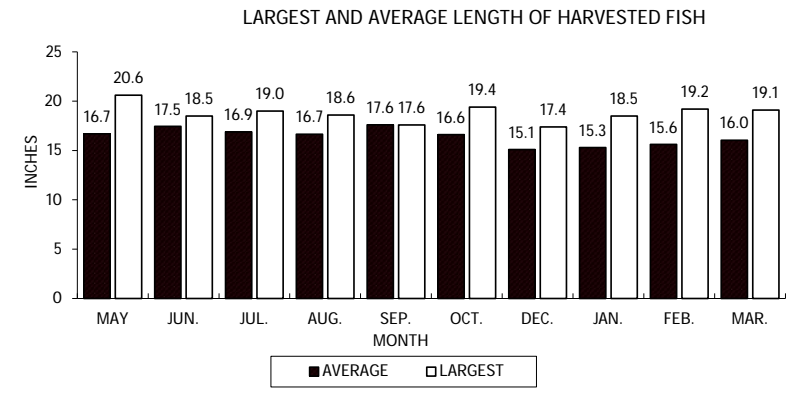
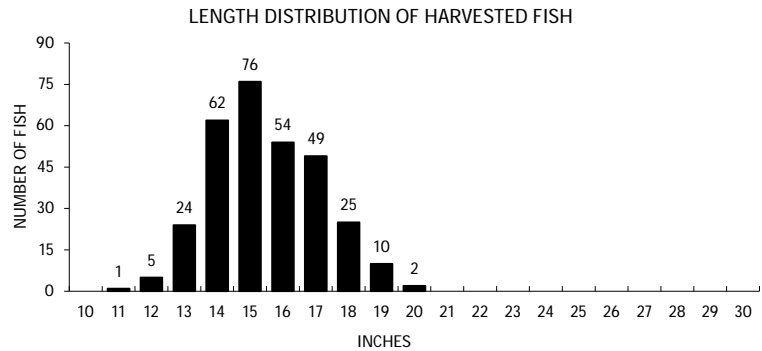
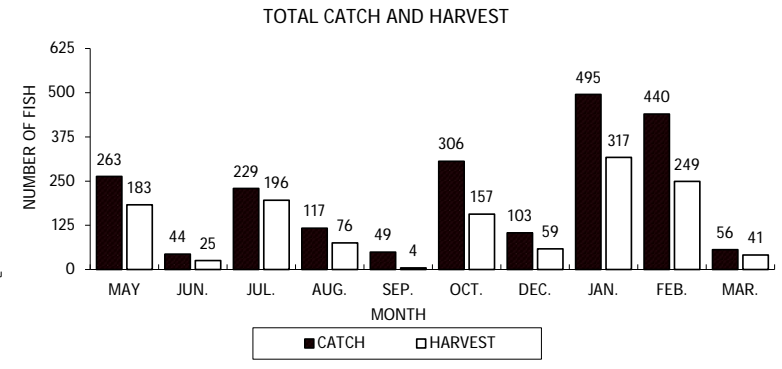
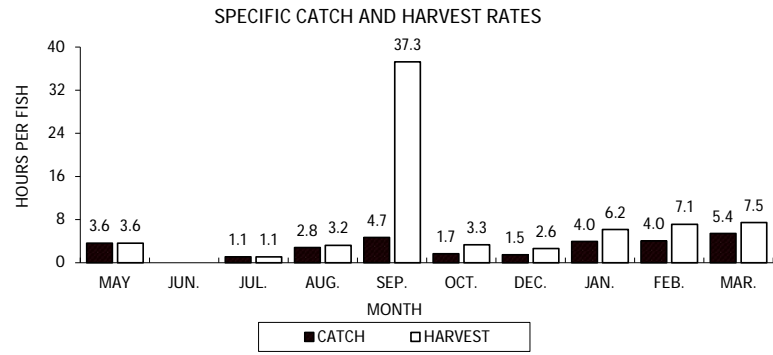
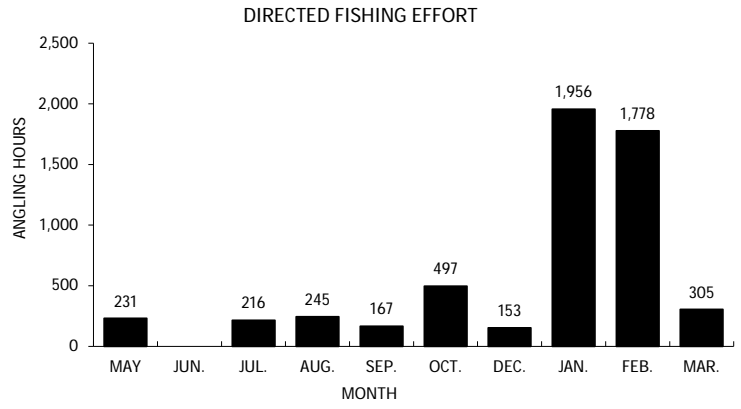


Figure 12. Lake whitefish fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.

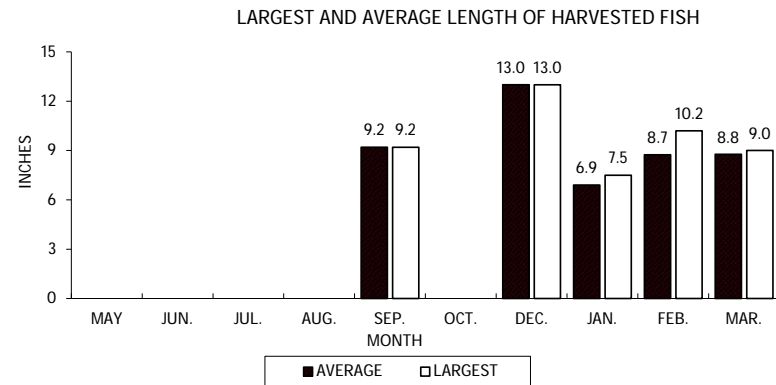
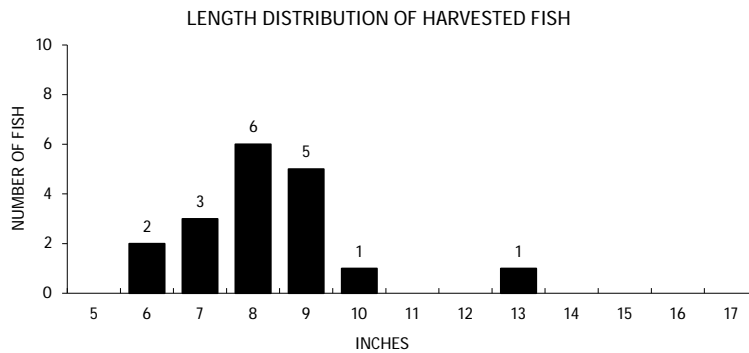
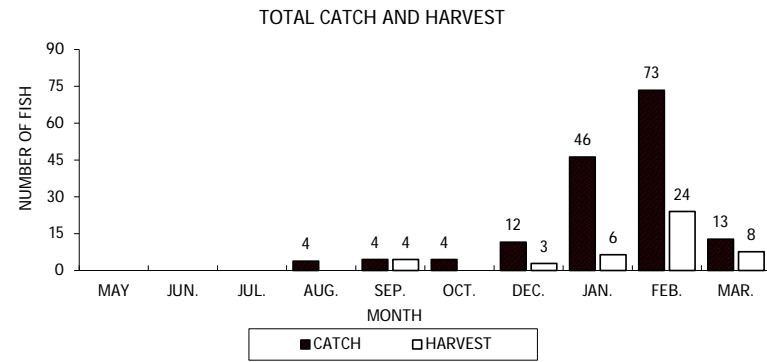
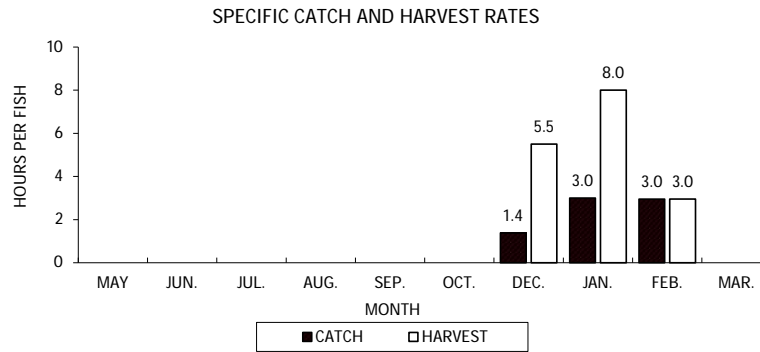
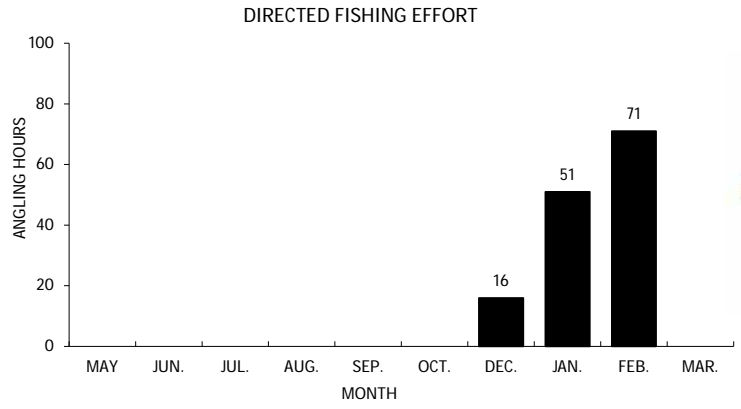


Figure 13. Cisco fishing effort, catch, harvest and length distribution, Trout Lake, during 2022-23.