

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

# SOMO LAKE

2021 – 2022 OPEN WATER CREEL SURVEY REPORT

LINCOLN COUNTY



Treaty Fisheries Publication

Created by  
Eric Brown & Jason Halverson  
DNR Treaty Fisheries Technicians



# CONTENTS

<b>INTRODUCTION</b> .....	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.....	2
Survey Logistics.....	2
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
Figure 11. White Crappie.....	17

## 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.

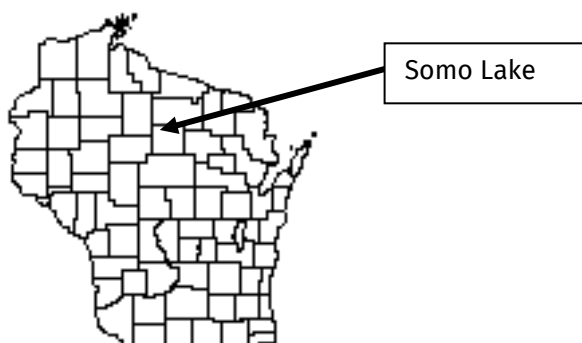
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a few minutes of your time and it gives the DNR valuable information needed for management of the fishery.

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

## GENERAL LAKE INFORMATION



### LOCATION

Somo Lake is located in Lincoln County near the city of Tomahawk.

### PHYSICAL CHARACTERISTICS

Somo Lake is a 472-acre drainage lake with a maximum depth of 25 feet. Littoral substrate consists primarily of sand and muck with lesser amounts of gravel, cobble and rock. Somo Lake contains very soft, neutral, light-brown stained water of low transparency.

### SEASONS SURVEYED

The period referred to in this report as the 2021-22 fishing season ran from May 1, 2021 through March 6, 2022. The open water creel survey ran from May 1 through Oct. 31, 2021. There was no winter ice creel survey on Somo Lake.

### WEATHER

Ice-out on Somo Lake was around April 01, 2021.

### FISHING REGULATIONS

The following seasons, daily bag limits and length limits were in place on Somo Lake during the 2021-22 fishing season:

SPECIES	SEASON	BAG LIMIT	MIN. SIZE
Largemouth Bass	5/ 01-3/ 06	5	14"
Smallmouth Bass	5/ 01-6/ 18	Catch&Release	
	6/ 19-3/ 06	5	14"
Musky	5/ 29-12/ 31	1	40"
	On open water		
Northern Pike	5/ 01-3/ 06	5	None
Walleye	5/ 01-3/ 06	3	15"
	20"-24" Protected Slot, 1>24"		
Panfish	Open all year	25	None
Rock Bass	Open all year	None	None

## SPECIES CATCH AND HARVEST INFORMATION

Summaries of angling effort, catch and harvest information for each species are in Table 2 and Figures 1-11. Each species page has up to five graphs depicting the following:

- DIRECTED FISHING EFFORT**  
The estimated number of hours during each month that anglers spent fishing for a species.
- TOTAL CATCH AND HARVEST**  
The estimated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.
- SPECIFIC CATCH AND HARVEST RATES**  
The 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.
- LARGEST AND AVERAGE LENGTH OF HARVESTED FISH**  
The 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 first time the DNR conducted a creel survey on Somo Lake. Unfortunately, due to staffing limitations, the DNR was unable to conduct the winter ice portion of the creel

survey. Therefore, all estimates within this report are specific to only the May through October 2021 fishing season.

## GENERAL ANGLER INFORMATION

Anglers spent 7,260 hours, or 15.4 hours per acre, fishing Somo Lake during the 2021-22 summer season (Table 1). That was less than the Lincoln County summer average of 24.4 hours per acre. July was the most heavily fished month (2,218 hours), and fishing effort was lightest in October (298 hours). The creel clerks were able to conduct 102 interviews throughout the survey.

## RESULTS BY SPECIES

### WALLEYE (Table 2, Figure 1)

Anglers spent 979 hours targeting Walleye. The greatest fishing effort for Walleye was in July (266 hours). October had the least amount of Walleye fishing effort (59 hours). The total catch of Walleye was 93 fish, with a harvest of 42. The highest catch (63 fish) and highest harvest (42 fish) occurred in July. Anglers fished an estimated 15.6 hours to catch and 47.0 hours to harvest a Walleye during the survey. Only two Walleye were measured by the clerks, a 16.4 and 17.2 inch fish.

### NORTHERN PIKE (Table 2, Figure 2)

Fishing effort directed at Northern Pike was 903 hours during the season. Northern Pike fishing effort was greatest in May (262 hours). The total catch of Northern Pike was 275 fish, with a harvest of 9. Anglers fished an estimated 5.2 hours to catch a Northern Pike during the survey. Only one Northern Pike was measured by the creel clerks, a 19.6-inch fish.

### MUSKELLUNGE (Table 2, Figure 3)

Muskellunge was the most sought-after gamefish by anglers during the survey. Anglers spent 1,889 hours targeting Muskellunge during the season. Muskellunge fishing effort was greatest in July (572 hours). The total catch of Muskellunge was 73 fish and the highest catch (51 fish) occurred in July. Anglers fished an estimated 25.8 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 1,086 hours during the season. Smallmouth Bass fishing effort was greatest in June (570 hours). The total catch of Smallmouth Bass was 134 fish, with no documented harvest. The highest catch (63 fish) occurred in July. Anglers fished an estimated 25.4 hours to catch a Smallmouth Bass during the survey.

### LARGEMOUTH BASS (Table 2, Figure 5)

Fishing effort directed at Largemouth Bass was 1,158 hours during the season. Largemouth Bass fishing effort was greatest in June (634 hours). Total catch of Largemouth Bass was 74 fish, with a harvest of 4. The highest catch (30 fish) occurred in July. Anglers fished an estimated 35.7 hours to catch a Largemouth Bass during the survey.

### PANFISH (Table 2, Figures 6-11)

**YELLOW PERCH** received 1,331 hours of directed fishing effort. The total catch of Yellow Perch was 1,406 fish, with 12 harvested.

**BLUEGILL** received 2,956 hours of directed fishing effort. The total catch of Bluegill was 6,960 fish, with 1,917 harvested. The mean length of Bluegill harvested was 7.3 inches.

**BLACK CRAPPIE** were the most sought after panfish species during the survey. Fishing effort directed at Black Crappie was 3,143 hours. Anglers caught 2,663 Black Crappie and harvested 889. The mean length of Black Crappie harvested was 8.4 inches.

**PUMPKINSEED** received 773 hours of directed fishing effort. Anglers caught 563 Pumpkinseed and harvested 75. The mean length of Pumpkinseed harvested was 7.4 inches.

**ROCK BASS** were not specifically targeted by anglers during the survey. However, anglers caught 922 Rock Bass and harvested 236. The mean length of Rock Bass harvested was 7.5 inches.

**WHITE CRAPPIE** received 159 hours of directed

fishing effort. Anglers caught 48 White Crappie and harvested 12. The mean length of White Crappie harvested was 8.3 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. Without their cooperation, the survey would not have been possible.

We also thank our cooperators, Mike and Dennis Jeske, who generously allowed the DNR to keep a boat 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, Eric Brown, Bob Consolo and Evan Priebe. Creel clerks on Somo Lake during the survey period were Eric Lindberg and Garrett Wilner.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger and Dave Seibel of the DNR.

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/trtycrlsruvs.html>

**Table 1. Sportfishing effort summary, Somo Lake, 2021-22 summer season; compared to Lincoln County averages and Ceded Territory averages.**

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	Lincoln County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	11	1,134	2.4	5.8	4.8
June	26	1,590	3.4	5.8	6.2
July	22	2,218	4.7	6.3	6.6
August	16	1,253	2.7	4.3	5.2
September	17	766	1.6	1.7	3.2
October	10	298	0.6	0.5	1.4
December	-	-	-	-	-
January	-	-	-	-	-
February	-	-	-	-	-
March	-	-	-	-	-
Summer Total	102	7,260	15.4	24.4	27.3
Winter Total	-	-	-	-	-
Grand Total	-	-	-	-	-

Note: Summer is May-October; Winter is December-March.

Winter months are crossed out (-) since there was no winter survey (See page 2).

**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 Somo 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 Somo 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 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 Somo Lake to other lakes in northern Wisconsin.

**Table 2. Summer creel survey synopsis, Somo Lake, 2021-22 fishing season.**

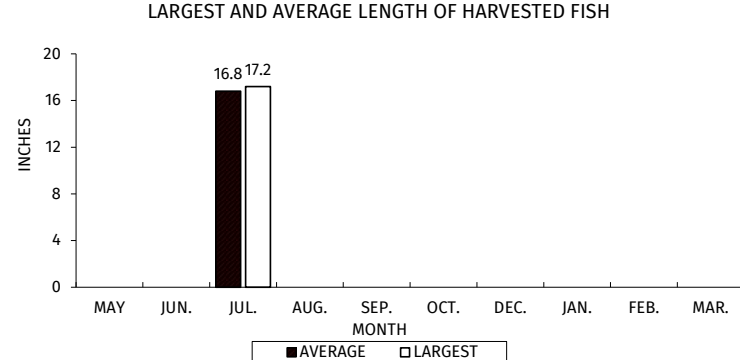
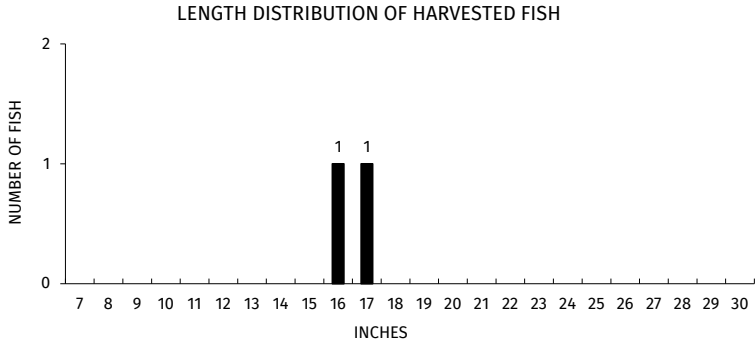
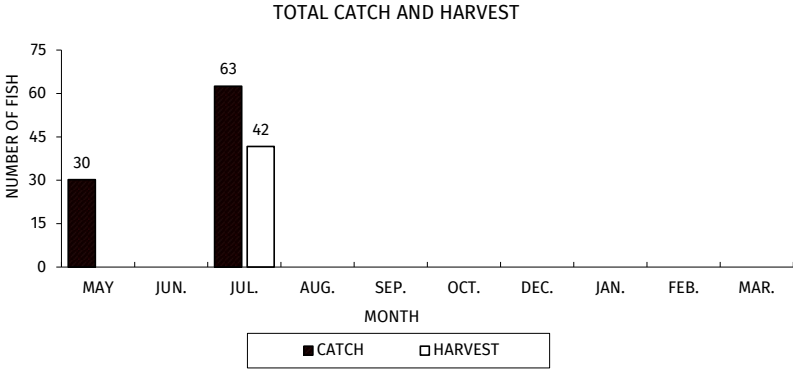
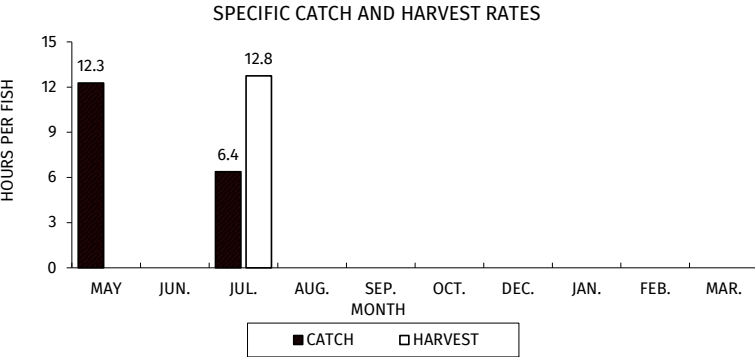
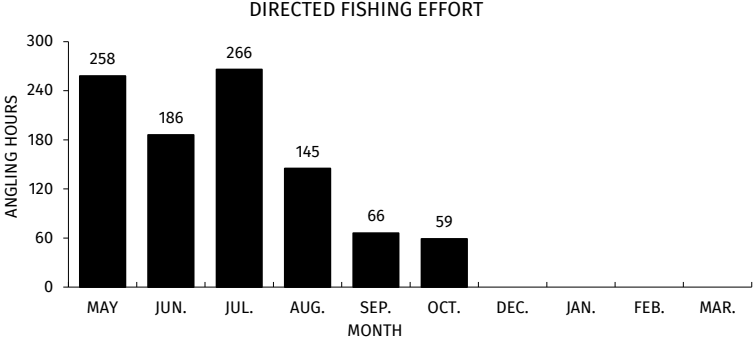
**CREEL YEAR: Summer 2021-22**

<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	979	6.8%	93	15.6	42	47.0	16.8
Northern Pike	903	6.3%	275	5.2	9	*	19.6
Muskellunge	1,889	13.1%	73	25.8	0	*	**
Smallmouth Bass	1,086	7.6%	134	25.4	0	*	**
Largemouth Bass	1,158	8.1%	74	35.7	4	299.0	**
Yellow Perch	1,331	9.3%	1,406	1.1	12	*	**
Bluegill	2,956	20.6%	6,960	0.4	1,917	1.6	7.3
Black Crappie	3,143	21.9%	2,663	1.3	889	4.1	8.4
Pumpkinseed	773	5.4%	563	3.4	75	15.1	7.4
Rock Bass	0	0.0%	922	*	236	*	7.5
White Crappie	159	1.1%	48	3.3	12	13.4	8.3

- 9 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, Somo Lake, during 2021-22.

# NORTHERN PIKE

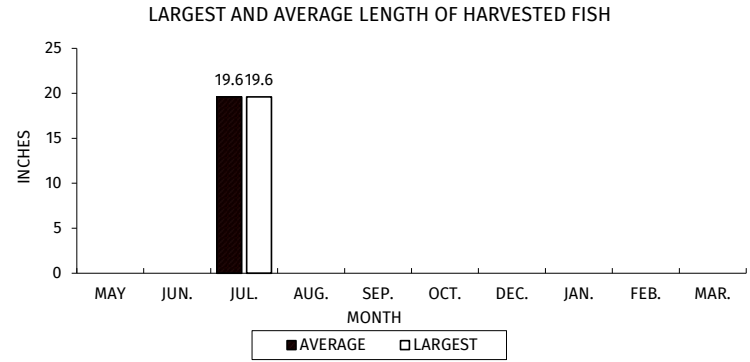
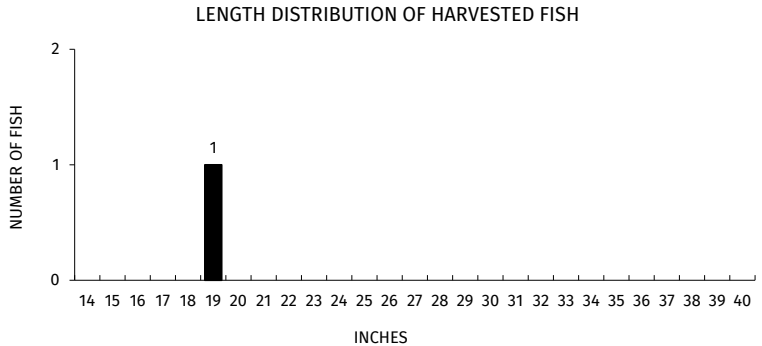
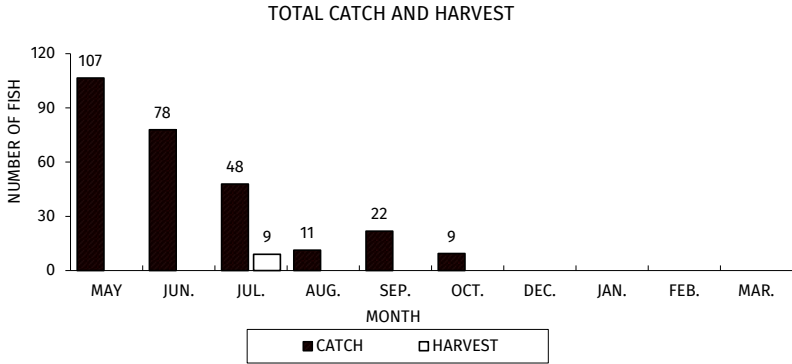
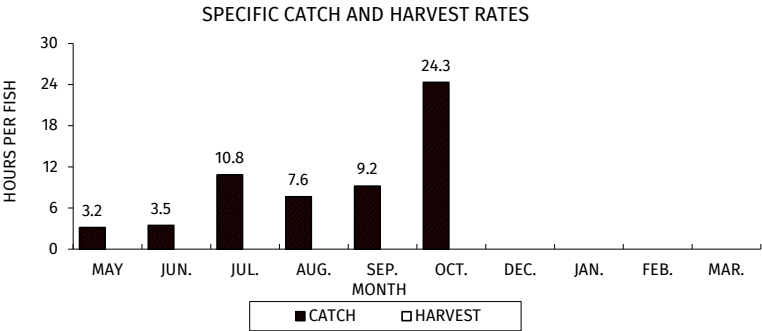
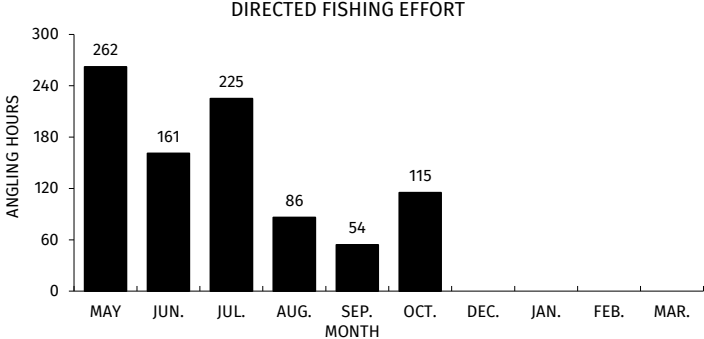
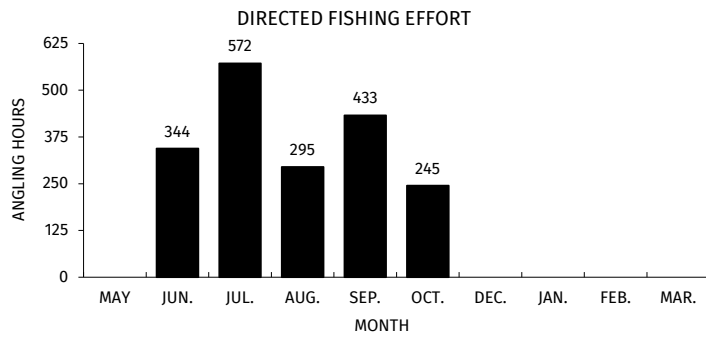


Figure 2. Northern Pike fishing effort, catch, harvest and length distribution, Somo Lake, during 2021-22.



## MUSKELLUNGE

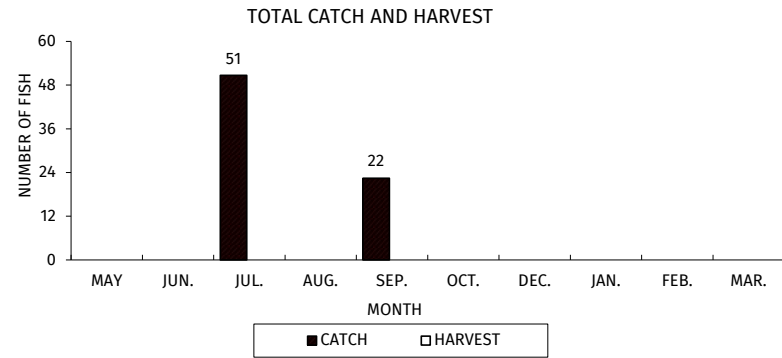
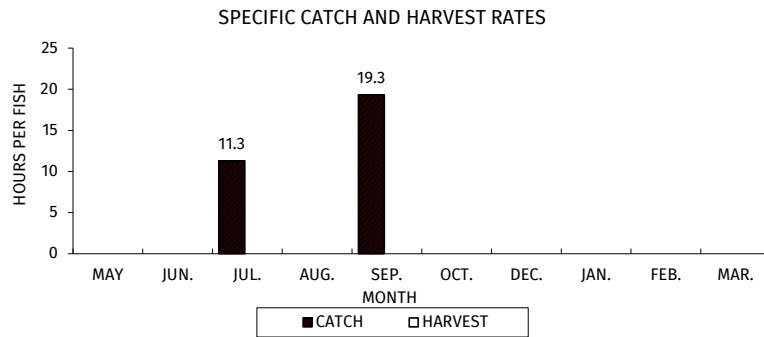


Figure 3. Muskellunge fishing effort, catch and harvest, Somo Lake, during 2021-22.

# SMALLMOUTH BASS

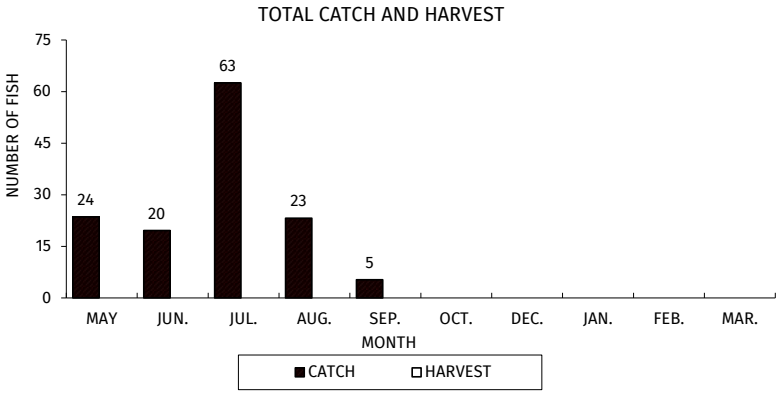
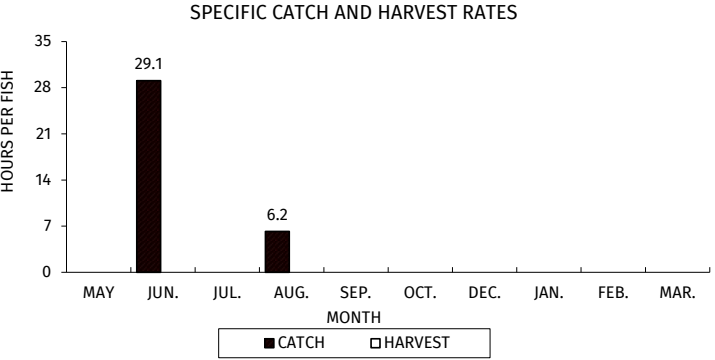
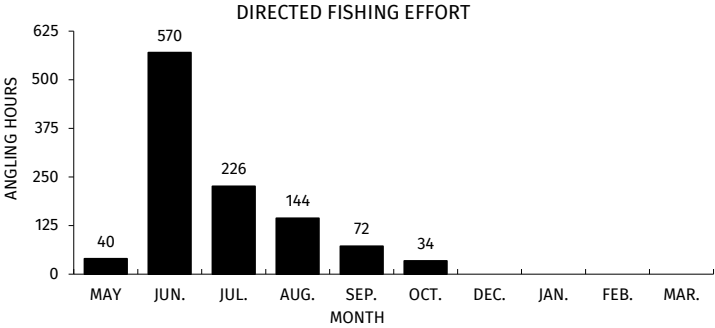


Figure 4. Smallmouth Bass fishing effort, catch and harvest, Somo Lake, during 2021-22.

# LARGEMOUTH BASS

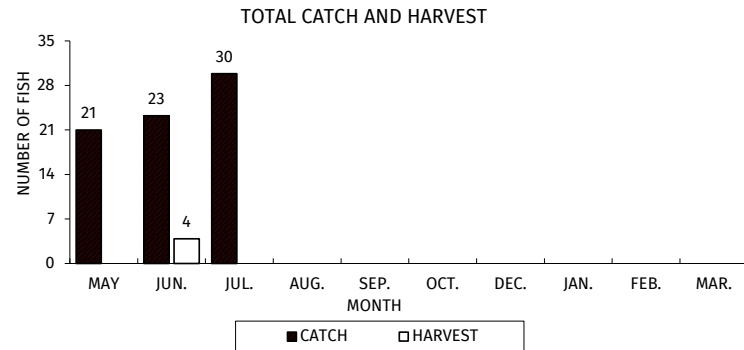
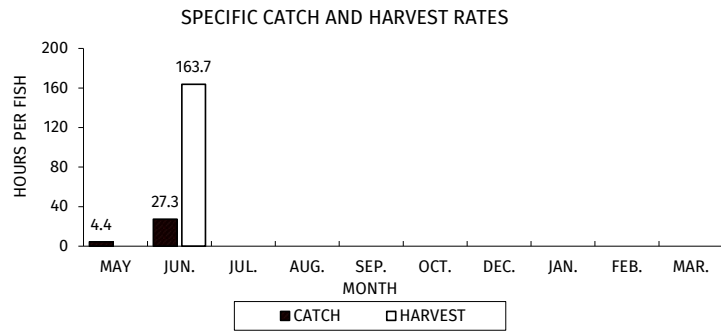
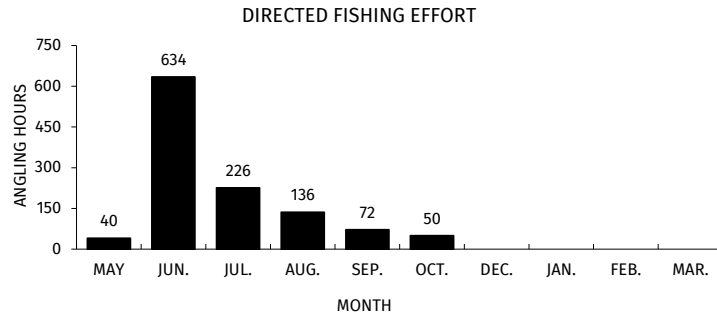


Figure 5. Largemouth Bass fishing effort, catch and harvest, Somo Lake, during 2021-22.

# YELLOW PERCH

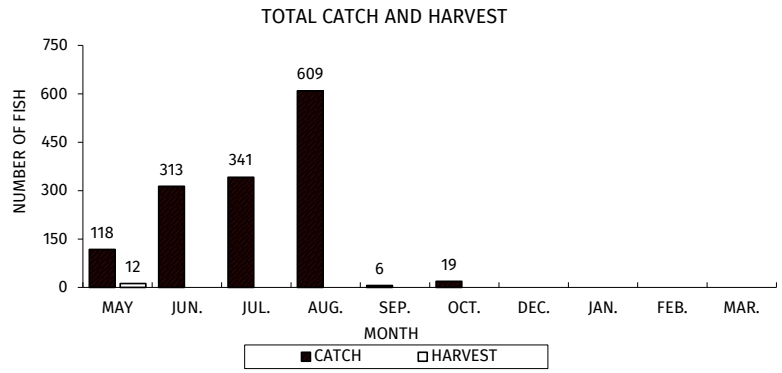
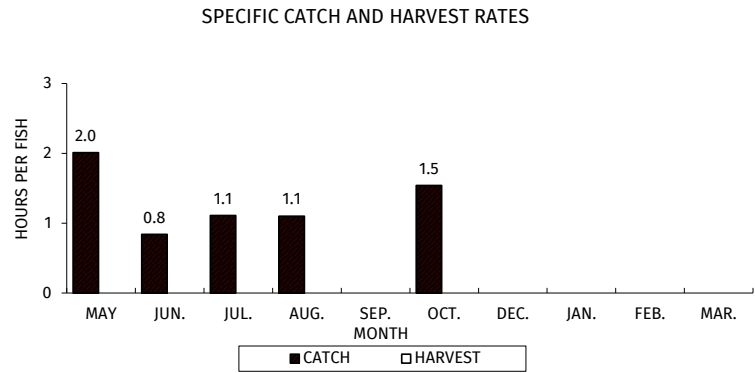
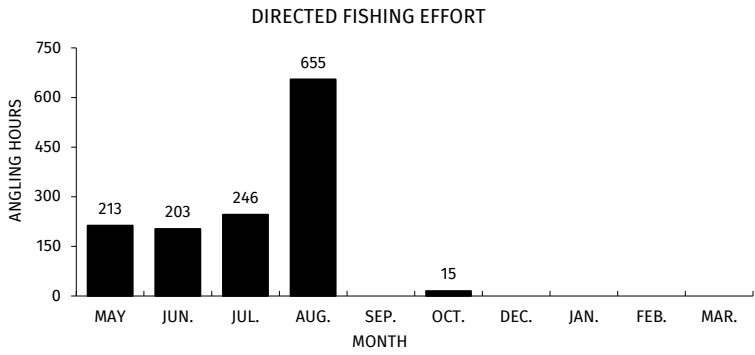


Figure 6. Yellow Perch fishing effort, catch and harvest, Somo Lake, during 2021-22.

# BLUEGILL

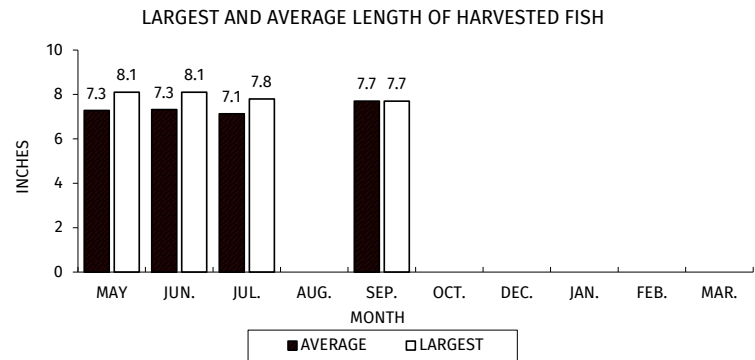
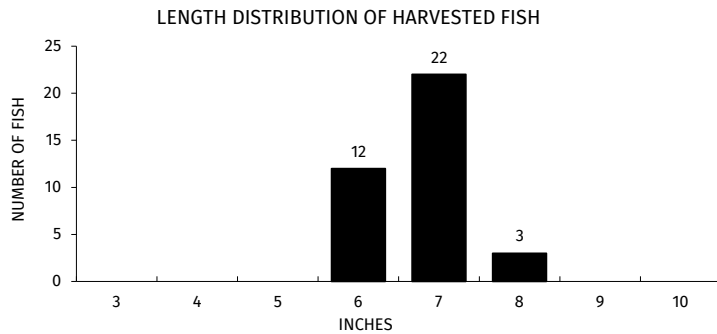
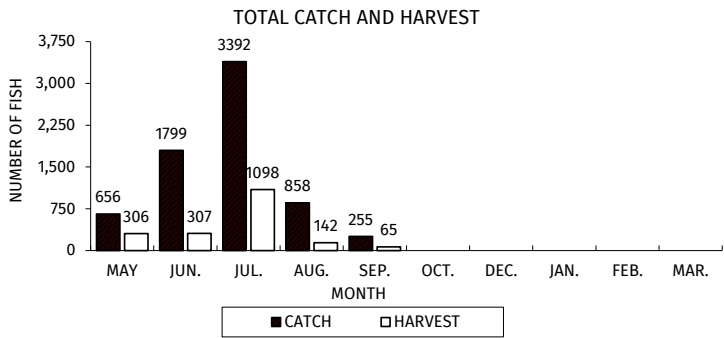
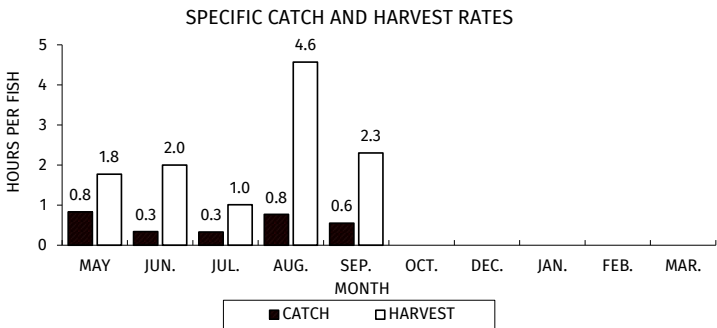
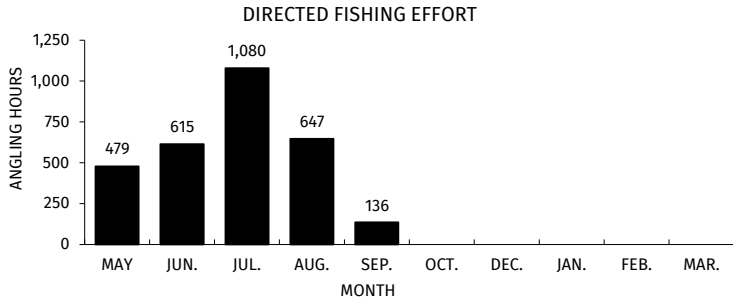


Figure 7. Bluegill fishing effort, catch, harvest and length distribution, Somo Lake, during 2021-22.

# BLACK CRAPPIE

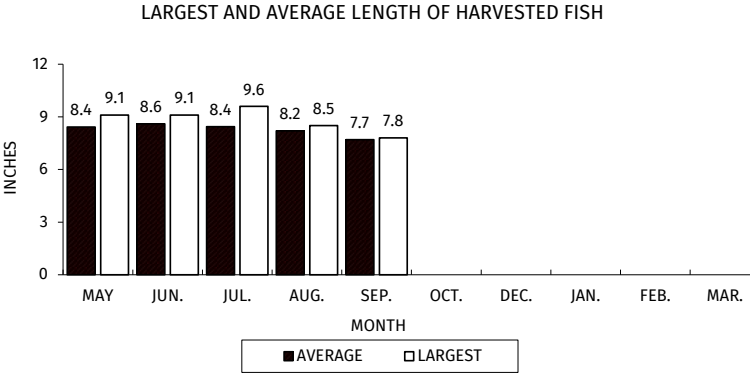
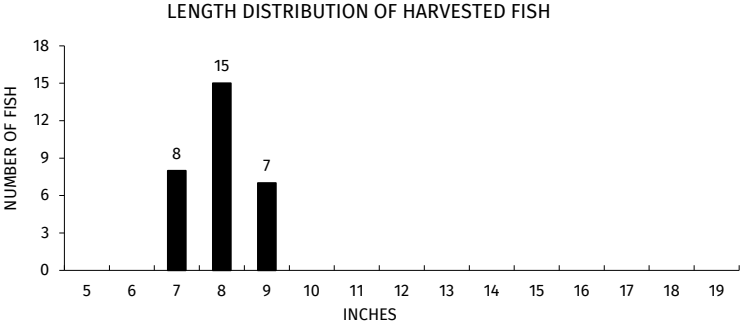
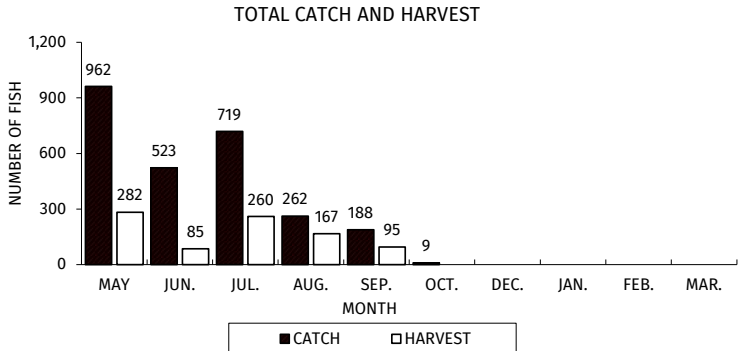
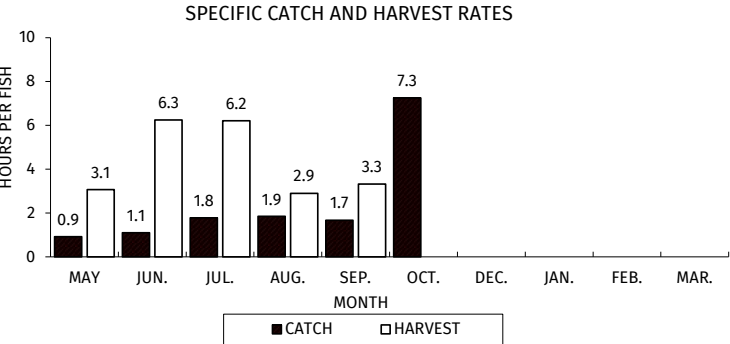
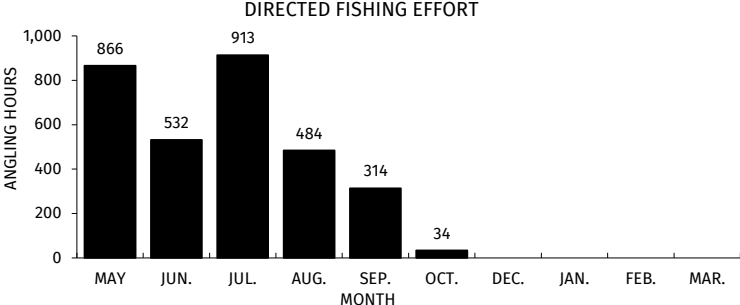
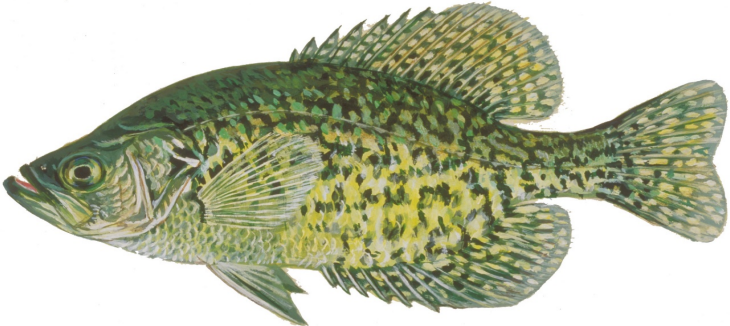


Figure 8. Black Crappie fishing effort, catch, harvest and length distribution, Somo Lake, during 2021-22.



# PUMPKINSEED

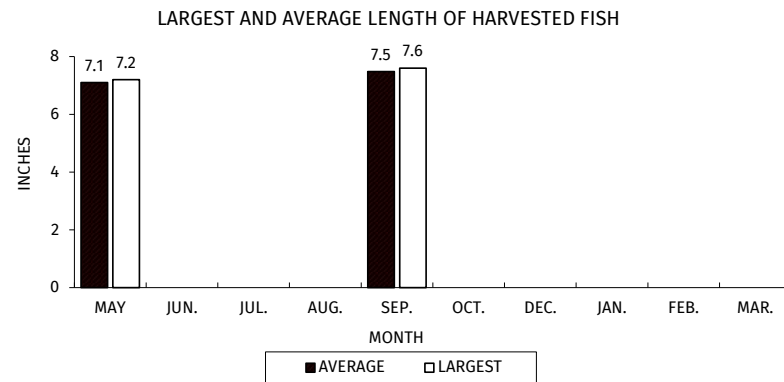
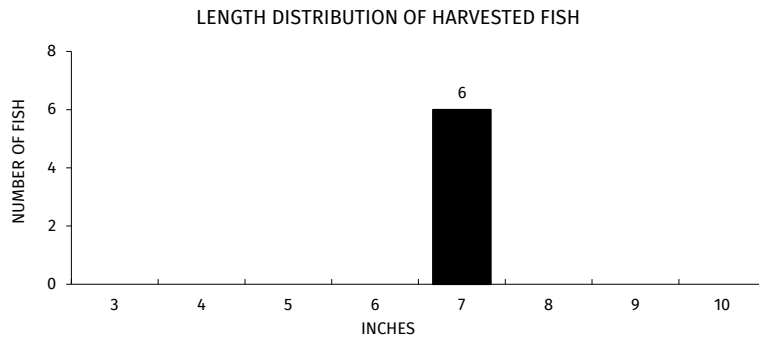
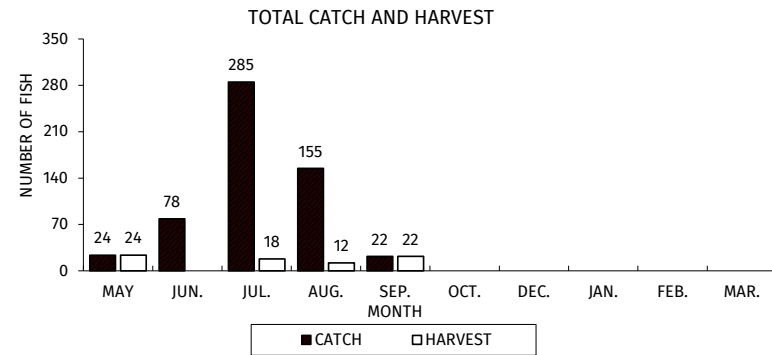
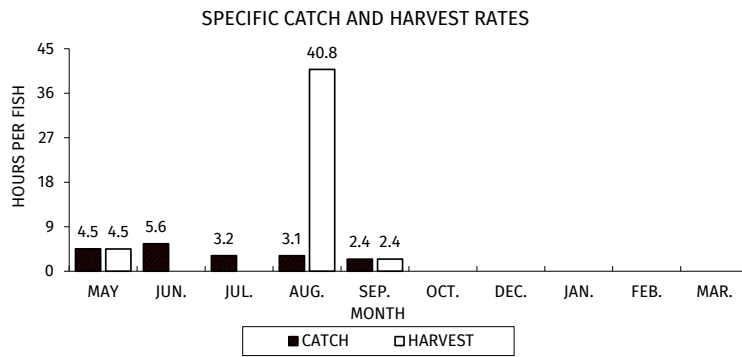
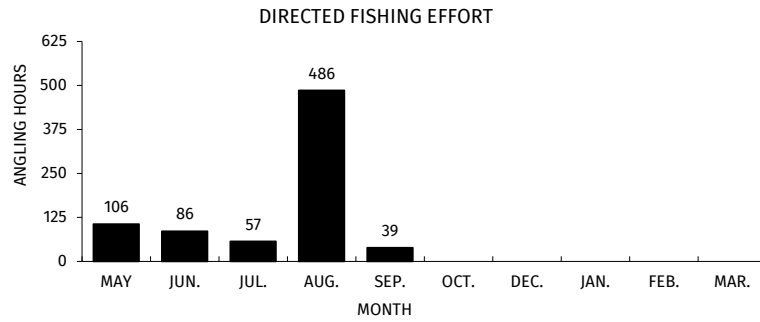


Figure 9. Pumpkinseed fishing effort, catch, harvest and length distribution, Somo Lake, during 2021-22.

# ROCK BASS

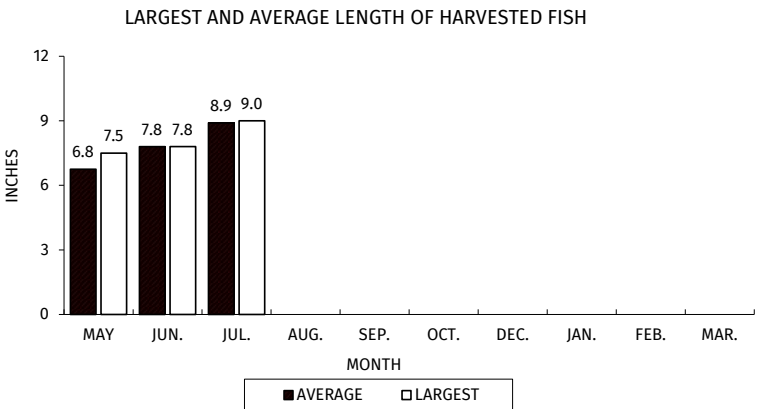
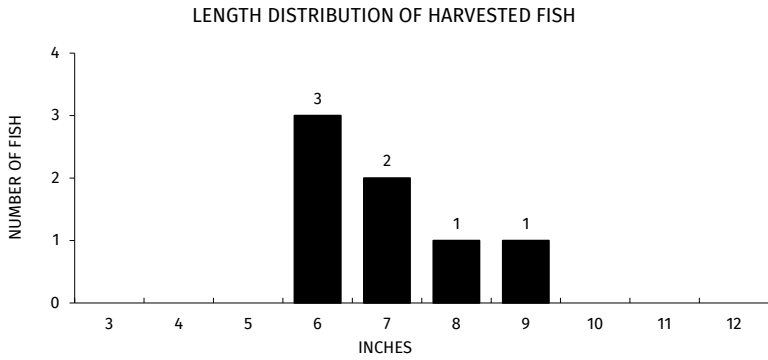
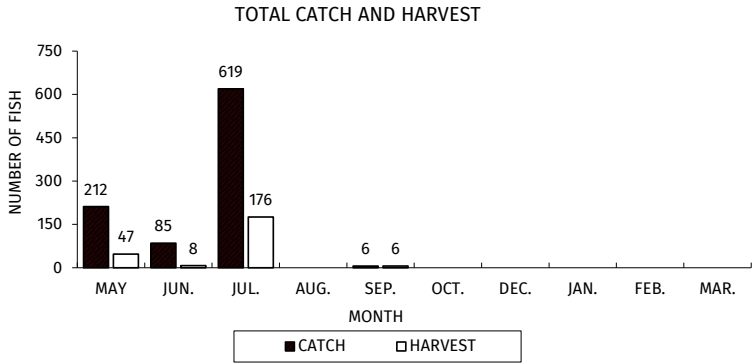


Figure 10. Rock Bass catch, harvest, and length distribution, Somo Lake, during 2021-22.

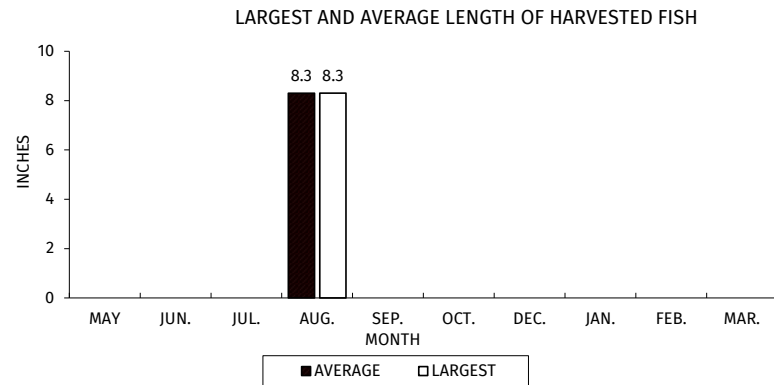
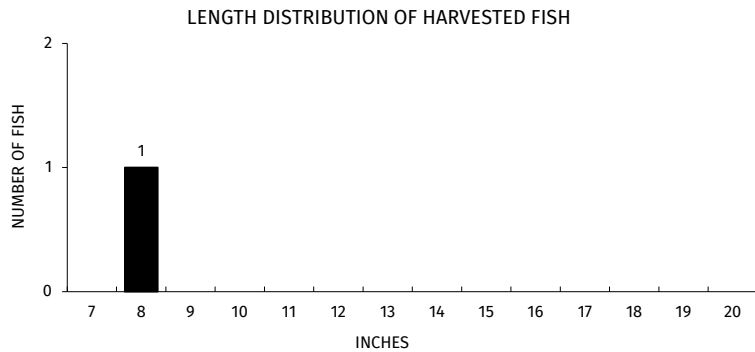
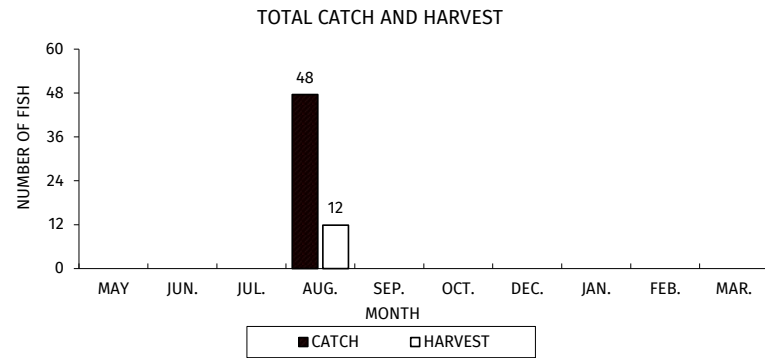
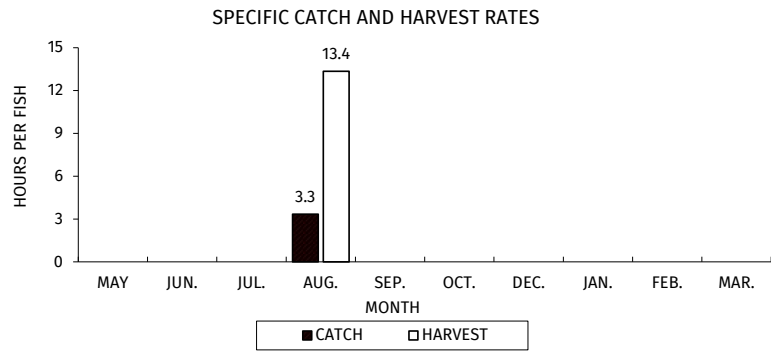
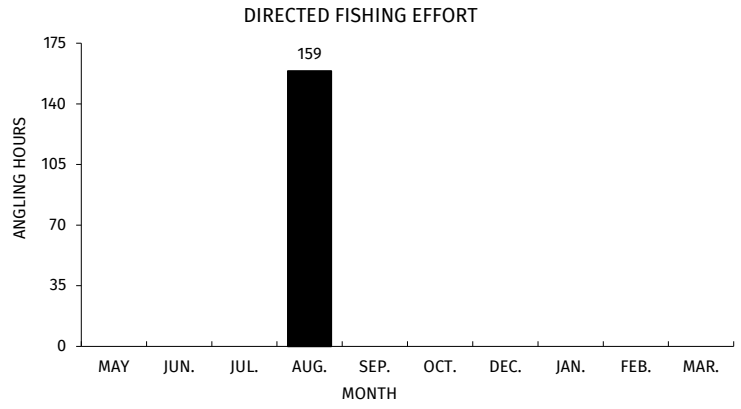


Figure 11. White Crappie fishing effort, catch, harvest and length distribution, Somo Lake, during 2021-22.