

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

# BIG SAINT GERMAIN LAKE

2021 – 2022 CREEL SURVEY REPORT

VILAS COUNTY



Treaty Fisheries Publication

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## 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 Big Saint Germain Lake, discussion of results of the survey and detailed summaries by species of fishing effort, catch and harvest.

## GENERAL LAKE INFORMATION



Big Saint Germain

### LOCATION

Big Saint Germain Lake is located in Vilas County near the town of Saint Germain.

### PHYSICAL CHARACTERISTICS

Big Saint Germain Lake is a 1,617-acre drainage lake with a maximum depth of 42 feet. Littoral substrate consists primarily of sand, with some gravel, rock and muck. Big Saint Germain Lake is a moderately fertile drainage lake with alkaline, clear water of moderate transparency. Content and Fawn Lakes, small lakes connected to Big Saint Germain Lake, were not included in this survey of Big Saint Germain Lake.

### 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 and the ice fishing creel survey ran from Dec. 1, 2021 through March 6, 2022.

### WEATHER

Ice-out on Big Saint Germain Lake was in early-April 2021. Fishable ice formed on Big Saint Germain Lake around mid-December 2021.

### FISHING REGULATIONS

The following seasons, daily bag limits and length limits were in place on Big Saint Germain 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/ 1-12/ 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 1-10, along with a comparison of these statistics with the previous creel survey in Table 2. Information about species with fishing seasons extending beyond March 6 should be considered minimum estimates. 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 third time the DNR conducted a creel survey on Big Saint Germain Lake. The last creel survey took place in 2011-12. To stay consistent with previous survey methods, angler effort, catch, and harvest from connected Content and Fawn lakes were excluded from this survey.

### **GENERAL ANGLER INFORMATION**

Anglers spent 41,120 hours, or 25.4 hours per acre, fishing Big Saint Germain Lake during the 2021-22 season (Table 1). That was less than the Vilas County average of 33.8 hours per acre and less than the fishing effort documented during the 2011-12 creel survey (34.6 hours per acre). June was the most heavily fished month (9,149 hours) and fishing effort was lightest in December (610 hours). The creel clerks were able to conduct 554 interviews throughout the survey.

### **RESULTS BY SPECIES**

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

Walleye received the most fishing effort of any gamefish species during the season. Anglers spent 21,234 hours targeting Walleye. The greatest fishing effort for Walleye was in June (5,140 hours). December had the least amount of Walleye fishing effort (261 hours). The total catch of Walleye was 4,943 fish, with a harvest of 777. The highest catch (1,987 fish) and highest harvest (401 fish) both occurred in August. Anglers fished an estimated 4.4 hours to catch and 27.3 hours to harvest a Walleye during the survey. The mean length of harvested Walleye was 16.3 inches and the largest measured was a 24.5-inch fish.

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

Fishing effort directed at Northern Pike was 3,794 hours during the season. Northern Pike fishing effort was greatest in August (804 hours). The total catch of Northern Pike was 1,663 fish, with a harvest of 117. Anglers fished an estimated 8.9 hours to catch a Northern Pike during the survey. The mean length of harvested Northern Pike was 22.4 inches and the largest measured was a 31.7-inch fish.

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

Anglers spent 11,218 hours targeting Muskellunge during the season. Muskellunge fishing effort was greatest in July (2,612 hours). The total catch of Muskellunge was 90 fish, and the highest catch (30 fish) occurred in June. Anglers fished an estimated 210.8 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 6,517 hours during the season. Smallmouth Bass fishing effort was greatest in June (2,595 hours). The total catch of Smallmouth Bass was 3,404 fish, with 16 harvested. The highest catch (1,432 fish) occurred in June. Anglers fished an estimated 2.4 hours to catch a Smallmouth Bass during the survey.

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

Fishing effort directed at Largemouth Bass was 2,735 hours during the season. Largemouth Bass fishing effort was greatest in June (1,255 hours). Total catch of Largemouth Bass was 438 fish, with no fish harvested. The highest catch (174 fish) occurred in June. Anglers fished an estimated 7.3 hours to catch a Largemouth Bass during the survey.

#### **PANFISH** (Table 2, Figures 6-10)

**YELLOW PERCH** were the most sought after panfish species during the survey. Yellow Perch received 5,062 hours of directed fishing effort. The total catch of Yellow Perch was 6,110 fish, with 891 harvested. The mean length of Yellow Perch harvested was 8.7 inches.



**BLUEGILL** received 2,071 hours of directed fishing effort. The total catch of Bluegill was 1,148 fish, with 201 harvested. The mean length of Bluegill harvested was 7.5 inches.

**BLACK CRAPPIE** received 2,686 hours of directed fishing effort. Anglers caught 487 Black Crappie and harvested 211. The mean length of Black Crappie harvested was 11.3 inches.

**PUMPKINSEED** received 708 hours of directed fishing effort. Anglers caught and harvested 69 Pumpkinseed. The mean length of Pumpkinseed harvested was 7.8 inches.

**ROCK BASS** did not receive any directed fishing effort. However, anglers caught 144 Rock Bass and harvested 15. The mean length of Rock Bass harvested was 9.4 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, Rob and Kaye Manthei, who generously allowed the DNR to keep a boat and snowmobile 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 Big Saint Germain Lake during the survey period were Jerry Storke, John Davis and Ryan Flaherty.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger and Eric Wegleitner 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, Big Saint Germain Lake, 2021-22 season; compared to 2011-12 creel results, Vilas County averages, and Ceded Territory averages.**

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	2011-12 Total Angler Hours/Acre	Vilas County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	60	4,356	2.7	5.2	5.2	4.8
June	99	9,149	5.7	6.8	6.7	6.2
July	89	7,521	4.7	7.5	7.1	6.6
August	77	8,036	5.0	6.4	6.2	5.2
September	59	5,096	3.2	4.2	4.1	3.2
October	85	3,306	2.0	2.0	1.9	1.4
December	12	610	0.4	0.5	0.6	1.1
January	31	1,543	1.0	0.8	0.9	1.7
February	38	1,377	0.9	1.0	1.0	1.6
March	4	127	0.1	0.2	0.2	0.2
Summer Total	469	37,463	23.2	32.1	31.3	27.3
Winter Total	85	3,657	2.3	2.5	2.7	4.6
Grand Total	554	41,120	25.4	34.6	33.8	31.5

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 Big Saint Germain 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 Big Saint Germain Lake to other lakes.

**2011-12 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 Big Saint Germain 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 Big Saint Germain Lake to other lakes in northern Wisconsin.

**Table 2. Comparison of creel survey synopses, Big Saint Germain Lake, 2021-22 and 2011-12 fishing seasons.**

**CREEL YEAR: 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	21,234	37.9%	4,943	4.4	777	27.3	16.3
Northern Pike	3,794	6.8%	1,663	8.9	117	61.7	22.4
Muskellunge	11,218	20.0%	90	210.8	0	*	**
Smallmouth Bass	6,517	11.6%	3,405	2.4	16	403.0	19.1
Largemouth Bass	2,735	4.9%	438	7.3	0	*	**
Yellow Perch	5,062	9.0%	6,110	1.2	891	6.7	8.7
Bluegill	2,071	3.7%	1,148	2.4	201	10.6	7.5
Black Crappie	2,686	4.8%	487	7.9	211	13.2	11.3
Pumpkinseed	708	1.3%	69	10.3	69	10.3	7.8
Rock Bass	0	0.0%	144	*	15	*	9.4

**CREEL YEAR: 2011-12**

<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	24,952	24.6%	3,506	7.5	1,588	16.2	19.4
Northern Pike	8,535	8.4%	3,496	8.0	941	18.8	24.2
Muskellunge	15,320	15.1%	390	48.5	0	*	**
Smallmouth Bass	6,796	6.7%	6,175	2.4	353	25.2	15.7
Largemouth Bass	2,044	2.0%	1,478	3.6	44	*	15.1
Yellow Perch	15,568	15.3%	33,954	0.6	6,418	2.7	8.4
Bluegill	12,054	11.9%	34,363	0.5	8,891	1.5	7.3
Black Crappie	15,341	15.1%	9,696	1.6	6,288	2.5	10.5
Pumpkinseed	1,021	1.0%	2,041	2.1	480	8.2	7.4
Rock Bass	0	0.0%	2,830	*	114	*	7.6

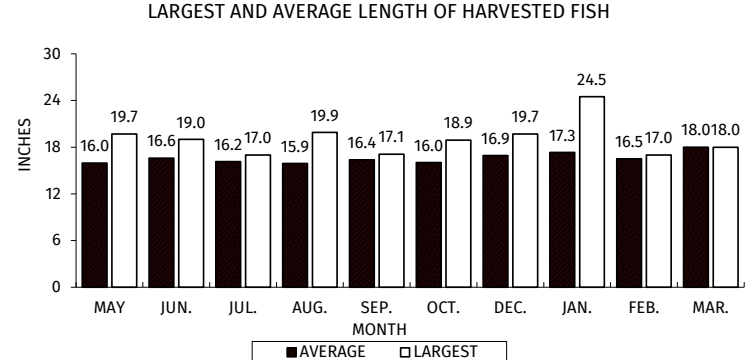
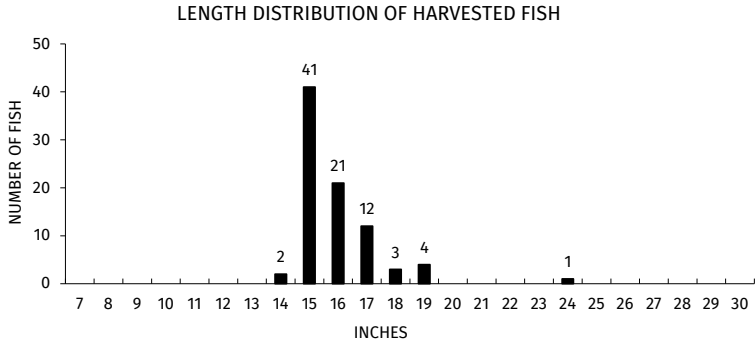
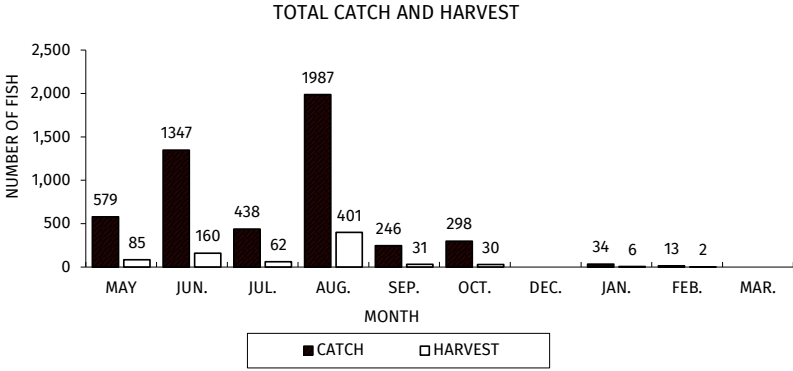
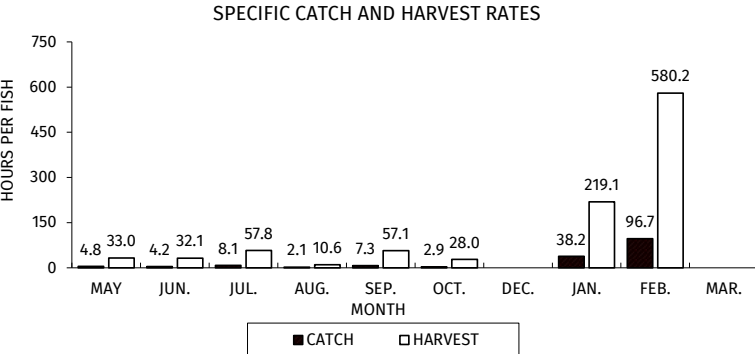
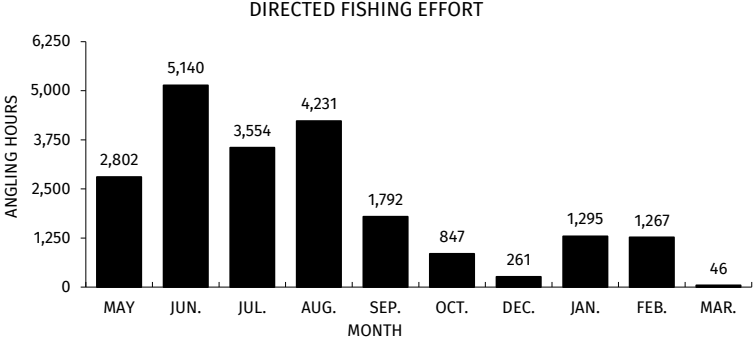
Note: If a species is not shown in a table, no data was collected by the creel clerks for that species.

\* 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



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Figure 1. Walleye fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.

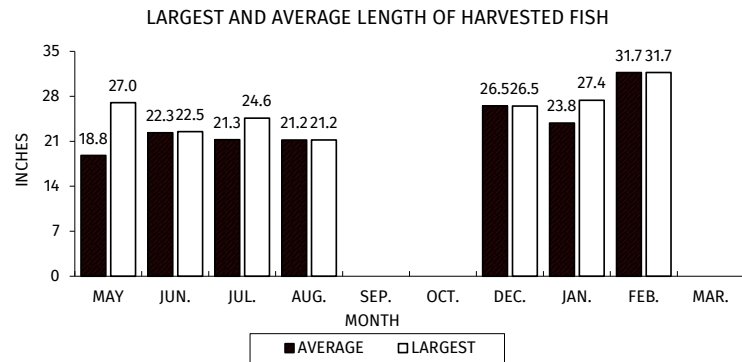
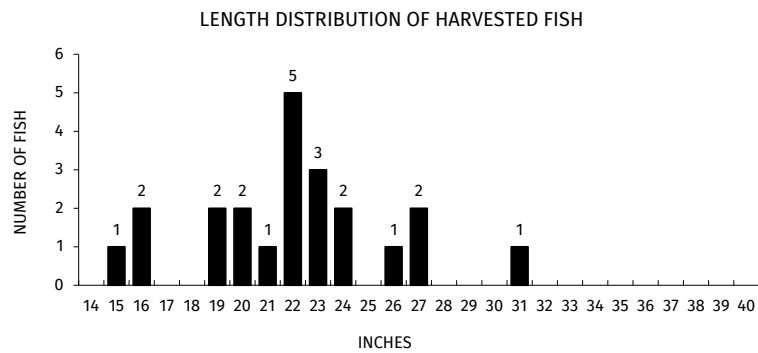
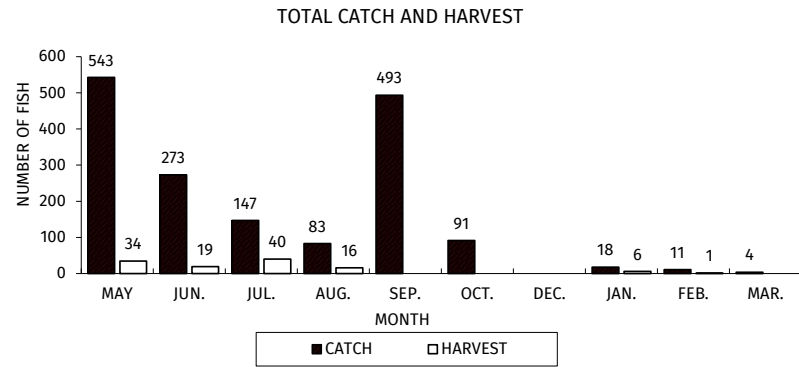
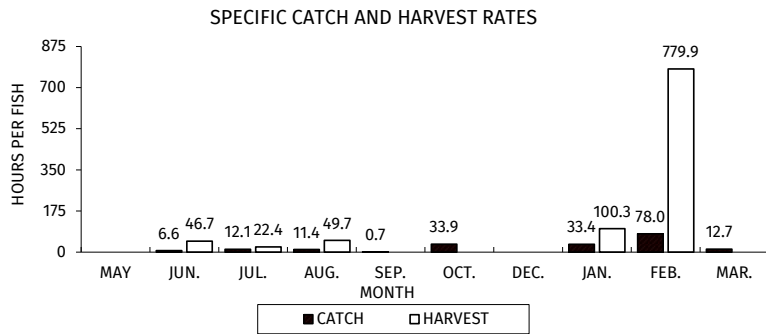
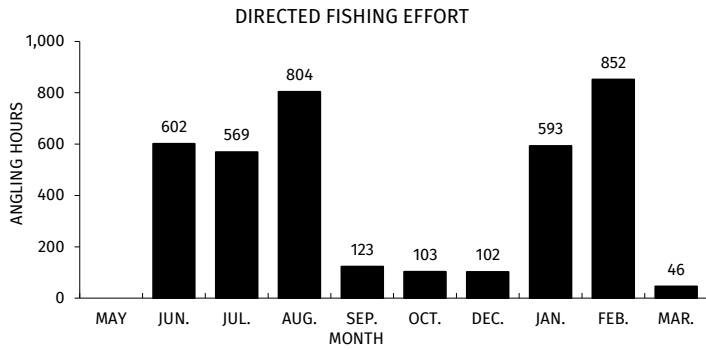
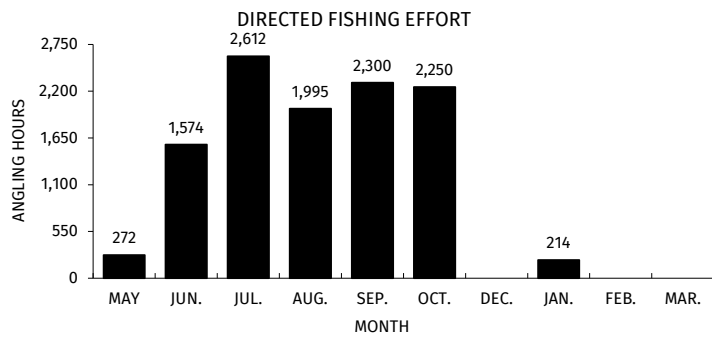


Figure 2. Northern Pike fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.



## MUSKELLUNGE

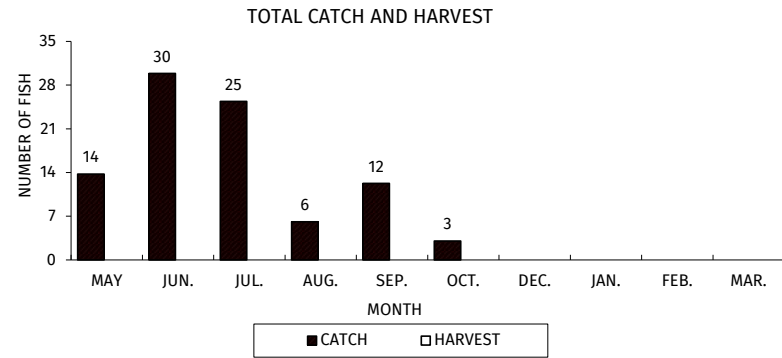
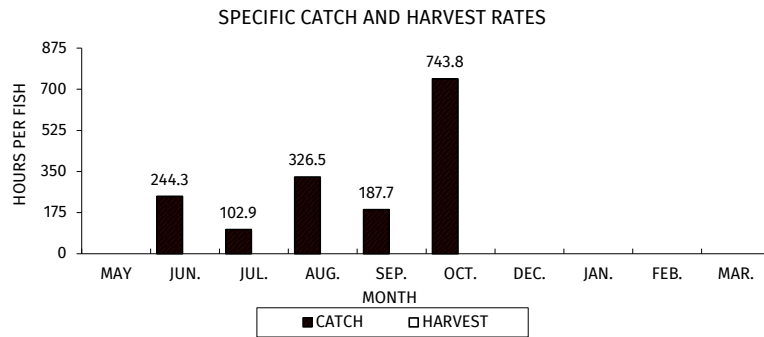


Figure 3. Muskellunge fishing effort, catch and harvest, Big Saint Germain Lake, during 2021-22.

# SMALLMOUTH BASS

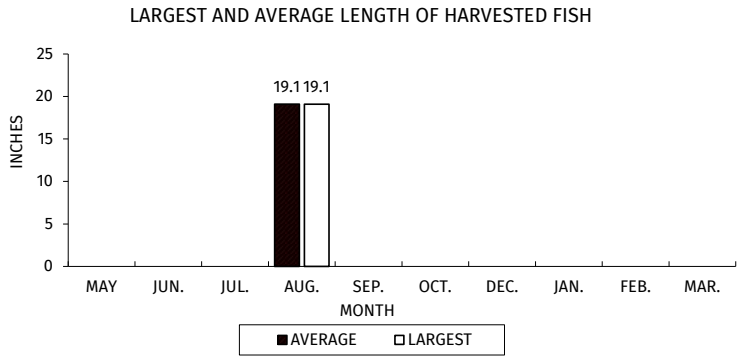
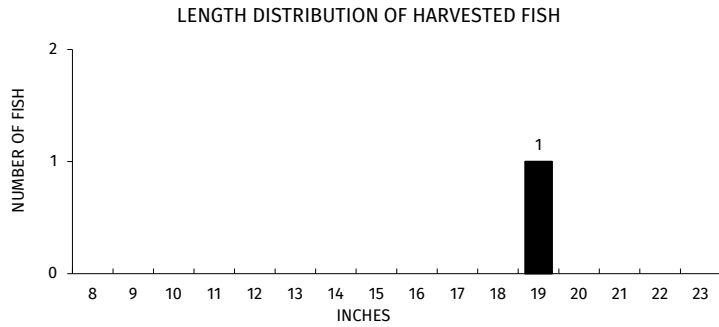
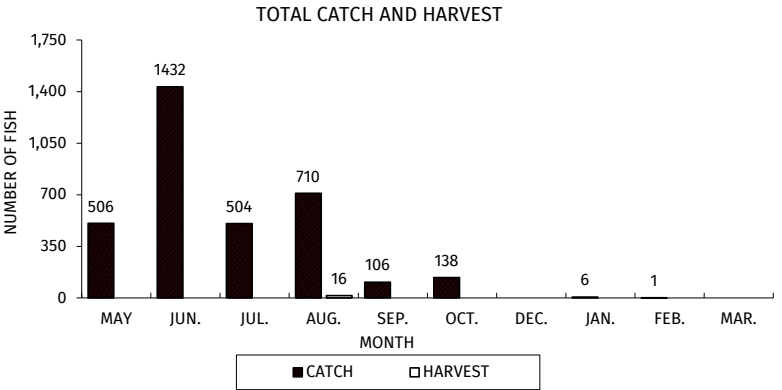
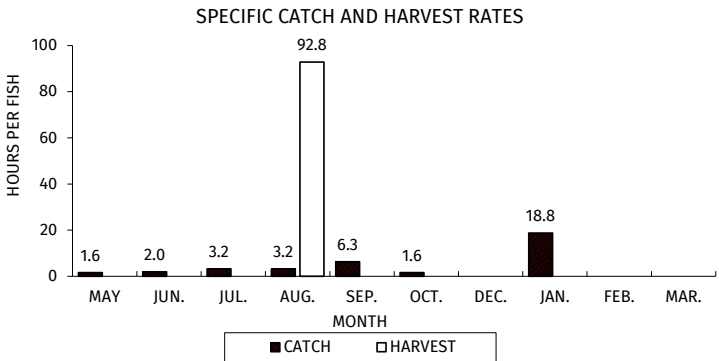
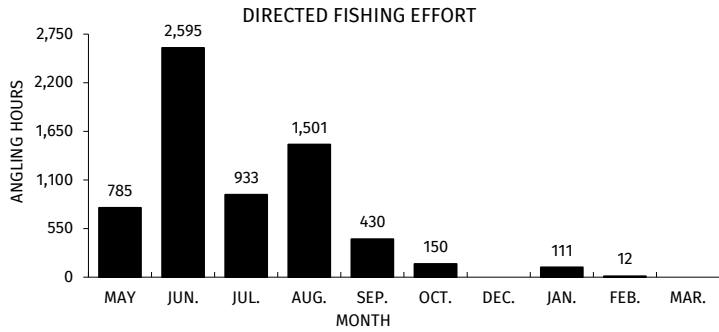


Figure 4. Smallmouth Bass fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.

## LARGEMOUTH BASS

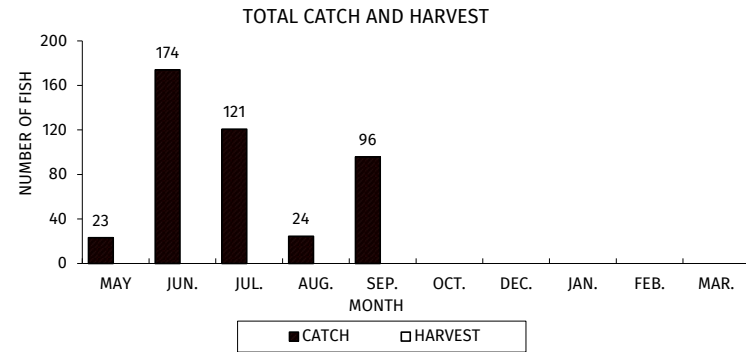
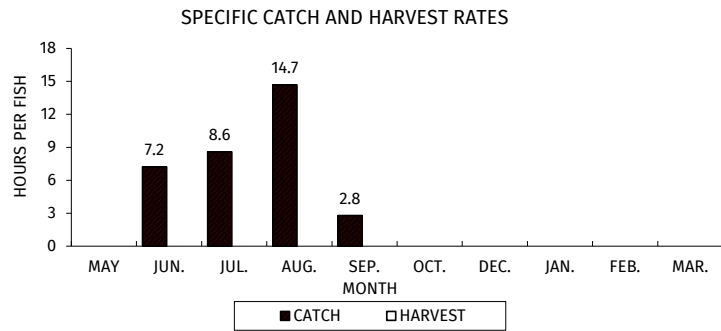
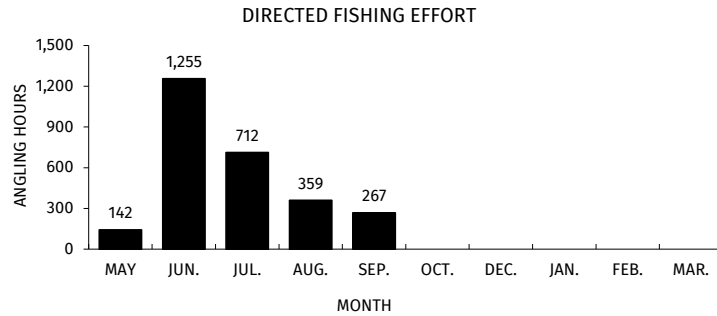


Figure 5. Largemouth Bass fishing effort, catch and harvest, Big Saint Germain Lake, during 2021-22.

# YELLOW PERCH

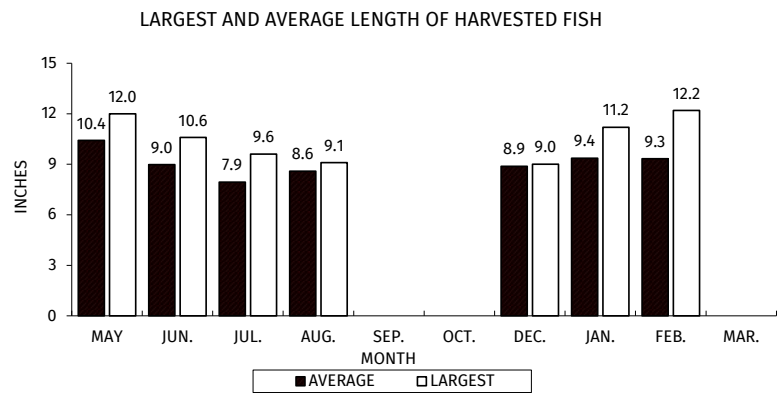
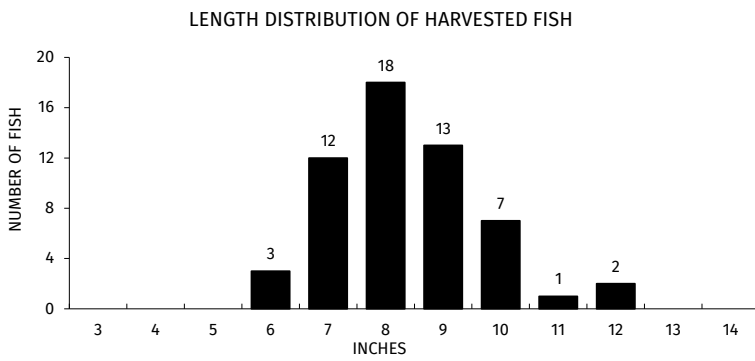
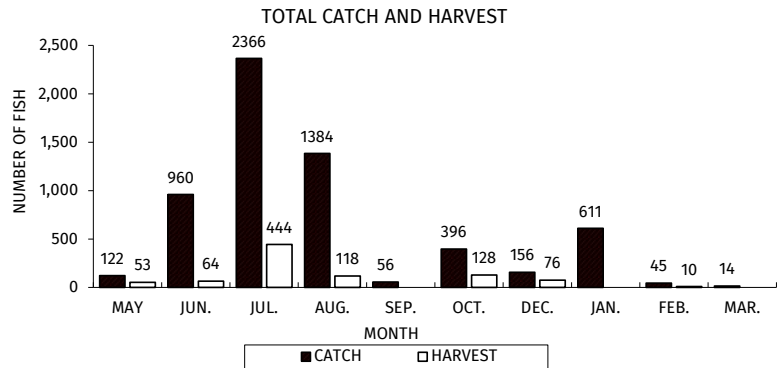
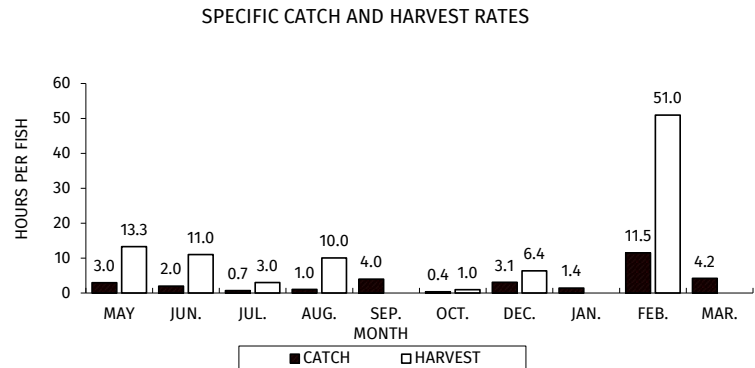
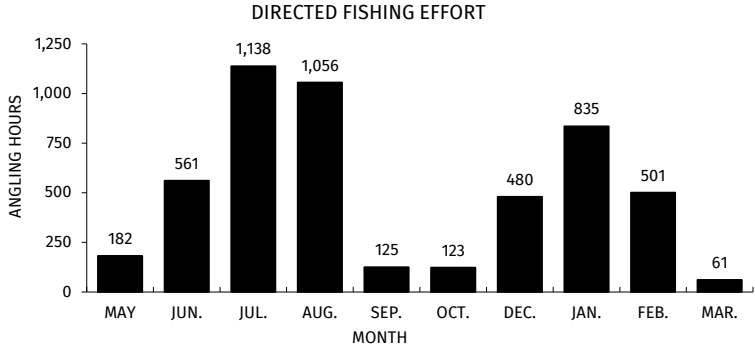


Figure 6. Yellow Perch fishing effort, catch, harvest, and length distribution, Big Saint Germain Lake, during 2021-22.



# BLUEGILL

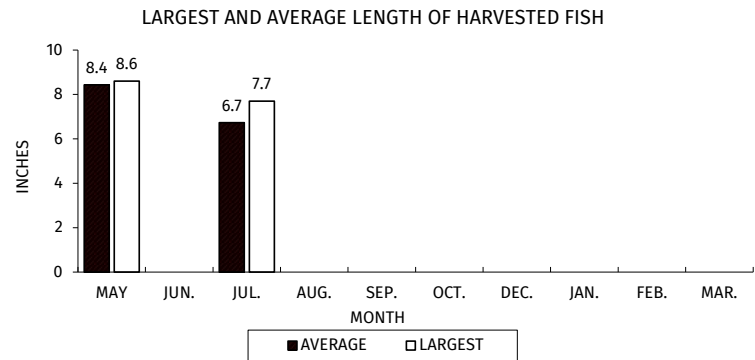
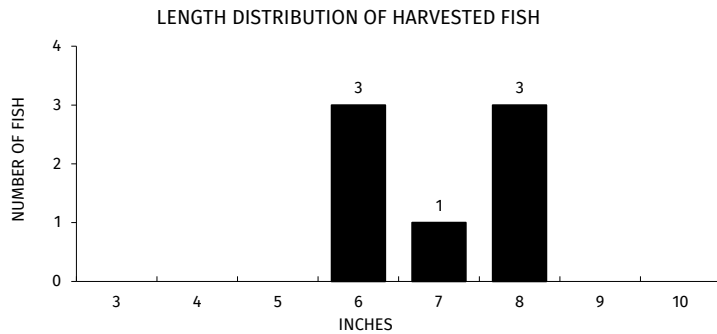
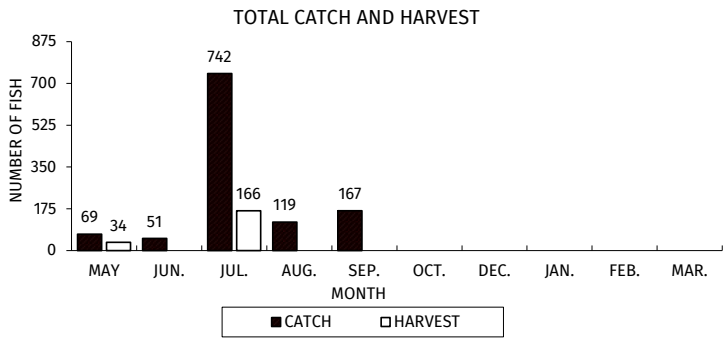
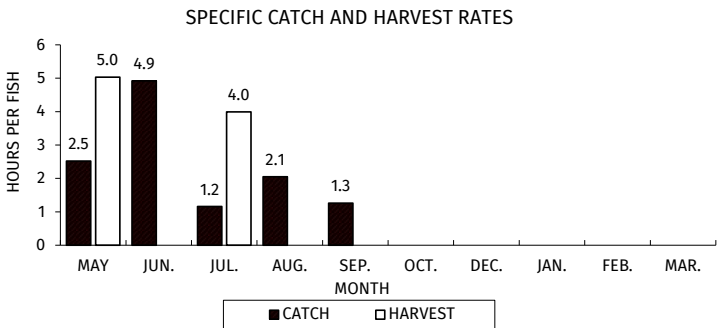
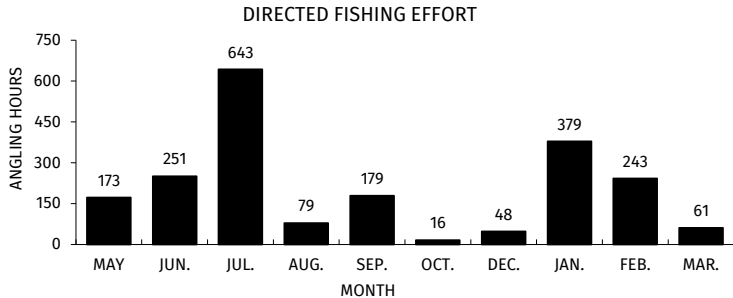


Figure 7. Bluegill fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.

# BLACK CRAPPIE

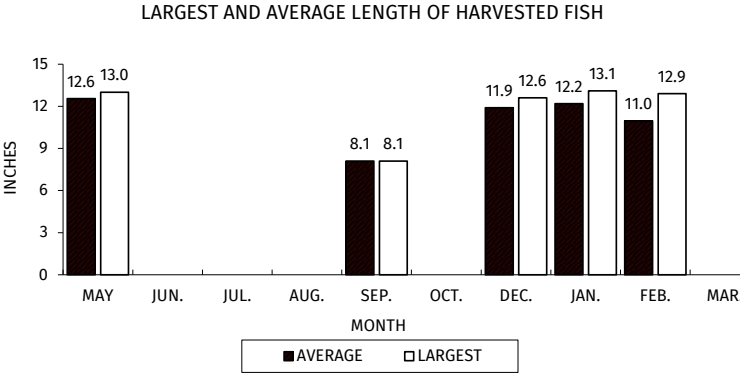
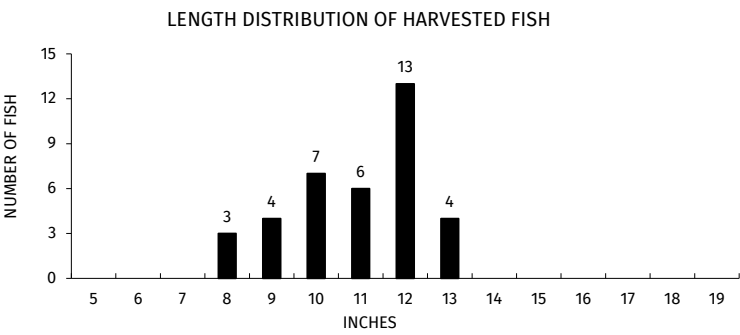
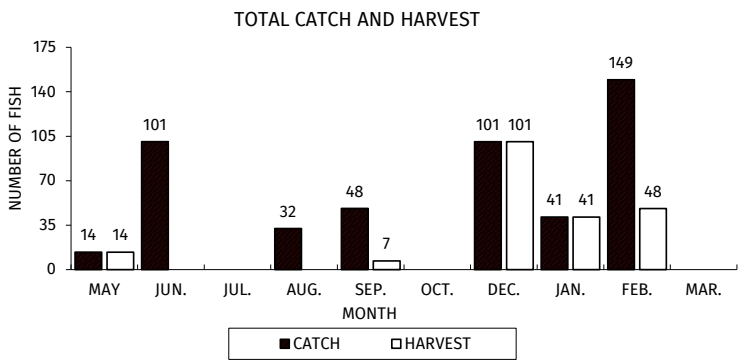
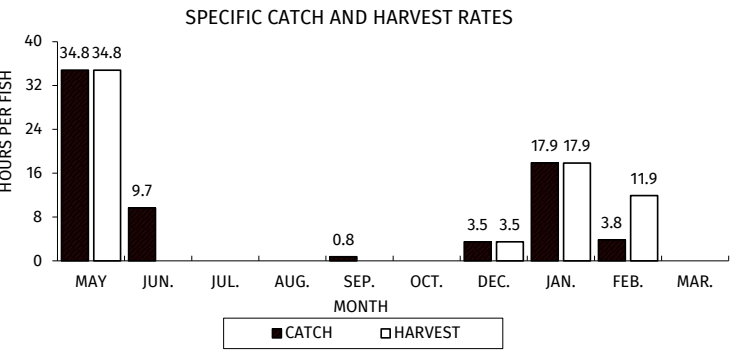
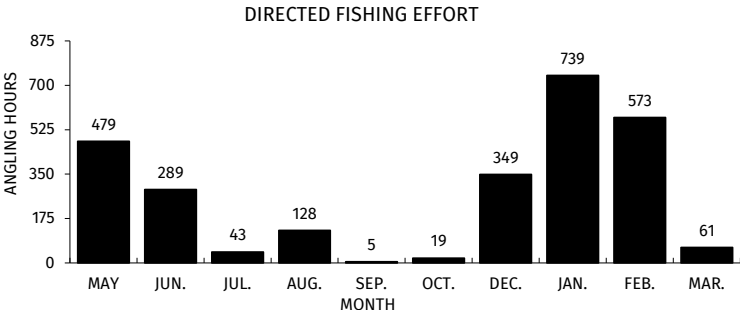
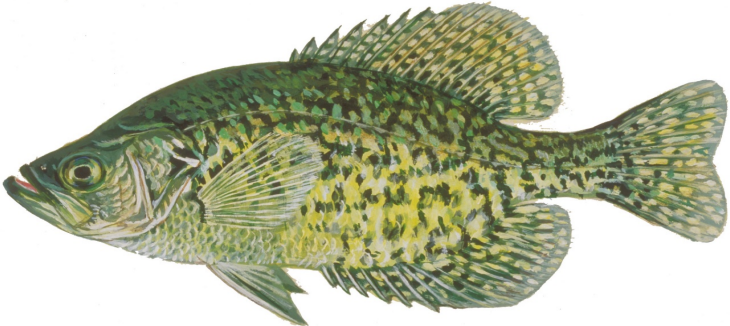


Figure 8. Black Crappie fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.

# PUMPKINSEED

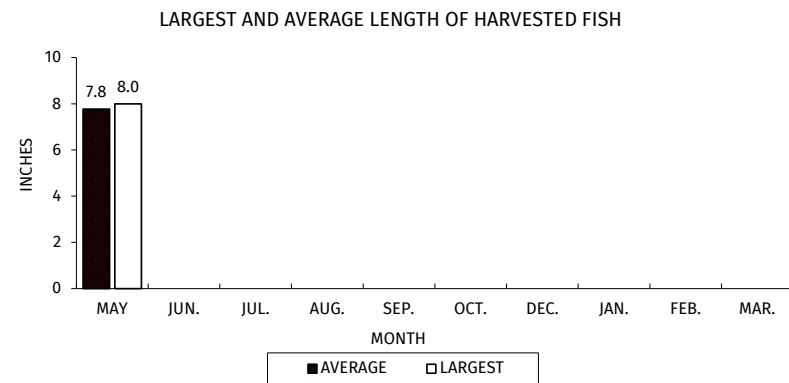
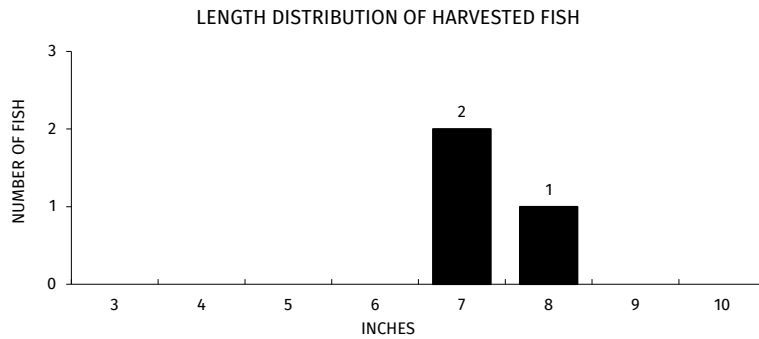
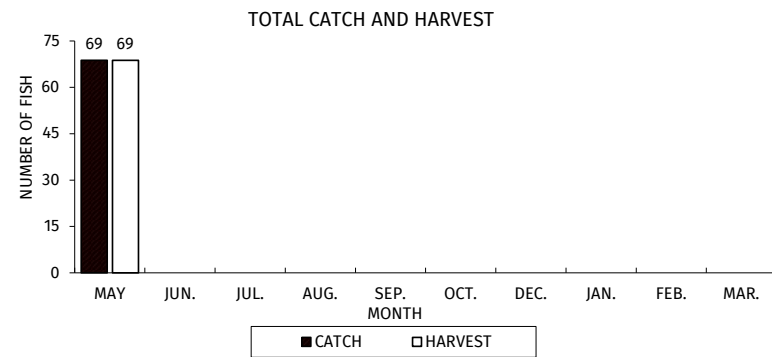
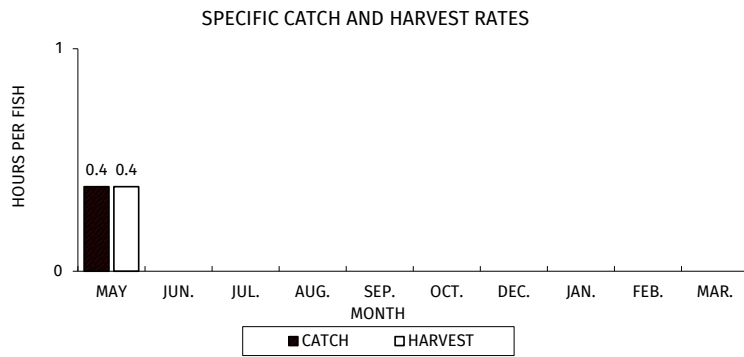
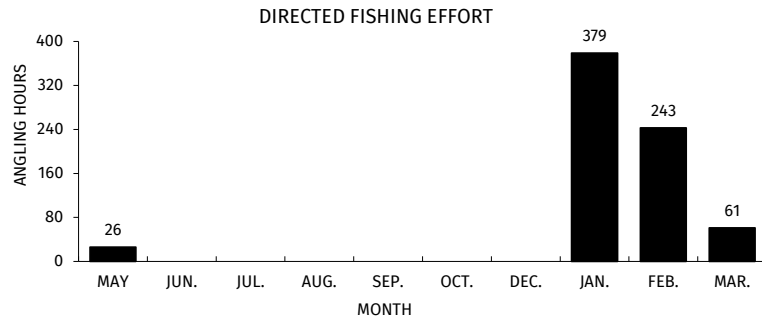


Figure 9. Pumpkinseed fishing effort, catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.

# ROCK BASS

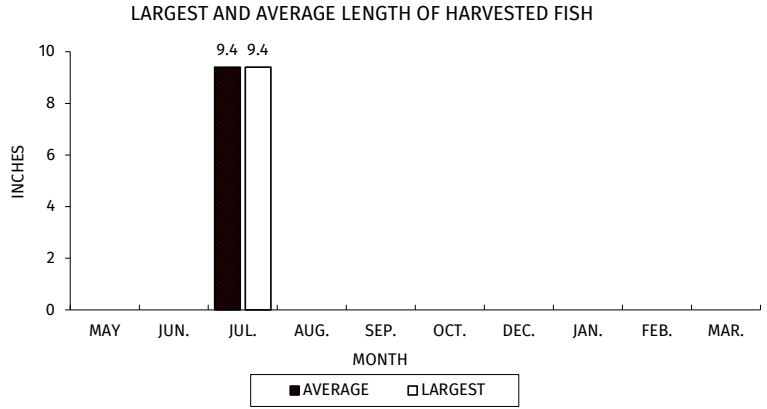
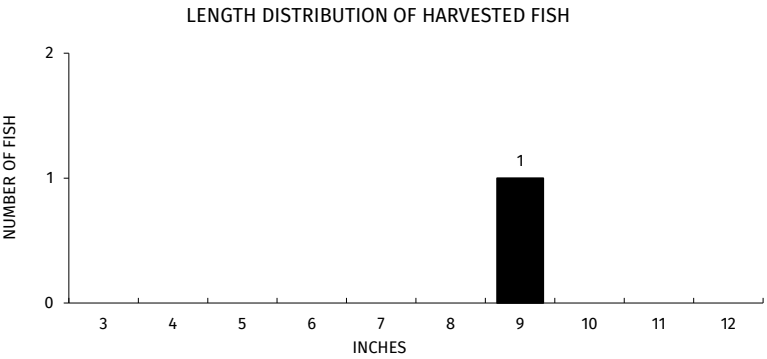
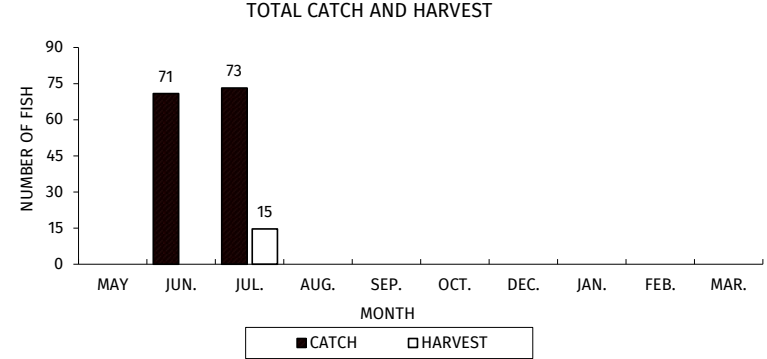


Figure 10. Rock Bass fishing catch, harvest and length distribution, Big Saint Germain Lake, during 2021-22.