WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CREEL SURVEY REPORT

HARRIS LAKE

VILAS COUNTY

2019-20

Treaty Fisheries Publication

Compiled by Jason Halverson &
Eric Brown
Treaty Fisheries Technicians

CONTENTS

SUMMARY TABLES

SPECIES CATCH AND HARVEST FIGURES

Cover Art: Steve Hilt, Portland, OR
Fish Graphics: Virgil Beck, Stevens Point, WI & John Lyons, UW Zoological Museum

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. Wisconsin Department of Natural Resources (WDNR) 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. The other key component of the fishery that we often need to measure is harvest.

On many lakes in the Ceded Territory of northern Wisconsin, harvest of fish is divided between sport anglers and the six Chippewa tribes who harvest fish under rights granted by federal treaties. The tribes harvest fish mostly using a highly efficient method, spearing, during a relatively short time period in the spring. Every fish in the spear harvest is counted – a complete "census" of the harvest.

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

A creel survey is an assessment tool used to sample the fishing activities of anglers on a body of water and make projections, or estimates, of harvest and other fishery parameters. Creel survey clerks work on randomly-selected days and shifts, forty hours per week. The survey is conducted during the open season for gamefish from the first Saturday in May through the first Sunday in March. Creel surveys are not conducted in November when fishing effort is low and ice conditions are often unsafe. The survey is run during daylight hours, and shift times change from month to month as day length changes.

Creel survey clerks travel their lakes using a boat or snowmobile to count the number of anglers at predetermined times, and to interview anglers who have completed their fishing trip. Data 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.

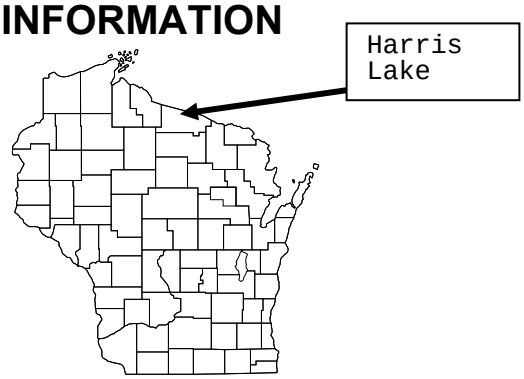
You may have encountered a WDNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a few minutes of your time, and it gives the WDNR valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Location

Harris Lake is located in Vilas County near the town of Winchester.

Physical Characteristics

Harris Lake is a 507-acre drainage lake with predominately sand and gravel substrates, with some muck. It has 6.0 miles of shoreline and a maximum depth of 57 feet. Harris Lake contains slightly acidic, light brown water of moderate transparency.

Seasons Surveyed

The period referred to in this report as the 2019-20 fishing season ran from May 4, 2019 through March 1, 2020. The open-water creel survey ran from May 4 through October 31, 2019, and the ice fishing creel survey ran from December 1, 2019 through March 1, 2020.

Weather

Ice-out on Harris Lake was around April 29, 2019. Many smaller lakes like Harris formed fishable ice in early November. Warm weather and several snowfalls resulted in slushy, variable ice conditions for most of November through mid-December.

Fishing Regulations

The following seasons, daily bag limits, and length limits were in place on Harris Lake during the 2019-20 fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass	5/4-3/1	5	14"
Smallmouth Bass	5/4-6/14	Catch&Release	
	6/15-3/1	5	14"
Musky	5/25-11/30	1	40"
Northern Pike	5/4-3/1	5	none
Walleye	5/4-3/1	3	
No minimum length, 1 > 14" allowed			
Panfish	year round	25	none
Rock Bass	year round	none	none

SPECIES CATCH AND HARVEST INFORMATION

Angling effort, catch, and harvest information is summarized for each species in Table 2 and Figures 1-10. Table 2 also includes a comparison of these statistics with the previous creel survey. Information presented about species whose fishing season extends beyond March 1 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

1. **ESTIMATED FISHING EFFORT**
   Total calculated number of hours during each month that anglers spent fishing for a species.

2. **ESTIMATED CATCH AND HARVEST**
   Calculated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.

3. **ESTIMATED SPECIFIC CATCH AND HARVEST RATES**
Calculated number of hours it takes an angler to catch or harvest a fish of the indicated species. Only information from anglers who were specifically targeting that species is reported.

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 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 WDNR conducted a creel survey on Harris Lake. The last creel survey took place in 1997-98.

General Angler Information

Anglers spent 5,621 hours, or 11.1 hours per acre, fishing Harris Lake during the 2019-20 season (Table 1). That was less than the Vilas County average of 34.2 hours per acre, and less than the fishing effort documented during the 1997-98 creel survey (23.6 hours per acre). August was the most heavily fished month (1,241 hours), and fishing effort was lightest in February (198 hours). The creel clerks were able to conduct 263 interviews throughout the survey.

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Anglers spent 1,651 hours targeting Walleye. The greatest fishing effort for Walleye was in December (398 hours). October had the least amount of Walleye fishing effort (5 hours). Total catch of Walleye was 308 fish, with a harvest of 164. Highest catch (213 fish) and highest harvest (112 fish) occurred in June. Anglers fished an average of 5.5 hours to catch and 10.4 hours to harvest a Walleye during the survey. The mean length of harvested Walleye was 16.2 inches, and the largest measured was 22.7 inches.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at Northern Pike was 46 hours during the season. Total catch of Northern Pike was 46 fish, with a harvest of 5. Anglers fished an average of 13.9 hours to catch a Northern Pike during the survey. The mean length of harvested Northern Pike was 24.2 inches, and the largest measured was 25.6 inches.

Muskellunge (Table 2, Figure 3)

Muskellunge received the most fishing effort of any gamefish species during the season. Anglers spent 2,894 hours targeting Muskellunge. Muskellunge fishing effort was greatest in September (910 hours). Total catch of Muskellunge was 97 fish, and the highest catch (37 fish) occurred in September. Anglers fished 30.8 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 634 hours during the season. Smallmouth Bass fishing effort was greatest in August (244 hours). Total catch of Smallmouth Bass was 215 fish, with 23 harvested. Highest catch (119 fish) occurred

in August. Anglers fished an average of 4.2 hours to catch a Smallmouth Bass during the survey. The mean length of harvested Smallmouth Bass was 8.2 inches, and the largest measured was 12.2 inches.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at Largemouth Bass was 111 hours during the season. Largemouth Bass fishing effort was greatest in June (69 hours). Total catch of Largemouth Bass was 2 fish, with no documented harvest.

Panfish (Table 2, Figures 6-9)

Yellow Perch were the most sought after panfish species during the survey. Yellow Perch received 736 hours of directed fishing effort. Anglers fished an average of 0.5 hours to catch a Yellow Perch. Total catch of Yellow Perch was 1,690 fish, with 474 harvested. The mean length of Yellow Perch harvested was 7.0 inches.

Bluegill received 90 hours of directed fishing effort. Anglers fished an average of 3.6 hours to catch a Bluegill. Total catch of Bluegill was 25 fish, with no harvest documented.

Black Crappie received 81 hours of directed fishing effort. There was no catch or harvest of Black Crappie documented.

Pumpkinseed received 66 hours of directed fishing effort during the season. Total catch of Pumpkinseed was 87 fish, with no harvest documented.

Rock Bass did not receive any directed fishing effort. However, anglers caught 47 Rock Bass and harvested 5. The mean length of Rock Bass harvested was 6.1 inches.

Other Species (Table 2, Figure 10)

Common Shiner did not receive any directed fishing effort. However, anglers caught 33 Common Shiner and harvested 11. The mean length of Common Shiner harvested was 6.3 inches.

ACKNOWLEDGMENTS

The WDNR 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, James Evans and Gary and Ruth Allis, who generously allowed the WDNR to keep a boat and/or 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: Lawrence Eslinger, Jason Halverson, Joelle Underwood, Eric Brown, Bob Consolo, and John Kubisiak. Creel clerks on Harris Lake during the survey period were Matt Lorenzoni and Jim Zarzycki.

This creel report was reviewed by John Kubisiak, Lawrence Eslinger, and Eric Wegleitner of the WDNR.

Additional copies of this report, and those covering other local lakes, can be obtained from the Woodruff WDNR or online at:
http://dnr.wi.gov/topic/Fishing/north/trtycrlsrvys.html

Table 1. Sportfishing effort summary, Harris Lake, 2019-20 season. Compared to 1997-98 creel results, Vilas County and Ceded Territory averages.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	1997-98 Total Angler Hours/Acre	Vilas County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	31	547	1.1	1.8	5.2	4.9
June	31	643	1.3	6.0	6.8	6.3
July	46	1,005	2.0	6.0	7.3	6.7
August	67	1,241	2.4	5.5	6.4	5.3
September	45	975	1.9	2.1	4.2	3.3
October	26	338	0.7	0.7	1.9	1.5
December	5	398	0.8	0.9	0.6	1.1
January	7	247	0.5	0.4	0.9	1.7
February	5	198	0.4	0.3	1.0	1.6
March	0	29	0.1	0.0	0.2	0.2
*Summer Total	246	4,749	9.4	22.1	31.8	27.9
*Winter Total	17	872	1.7	1.6	2.6	4.6
Grand Total	263	5,621	11.1	23.6	34.2	32.5

*"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 Harris 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 Harris Lake to other lakes.

Previous 1997-98 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 Harris Lake.

Vilas County Average Hours/Acre is the average angler effort in hours per acre for Vilas 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 Harris Lake to other lakes in northern Wisconsin.

Table 2. Comparison of creel survey synopses, Harris Lake, 2019-20 and 1997-98 fishing seasons.

CREEL YEAR: 2019-20

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	1,651	26.2%	308	5.5	164	10.4	16.2
Northern Pike	46	0.7%	46	13.9	5		24.2
Muskellunge	2,894	45.9%	97	30.8	0		
Smallmouth Bass	634	10.0%	215	4.2	23	39.8	8.2
Largemouth Bass	111	1.8%	2		0		
Yellow Perch	736	11.7%	1,690	0.5	474	1.7	7.0
Bluegill	90	1.4%	25	3.6	0		
Black Crappie	81	1.3%	0		0		
Pumpkinseed	66	1.0%	87	3.2	0		
Rock Bass	0	0.0%	47		5		6.1
Common Shiner	0	0.0%	33		11		6.3

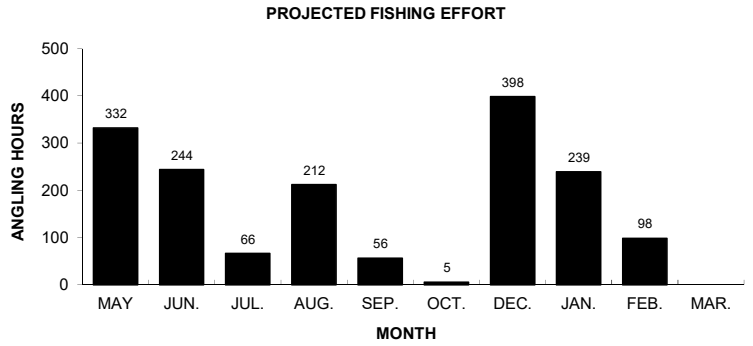
* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

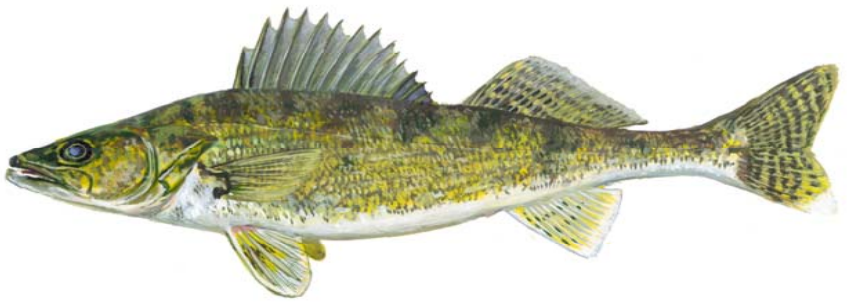
** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

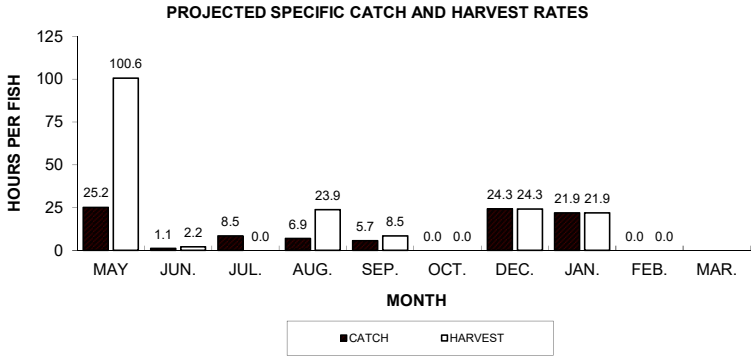
CREEL YEAR: 1997-98

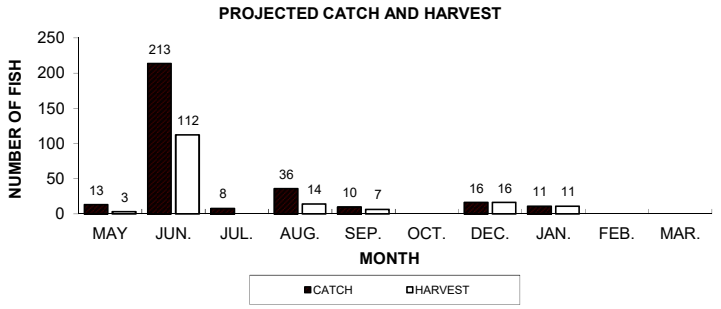
SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	6,235	37.2%	970	6.6	562	11.6	15.1
Northern Pike	705	4.2%	544	5.0	128	10.9	19.5
Muskellunge	3,232	19.3%	118	28.2	3	1,111.1	37.1
Smallmouth Bass	519	3.1%	251	2.9	40	15.8	13.3
Largemouth Bass	0	0.0%	0		0		
Yellow Perch	5,086	30.3%	14,963	0.4	7,959	0.7	8.2
Bluegill	1,003	6.0%	804	2.7	339	5.0	7.4
Black Crappie	0	0.0%	0		0		
Pumpkinseed	0	0.0%	226		134		5.3
Rock Bass	0	0.0%	285		83		7.4

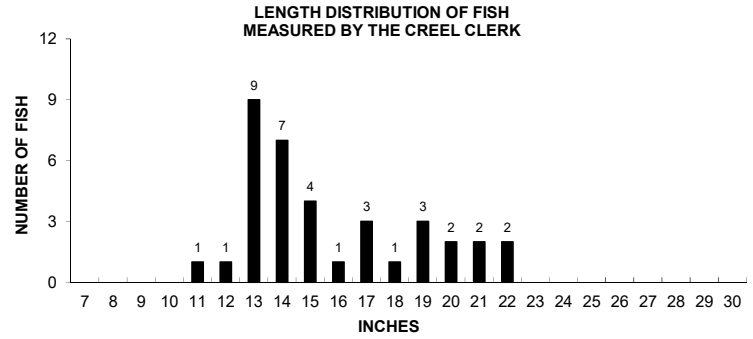
WALLEYE











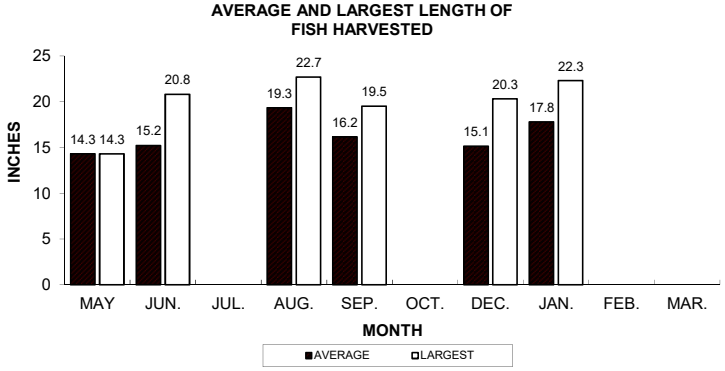


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

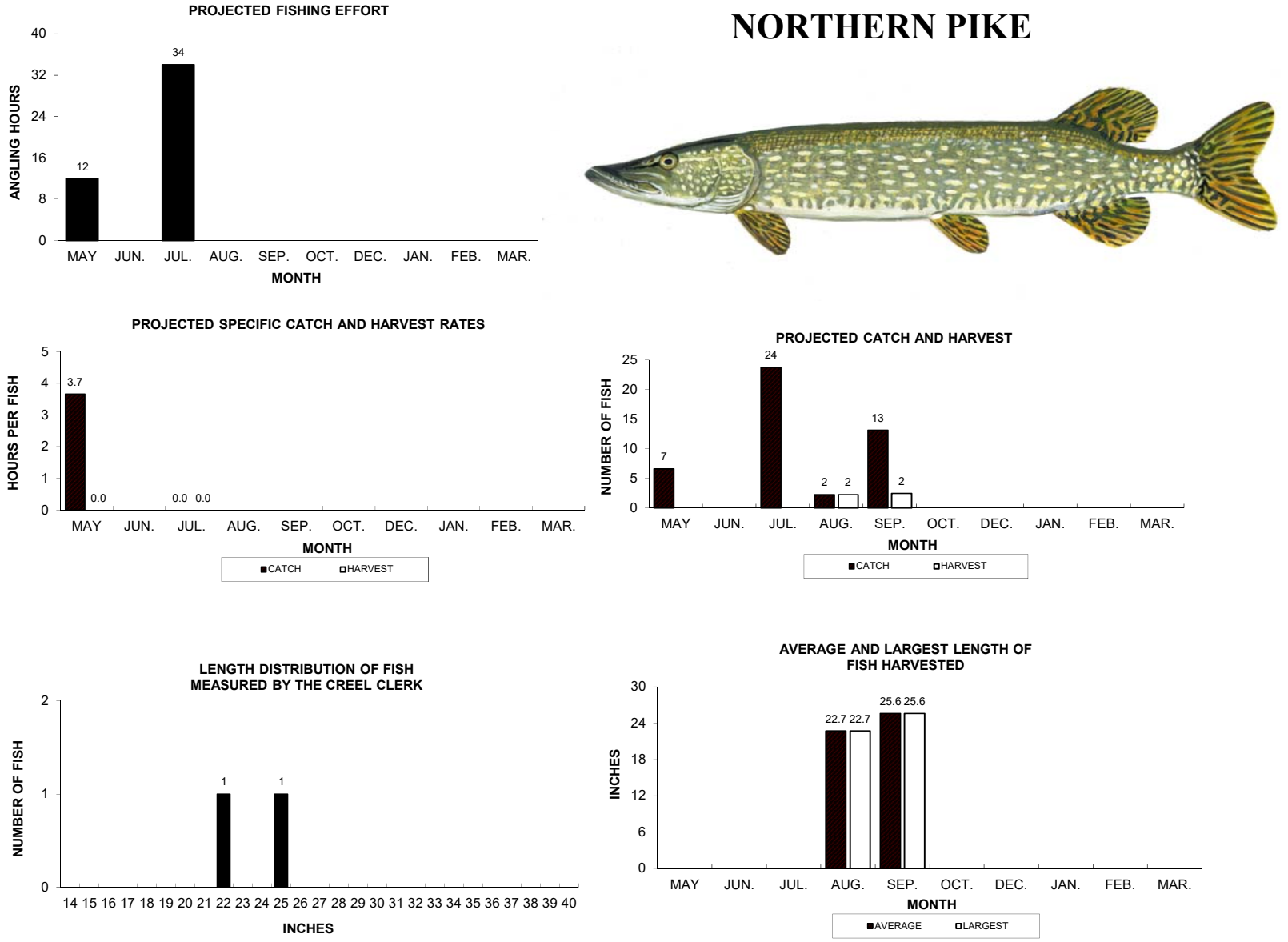


Figure 2. Northern Pike sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

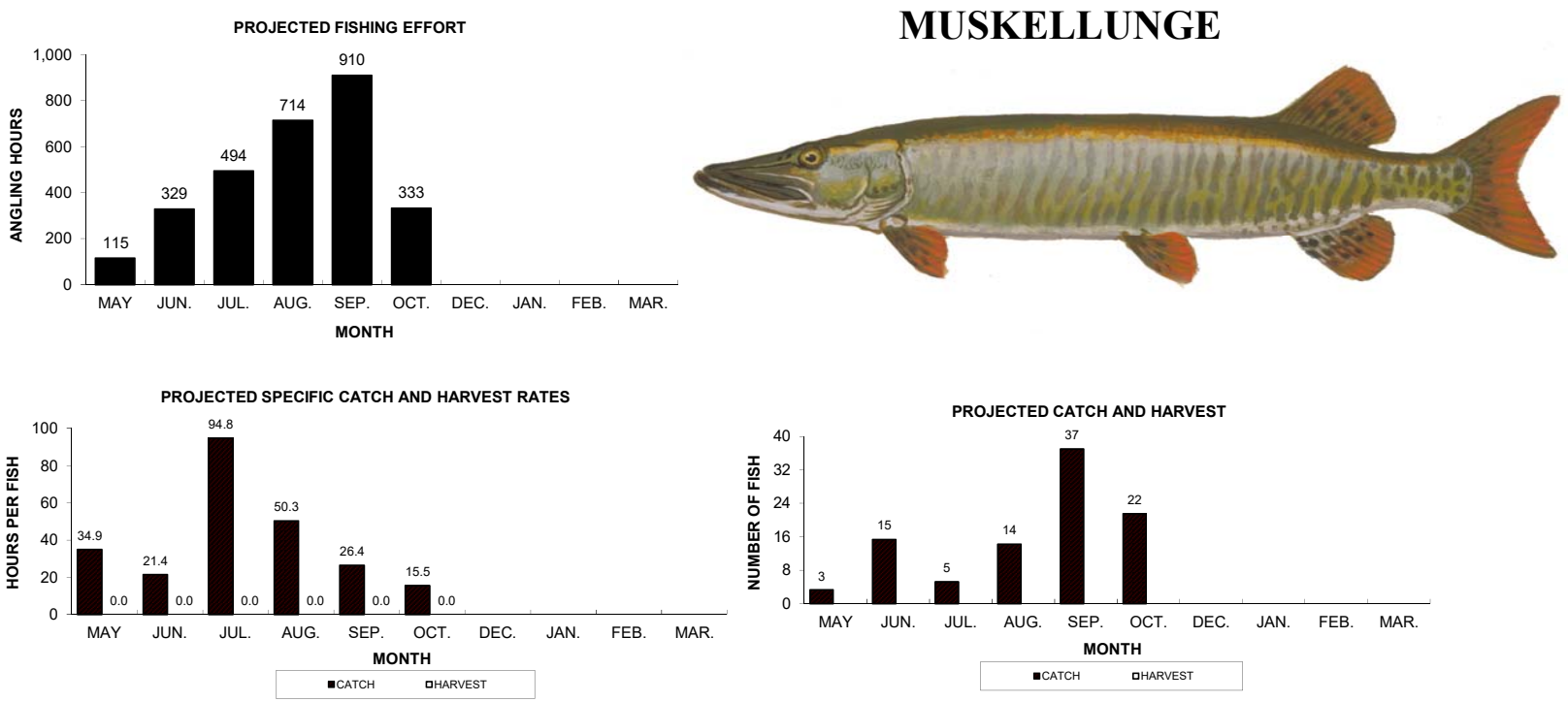
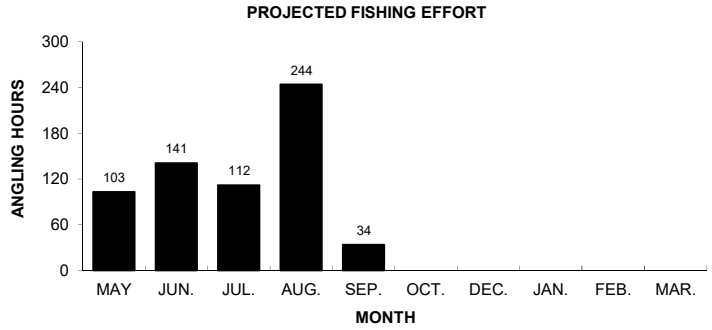
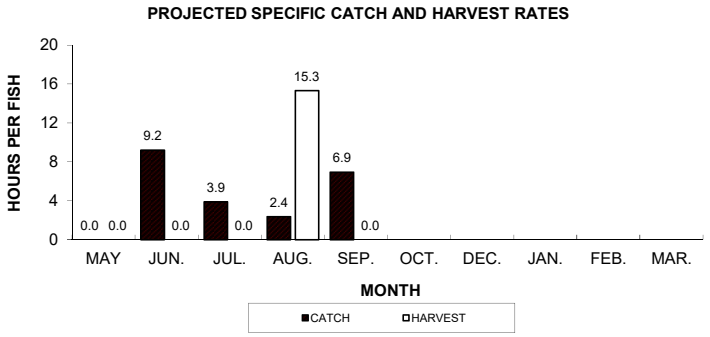
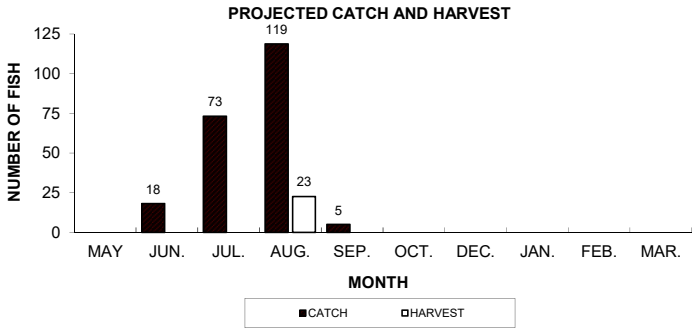


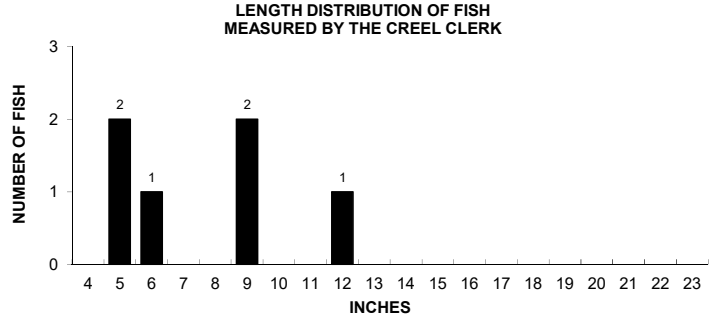
Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

SMALLMOUTH BASS









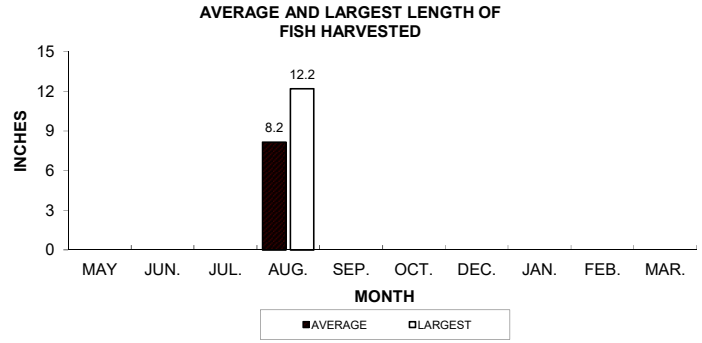
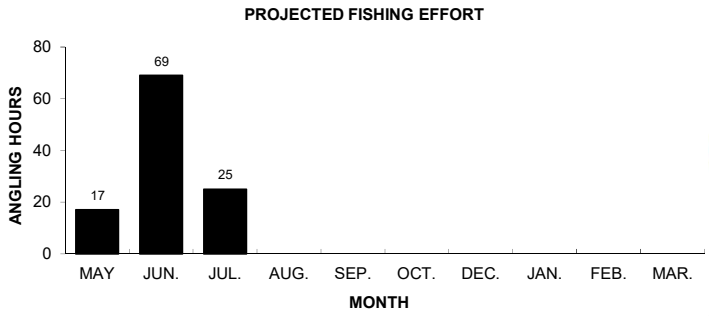
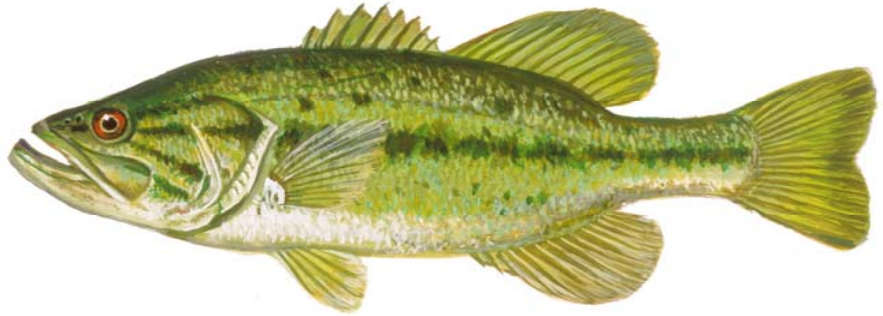


Figure 4. Smallmouth Bass sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

LARGEMOUTH BASS





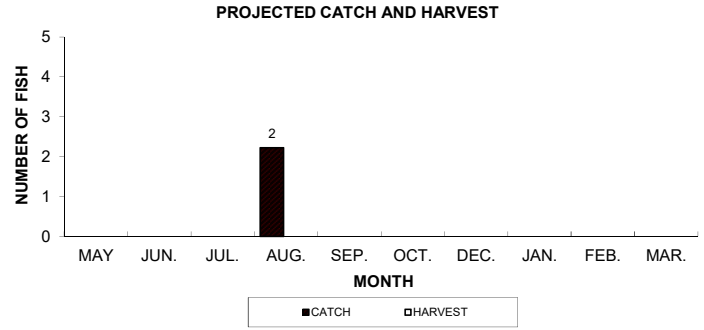
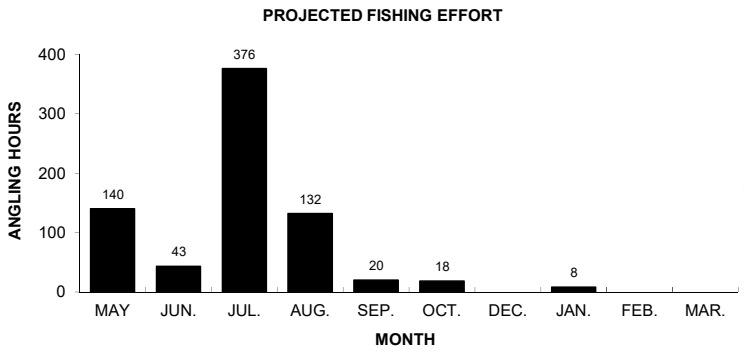
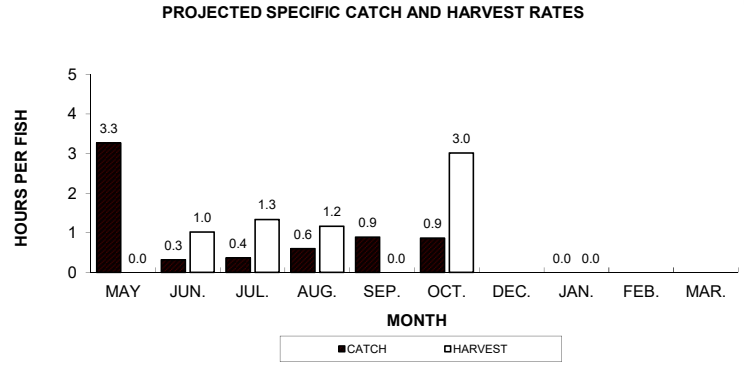
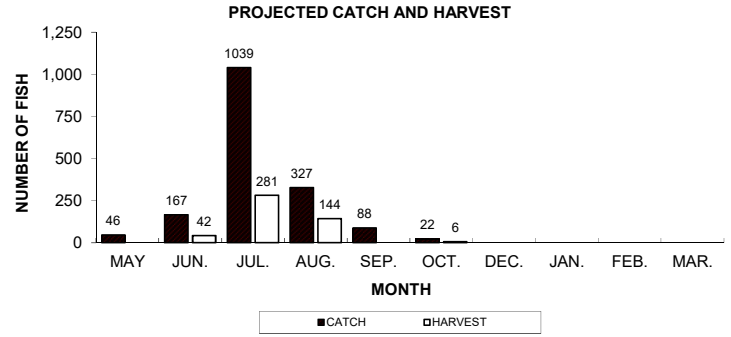


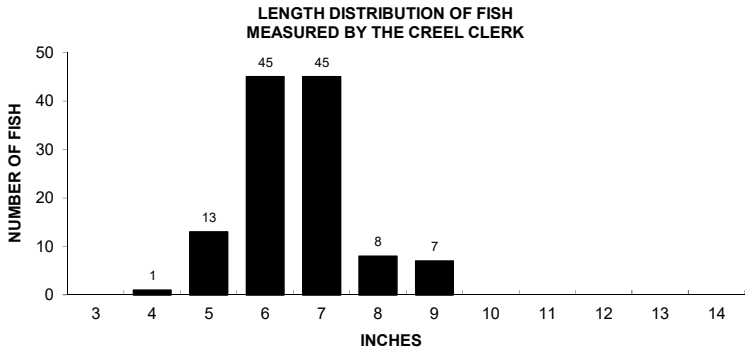
Figure 5. Largemouth Bass sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

YELLOW PERCH









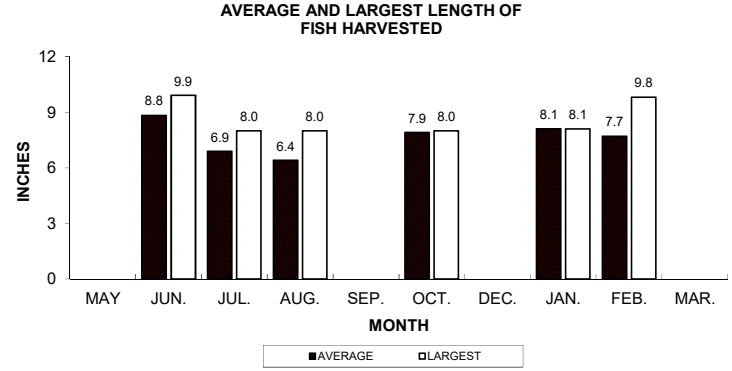
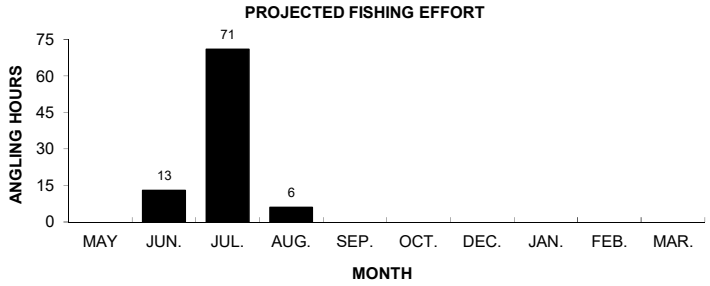
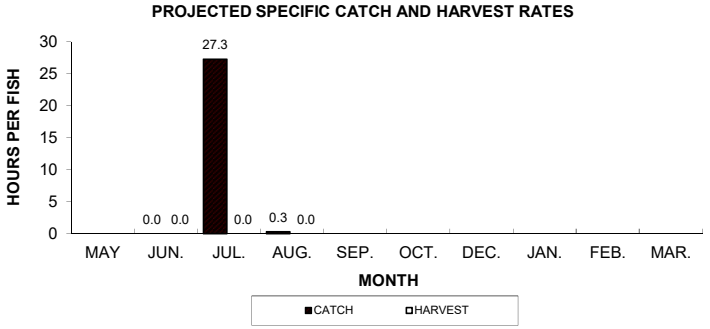


Figure 6. Yellow Perch sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

BLUEGILL





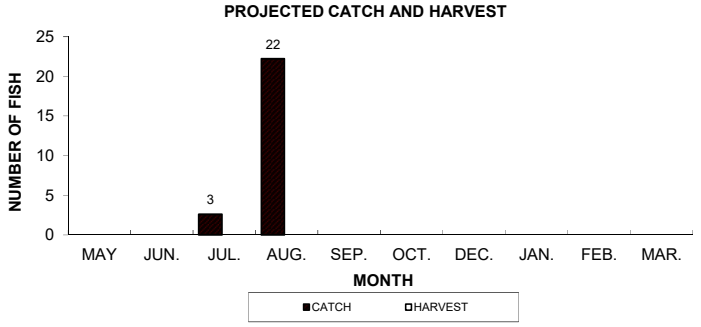
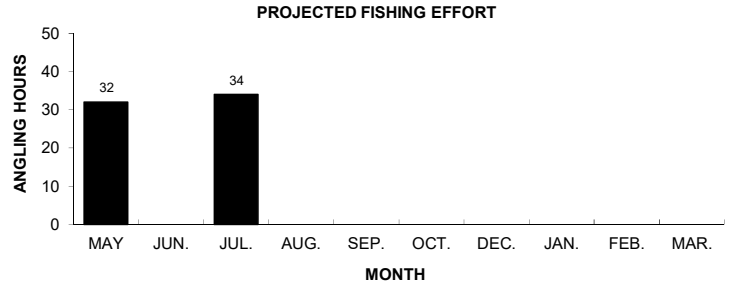
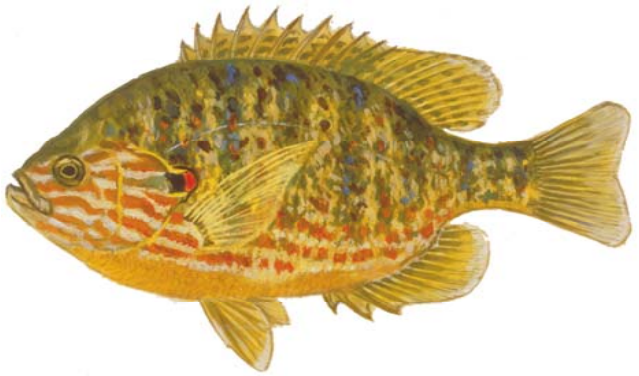
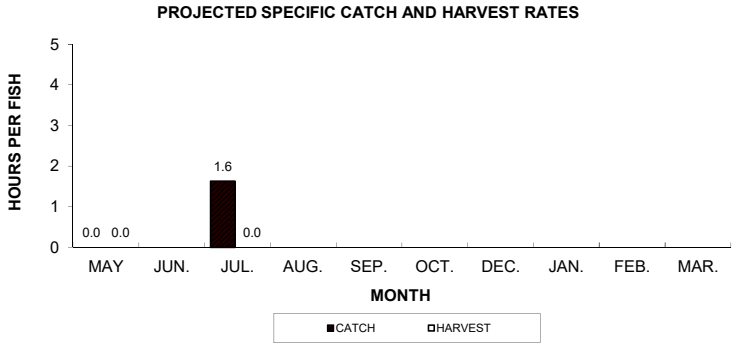


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

PUMPKINSEED







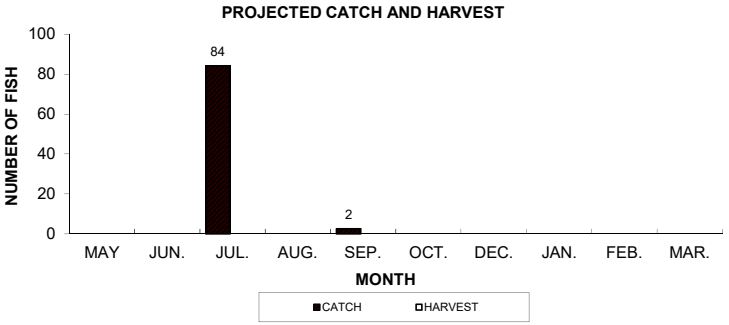
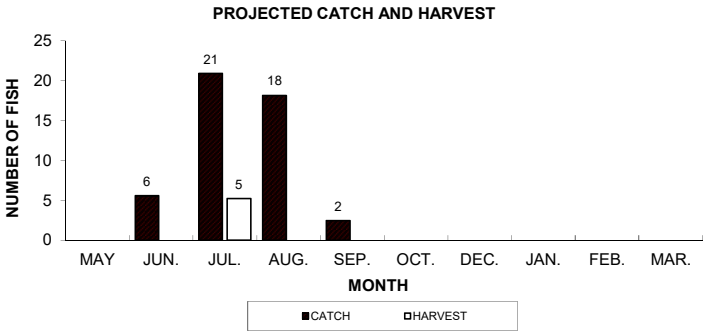
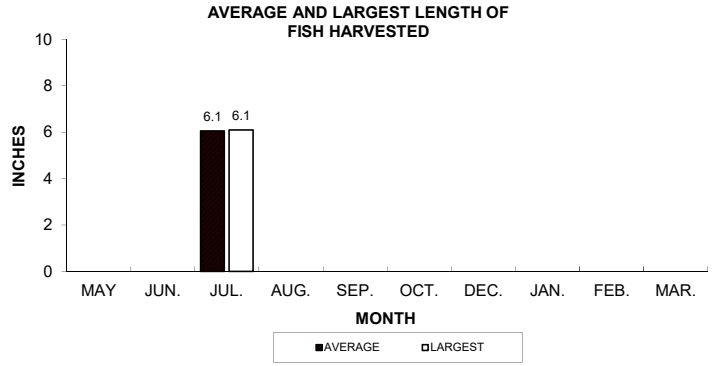


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

ROCK BASS





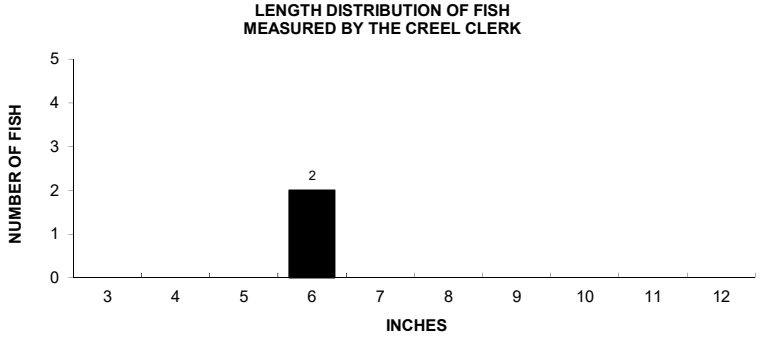
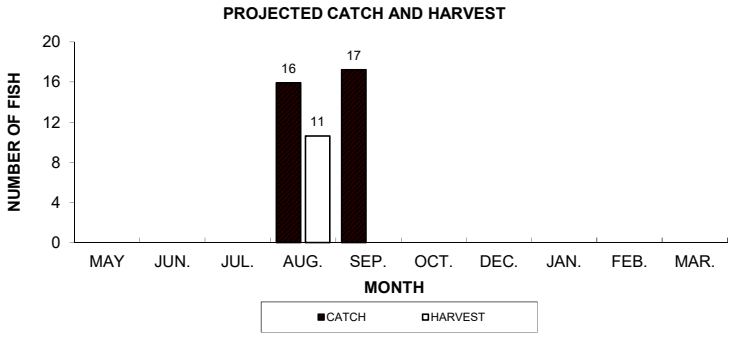
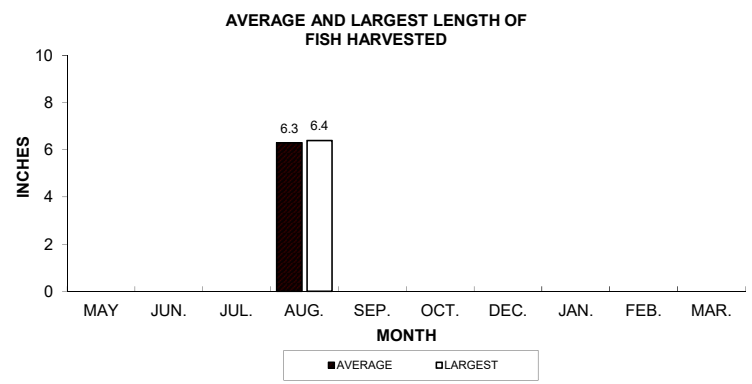


Figure 9. Rock Bass sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.

Common Shiner





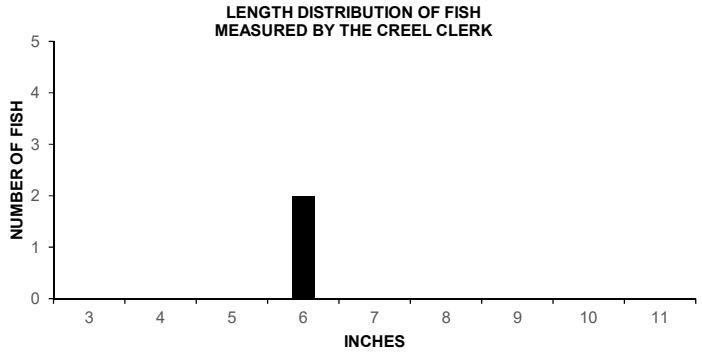


Figure 10. Common Shiner sportfishing effort, catch, harvest, and length distribution, Harris Lake, during 2019-20.