

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

SQUIRREL LAKE

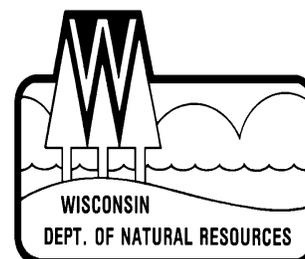
ONEIDA COUNTY

2014-15



Treaty Fisheries Publication

**Compiled by Jason Halverson &
Jeff Blonski
Treaty Fisheries Technicians**



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Cover Art: Steve Hilt, Minocqua, WI

Fish Graphics: Virgil Beck, Stevens Point, WI

INTRODUCTION

Fish populations can fluctuate due to natural forces (weather, predation, competition), management actions (stocking, regulations, habitat improvement), inappropriate development (habitat degradation), and harvest impacts. Wisconsin Department of Natural Resources fisheries crews regularly conduct fishery surveys on area lakes and reservoirs to gather the information needed to monitor changes, identify concerns, evaluate past management actions, and to prescribe fishery management strategies. Netting and electrofishing surveys are used to gather data on the status of fish populations and communities (species composition, population size, reproductive success, size/age distribution, and growth rates). The other key component of the fishery that we often need to measure is the harvest.

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

We measure the sport 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 of harvest and other fishery parameters. Creel survey clerks work on randomly-selected days and shifts, forty hours per week during the open season for gamefish from the first Saturday in May through the first Sunday in

March. 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 is 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 make projections of total catch and harvest of each species, catch and harvest rates, and total fishing effort by month, and for the year in total. Keep in mind that these are only projections based on the best information available, and not a complete accounting of effort, catch, and harvest. Accurate projections require that we sample a sufficient and representative portion of the angling activity on a lake. The accuracy of creel survey results, therefore, depends on good cooperation and truthful responses by anglers when a creel clerk interviews them.

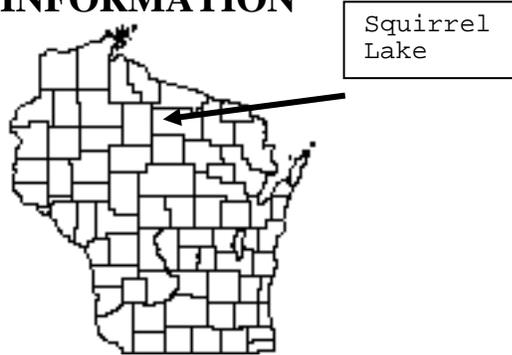
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

This report provides projections of:

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

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

GENERAL LAKE INFORMATION



Location

Squirrel Lake is located in Oneida County in the Town of Minocqua.

Physical Characteristics

Squirrel Lake is a 1,317 acre drainage lake with a maximum depth of 45 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck and gravel. Squirrel Lake is a soft water drainage lake with slightly acidic, clear water of moderate transparency.

Seasons Surveyed

The period referred to in this report as the 2014-15 fishing season ran from May 3, 2014 through March 1, 2015. The open water creel survey ran from May 3 through October 31, 2014, and the ice fishing creel survey ran from December 1, 2014 through March 3, 2015.

Weather

Ice-out on Squirrel Lake was around May 12, 2014. Fishable ice formed on Squirrel Lake in mid-December.

Fishing Regulations

The following seasons, daily bag limits, and length limits were in place on Squirrel Lake during the 2014-15 fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass	5/3-3/1	5	14"
Smallmouth Bass	5/3-6/20	Catch & Release	
	6/21-3/1	5	14"
Musky	5/24-11/30	1	40"
Northern Pike	5/3-3/1	5	none
Walleye	5/3-3/1	2*	
		No Minimum, 1 > 14"	
Panfish	year round	25	none
	year round	none	none

* Due to tribal declarations and harvest, walleye bag limits were set at 2 on Squirrel lake.

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. PROJECTED FISHING EFFORT**
Total calculated number of hours during each month that anglers spent fishing for a species.
- 2. PROJECTED SPECIFIC CATCH AND HARVEST RATES**
Calculated number of hours it takes an angler to catch or harvest a fish of the indicated species. Only information from anglers who were specifically targeting that species is reported.
- 3. PROJECTED CATCH AND HARVEST**
Calculated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.

4. LENGTH DISTRIBUTION OF HARVESTED FISH

All fish of a species that were measured by the clerk during the entire creel survey season.

5. LARGEST AND AVERAGE LENGTH OF HARVESTED FISH

Monthly largest, and average length of, harvested fish of a species. Only those fish measured by the creel survey clerk are reported.

CREEL SURVEY RESULTS AND DISCUSSION

Survey Logistics

The creel survey went well. We encountered no unusual problems conducting the survey or calculating the projections contained in the report. This was the fourth time the department conducted a creel survey on Squirrel Lake. The last creel survey took place during the 1992-93 season.

General Angler Information

Anglers spent 36,339 hours or 27.6 hours per acre fishing Squirrel Lake during the 2014-15 season (Table 1). That was less than the Oneida County average of 33.7 hours per acre. August was the most heavily fished month (5.2 hours per acre). Fishing effort was lightest in October (1.0 hours per acre) for those months when the entire month was creeled. Anglers also spent more time (42.2 hours per acre) fishing during the 1992-93 creel survey. The creel clerks were able to conduct 593 interviews throughout the survey.

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Walleyes received the most fishing effort during the 2014-15 season. Anglers spent 16,253 hours targeting walleyes. The greatest fishing effort for walleyes was in May (2,811 hours). October had the least

amount of walleye fishing effort (732 hours).

Total catch of walleyes was 3,020 fish with a harvest of 1,313 fish. Highest catch (1,374 fish) and harvest (590 fish) occurred in September. Anglers fished 5.5 hours to catch and 12.6 hours to harvest a walleye during the 2014-15 season. The mean length of harvested walleyes was 14.4 inches and the largest walleye measured was a 25.2-inch fish.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 10,666 hours during the 2014-15 season. Northern pike fishing effort was greatest in June (2,791 hours). Total catch of northern pike was 4,727 fish with a harvest of 1,079 fish. The mean length of harvested northern pike was 21.9 inches and the largest northern pike measured was a 32.1-inch fish.

Muskellunge (Table 2, Figure 3)

Anglers spent 6,429 hours targeting muskellunge during the 2014-15 season. Muskellunge fishing effort was greatest in June (1,716 hours). Total catch of muskellunge was 77 fish. Highest catch (27 fish) occurred in July. Anglers fished 108.7 hours to catch a muskellunge and there was no documented harvest during 2014-15 season.

Smallmouth Bass (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass was 5,714 hours during the 2014-15 season. Smallmouth bass fishing effort was greatest in August (1,683 hours). Total catch of smallmouth bass was 3,148 fish with 137 harvested. Highest catch (1,257 fish) occurred in June. Anglers fished 2.1 hours to catch a smallmouth bass during 2014-15 season.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 5,641 hours during the 2014-15 season. Largemouth bass fishing effort was greatest in June (2,256 hours). Total catch of largemouth bass was 4,677 fish with a harvest of 137 fish. Highest catch (1,790 fish) occurred in June. Anglers fished 1.5 hours to catch a largemouth bass during the 2014-15 season.

Panfish (Table 2, Figures 6-10)

Bluegills were the most sought after panfish species during the survey. Fishing effort directed at bluegills was 9,539 hours. Total catch of bluegills was 10,236 fish with 3,484 harvested. The mean length of bluegills harvested was 7.1 inches.

Yellow perch were the second most sought after panfish species during the survey. Fishing effort directed at yellow perch was 7,472 hours. Total catch of yellow perch was 6,697 fish with 2,007 harvested. The mean length of yellow perch harvested was 7.7 inches.

Black crappies were the third most sought after panfish species during the survey. Fishing effort directed at black crappies was 6,522 hours. Anglers caught 4,658 black crappies and harvested 2,824 fish. The mean length of black crappies harvested was 10.1 inches.

Pumpkinseeds were also caught (149 fish) and harvested (7 fish) during the 2014-15 season.

Rock bass were also caught (590 fish) and harvested (111 fish) during the 2014-15 season.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the following Fisheries Management and Treaty Fisheries staff: Lawrence Eslinger, Jeff Blonski, Joelle Underwood, Jason Halverson, John Kubisiak, Steve Timler, Jonathan Pyatskowitz, and Dennis Scholl. Dean Johnson and Mike Rynski were the creel clerks on Squirrel Lake during the survey period.

We also thank all the anglers who took the time to offer information about their fishing trip to the survey clerk. Without their cooperation the survey would not have been possible.

The department thanks our cooperators, Mike and Taryn Olp of Musky Shores, who generously allowed the department to keep a boat and snowmobile on their property during this survey.

This creel report was reviewed by John Kubisiak and Lawrence Eslinger of the Wisconsin Department of Natural Resources, Woodruff, Wisconsin.

Additional copies of this report and those covering other local lakes can be obtained from the Woodruff DNR or online at:
<http://dnr.wi.gov/topic/Fishing/north/trtycrs/rvys.html>

Table 1. Sportfishing effort summary, Squirrel Lake, 2014-15 season.

Month	Number of Angler Party Interviews	Total Angler Hours	Total Angler Hours/Acre	1992-93 Total Angler Hours/Acre	Oneida County Average Hours/Acre	Ceded Territory Average Hours/Acre
May	76	4413	3.4	8.7	4.8	5.0
June	79	6832	5.2	7.9	6.4	6.4
July	84	6642	5.0	9.7	7.3	6.8
August	65	6880	5.2	6.2	5.7	5.5
September	73	3642	2.8	5.6	3.4	3.3
October	59	1254	1.0	2.3	1.6	1.5
December	43	1713	1.3	0.5	1.2	1.1
January	55	2258	1.7	0.6	1.5	1.6
February	53	2596	2.0	0.7	1.5	1.6
March	6	109	0.1	0.0	0.3	0.2
*Summer Total	436	29663	22.5	40.5	29.2	28.5
*Winter Total	157	6676	5.1	1.8	4.5	4.5
Grand Total	593	36339	27.6	42.2	33.7	33.0

*"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 Squirrel Lake during each month

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 Squirrel Lake to other lakes.

1992-93 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 Squirrel 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 Squirrel Lake to other lakes in northern Wisconsin.

Table 2. Comparison of creel survey synopses, Squirrel Lake, 2014-15 and 1992-93 fishing seasons.

CREEL YEAR: 2014-15

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	16253	23.57%	3020	5.5	1313	12.6	14.4
Northern Pike	10666	15.47%	4727	3.2	1079	10.4	21.9
Muskellunge	6429	9.32%	77	108.7	0		
Smallmouth Bass	5714	8.29%	3148	2.1	137	44.4	15.5
Largemouth Bass	5641	8.18%	4677	1.5	137	45.5	15.4
Yellow Perch	7472	10.83%	6697	1.2	2007	3.8	7.7
Bluegill	9539	13.83%	10236	1.0	3484	2.8	7.1
Pumpkinseed	212	0.31%	149	1.4	7	32.7	8.5
Rock Bass	520	0.75%	590	2.3	111	6.0	8.2
Black Crappie	6522	9.46%	4658	1.4	2824	2.4	10.1

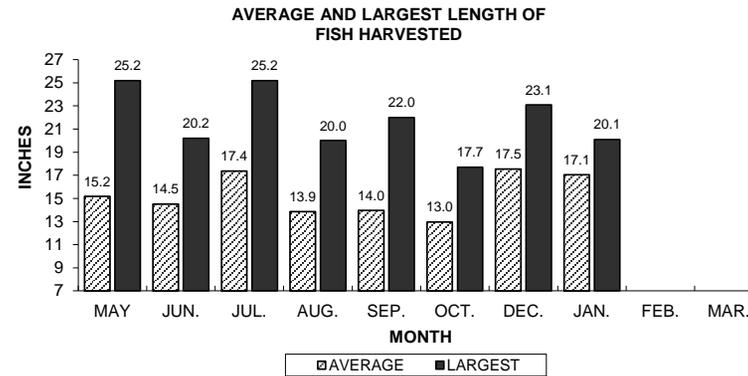
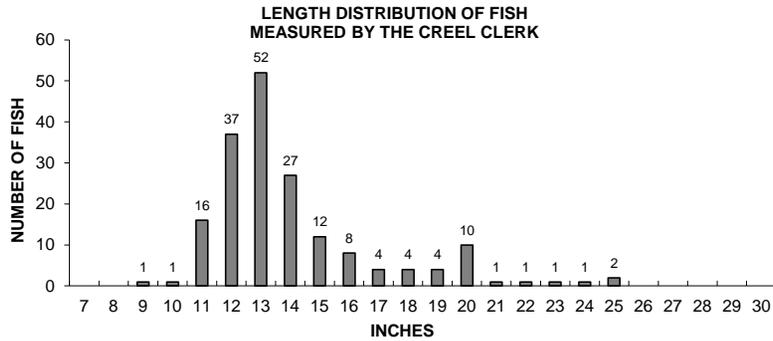
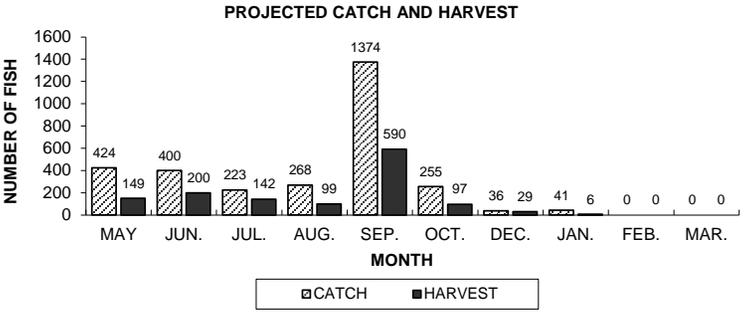
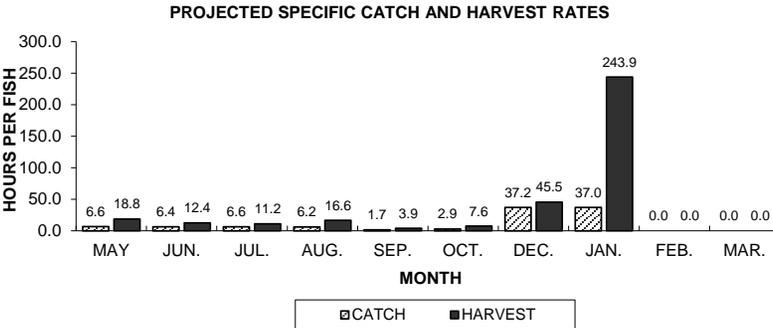
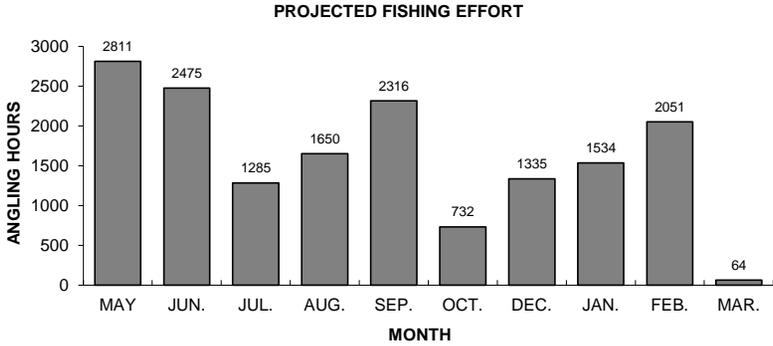
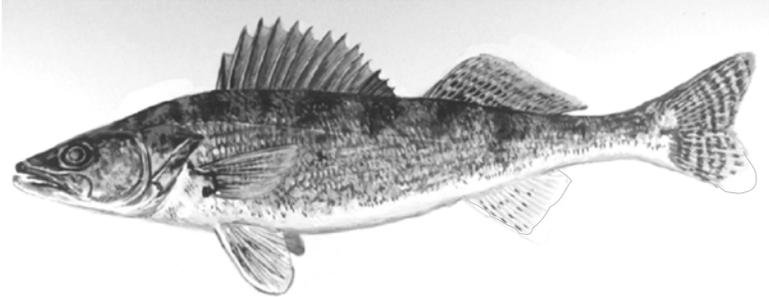
9 * A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** 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: 1992-93

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	20940	30.49%	1350	15.8	891	23.8	13.8
Northern Pike	1247	1.82%	1509	8.0	696	51.3	24.8
Muskellunge	22888	33.33%	758	31.3	53	434.8	38.9
Smallmouth Bass	9068	13.21%	2069	5.8	916	12.3	14.0
Largemouth Bass	202	0.29%	55	8.0	17	11.7	14.8
Yellow Perch	4108	5.98%	15110	0.5	6782	0.9	7.8
Bluegill	2574	3.75%	3591	0.9	2196	1.2	6.9
Pumpkinseed		0.00%	33		33		6.0
Rock Bass		0.00%	113		56		6.7
Black Crappie	7641	11.13%	2882	2.8	2558	3.1	10.4

WALLEYE



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Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

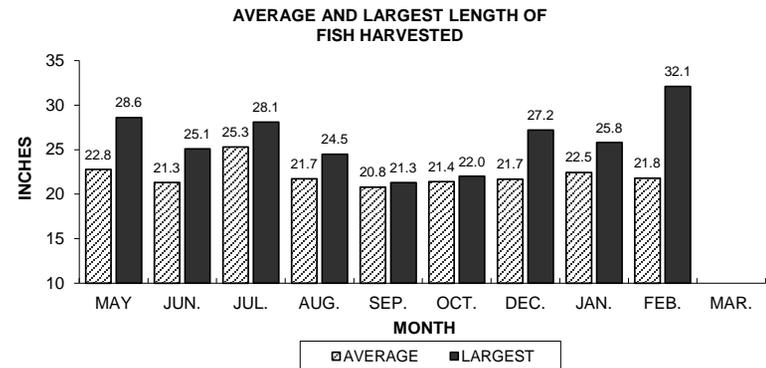
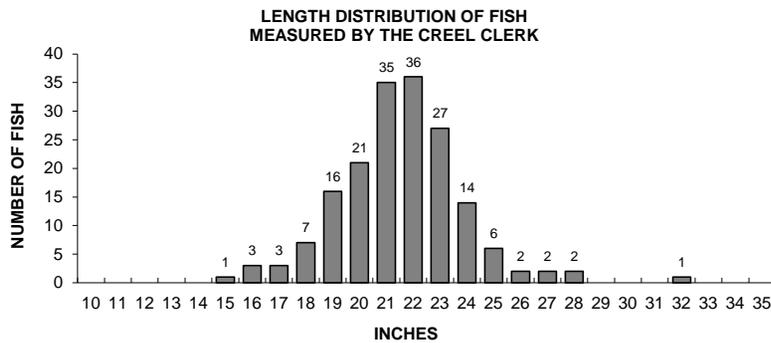
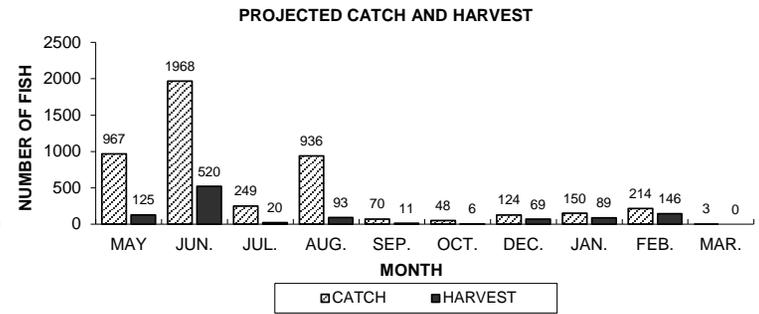
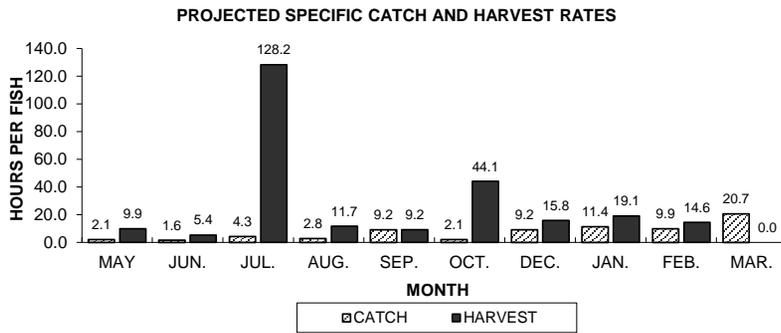
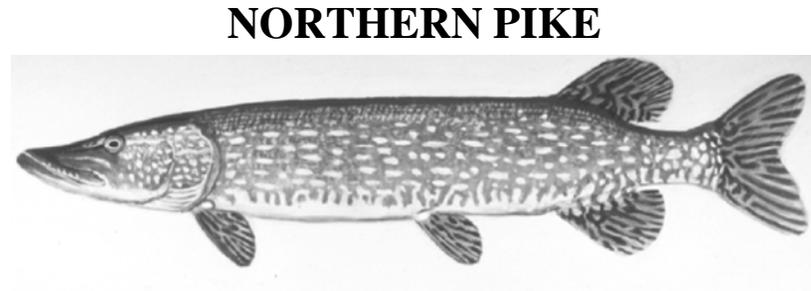
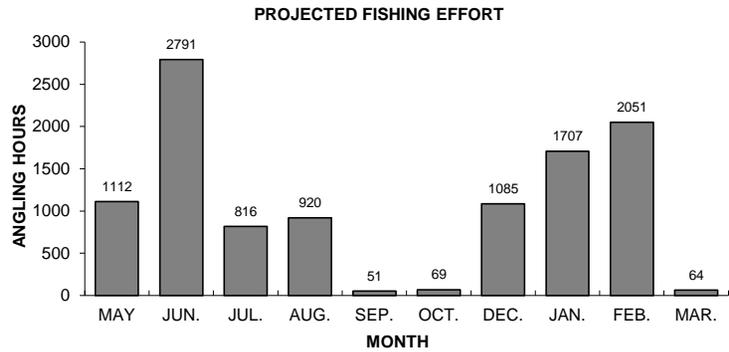
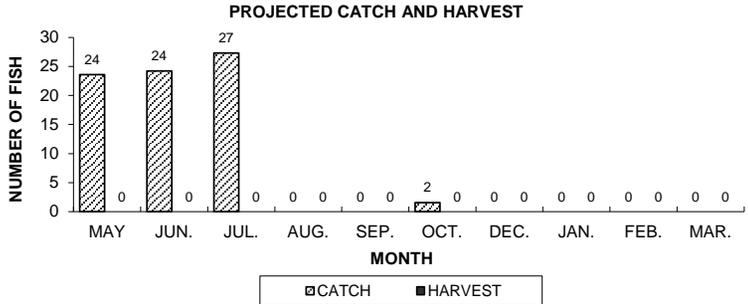
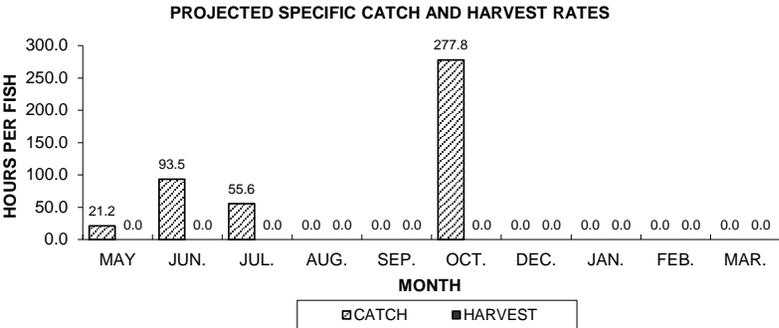
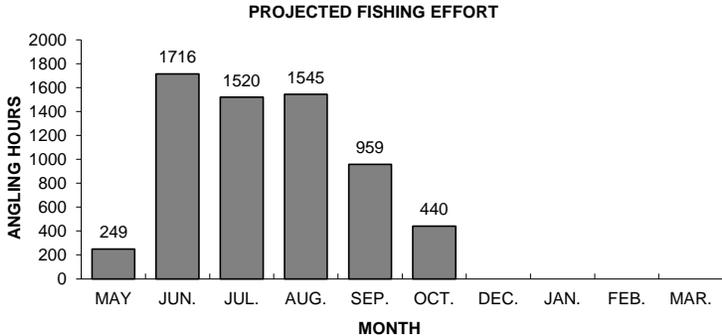
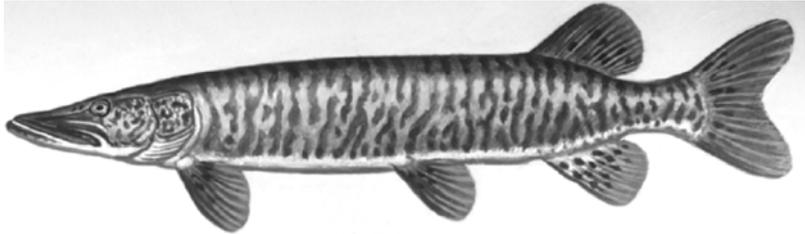


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

MUSKELLUNGE



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Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

SMALLMOUTH BASS

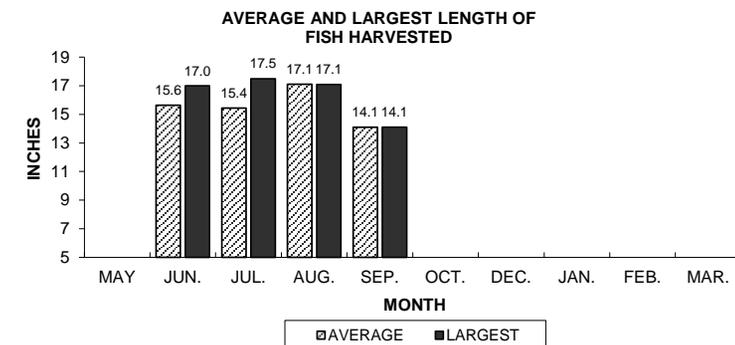
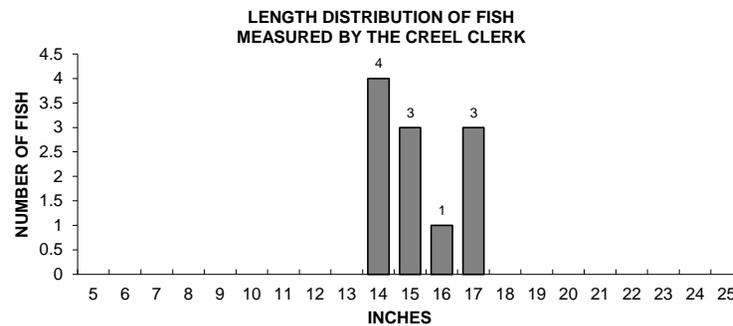
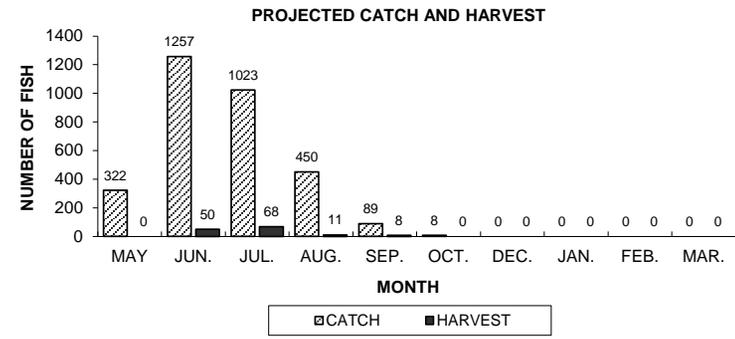
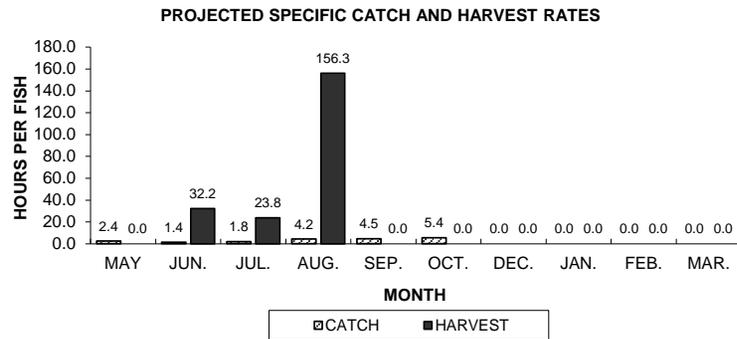
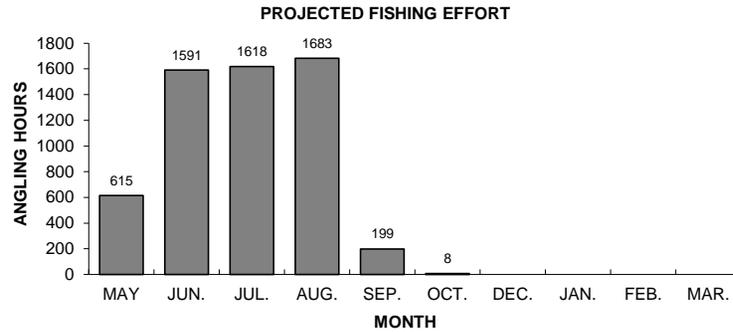
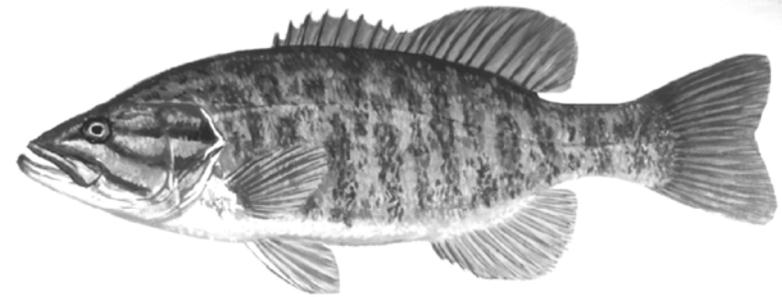
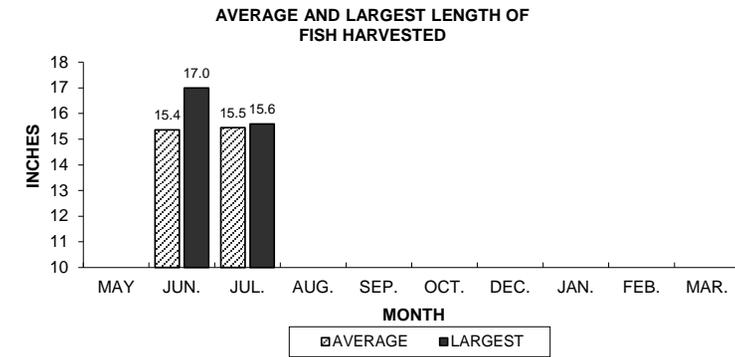
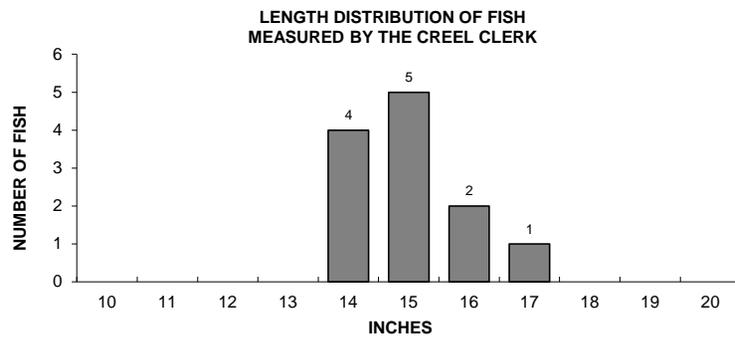
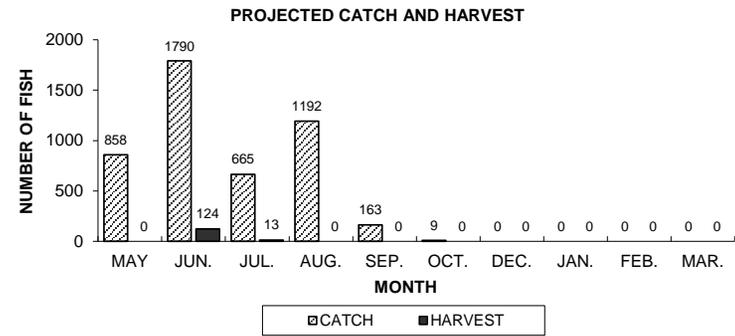
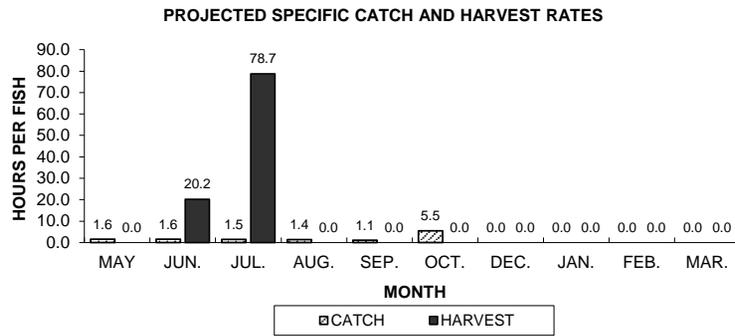
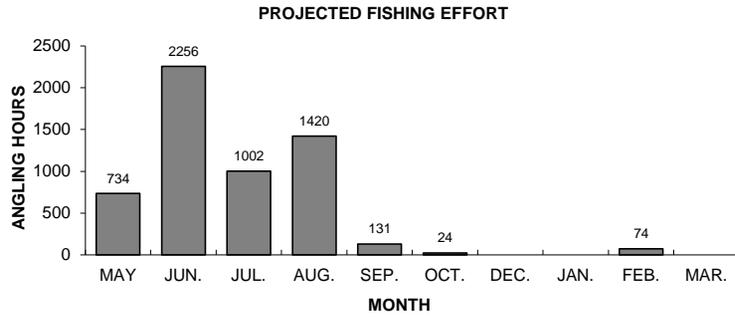
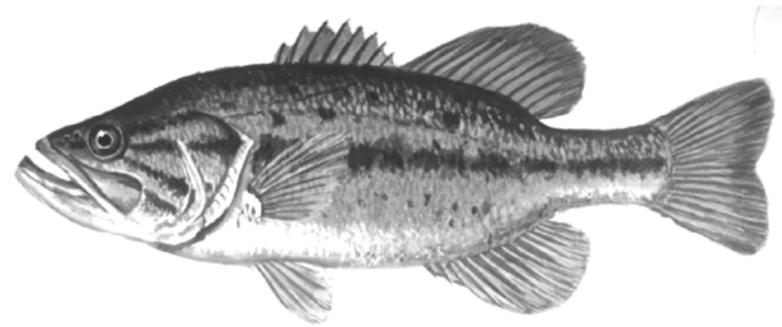


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

LARGEMOUTH BASS



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Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

YELLOW PERCH

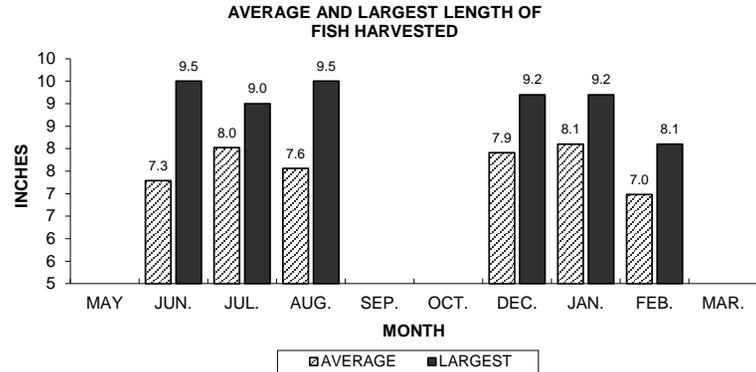
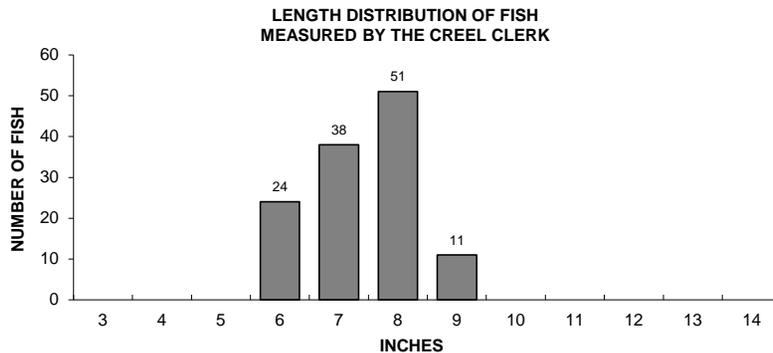
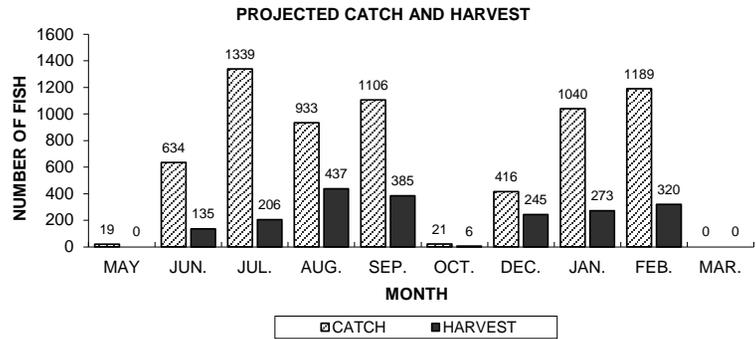
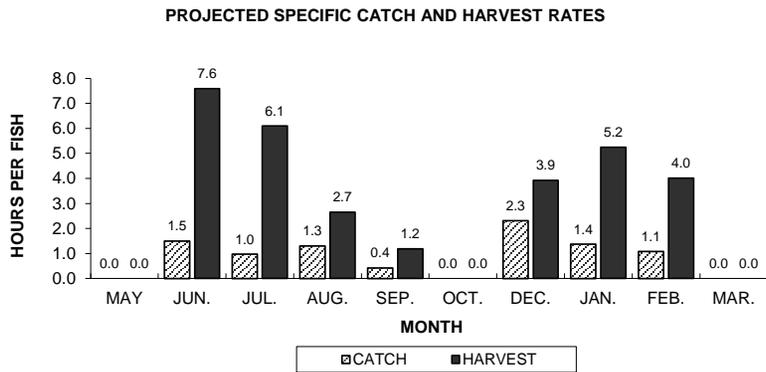
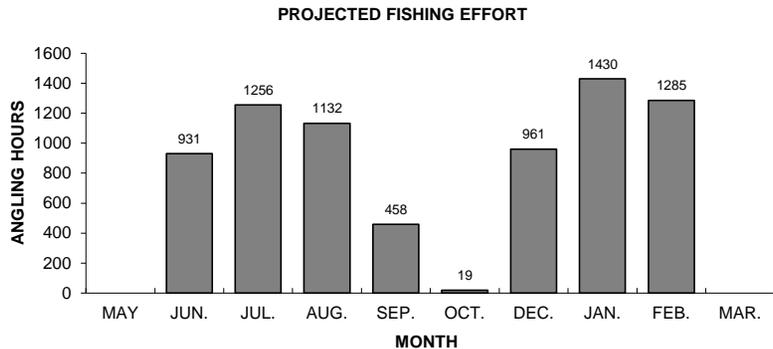


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

BLUEGILL

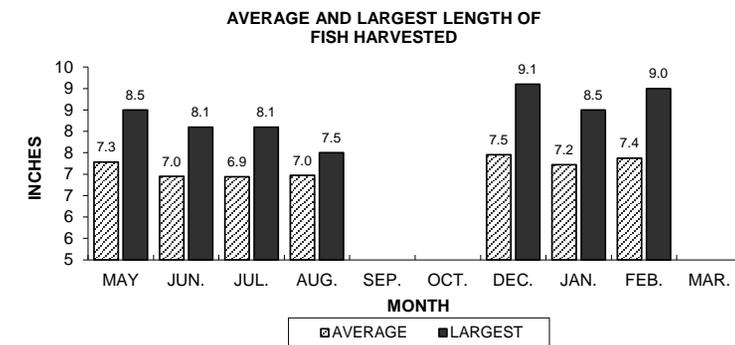
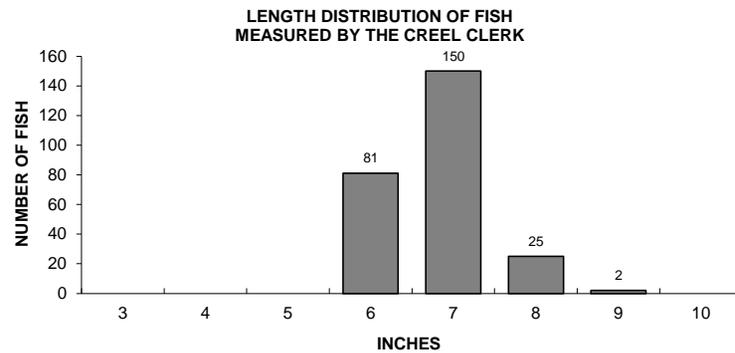
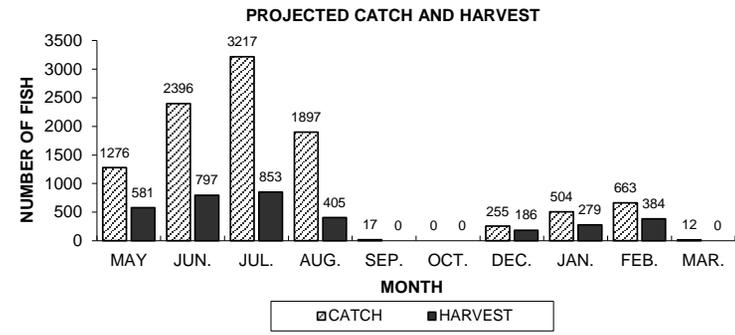
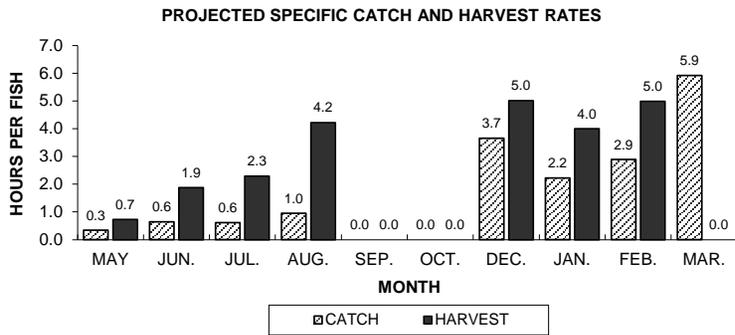
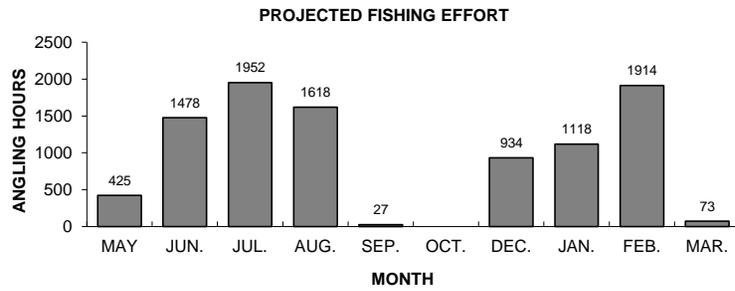
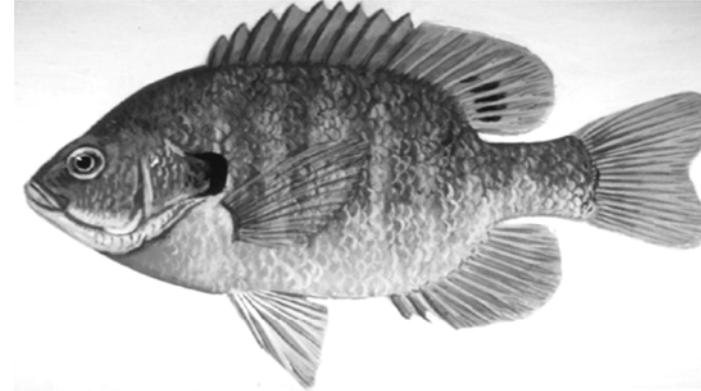


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

PUMPKINSEED

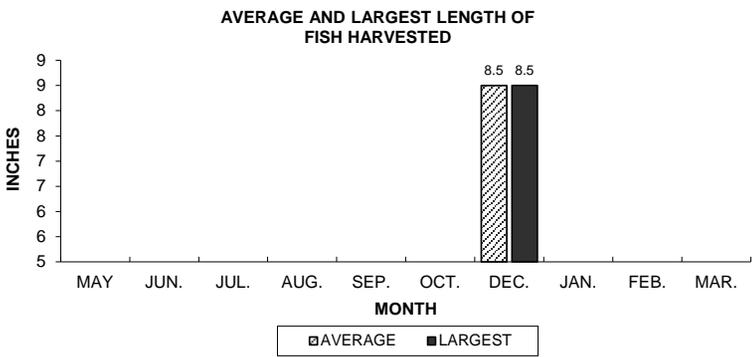
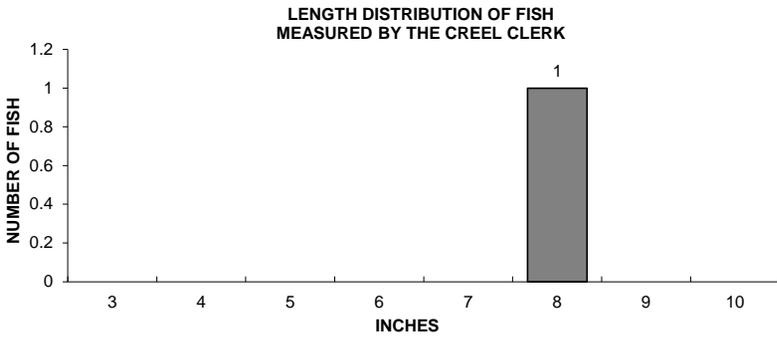
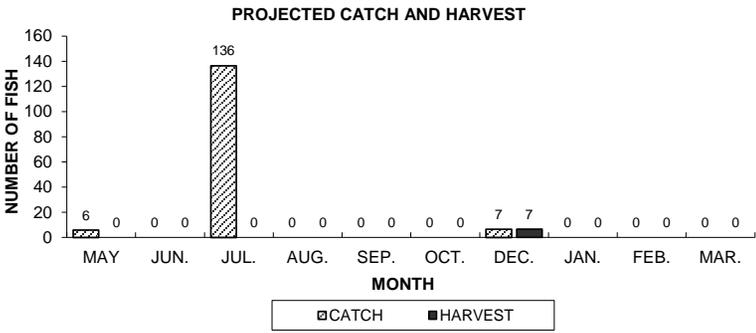
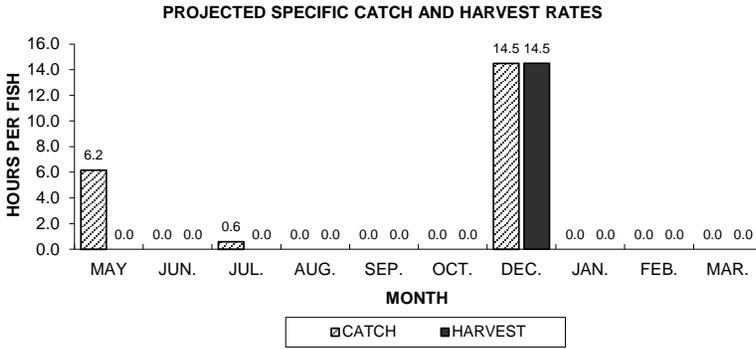
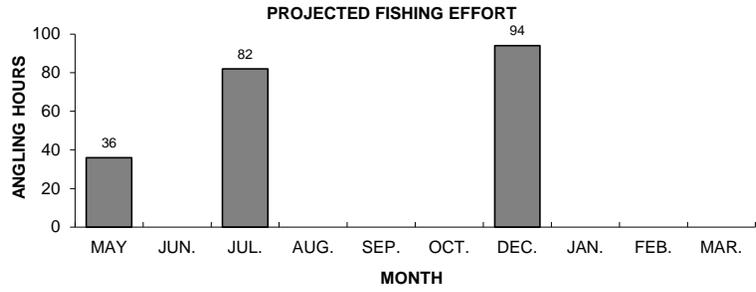
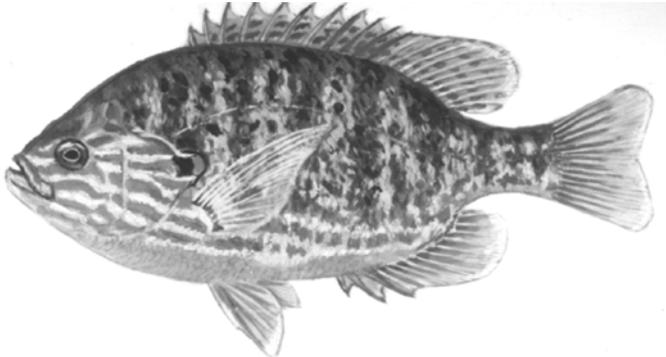


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

ROCK BASS

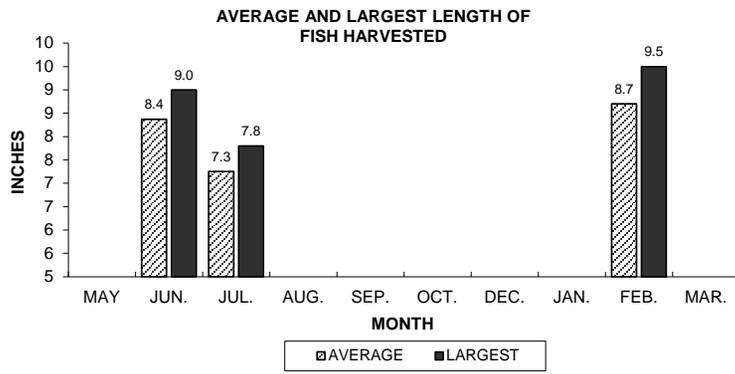
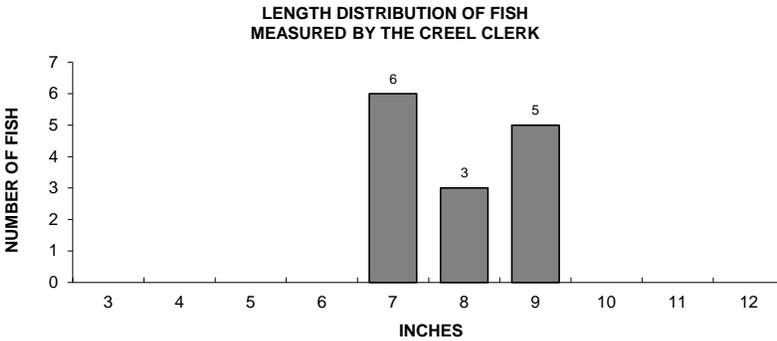
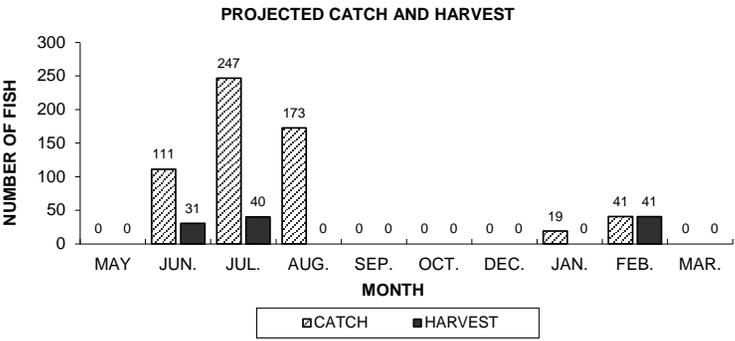
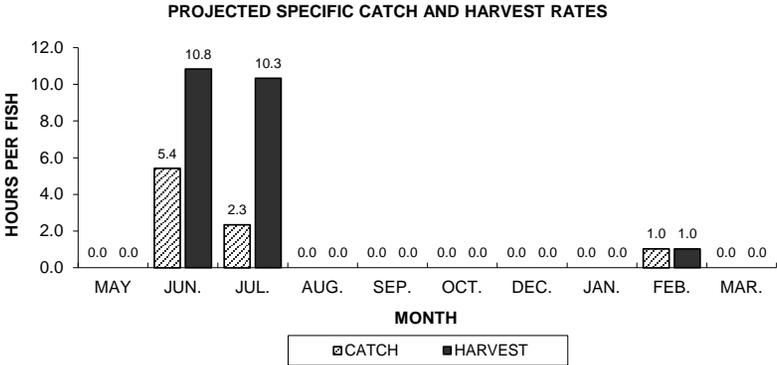
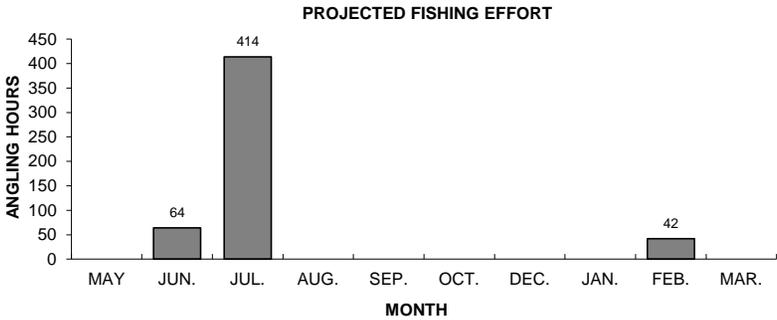
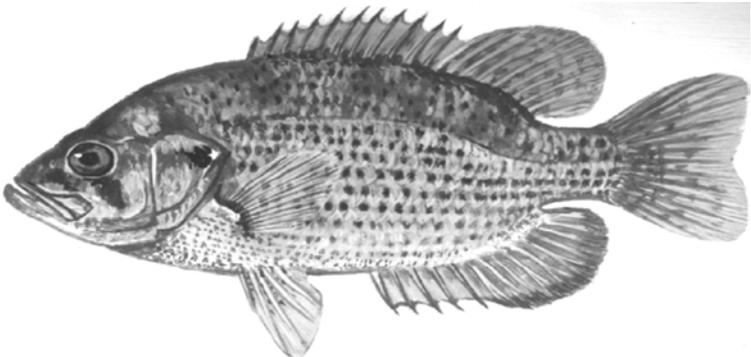


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.

BLACK CRAPPIE

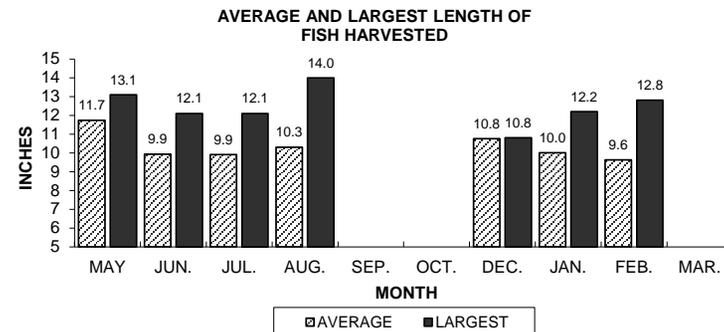
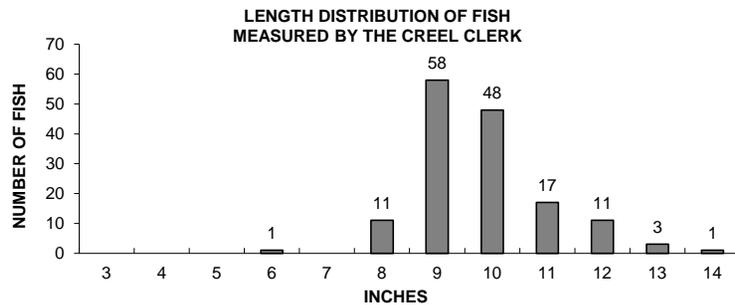
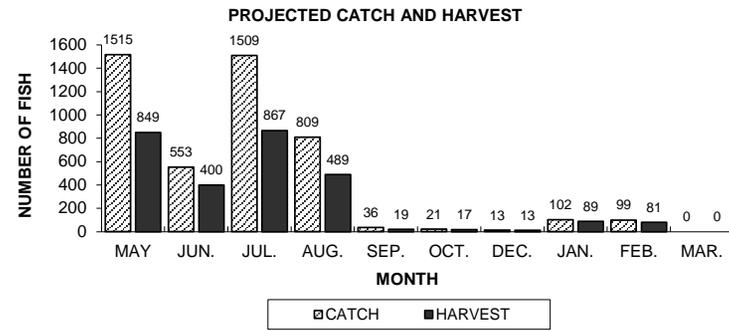
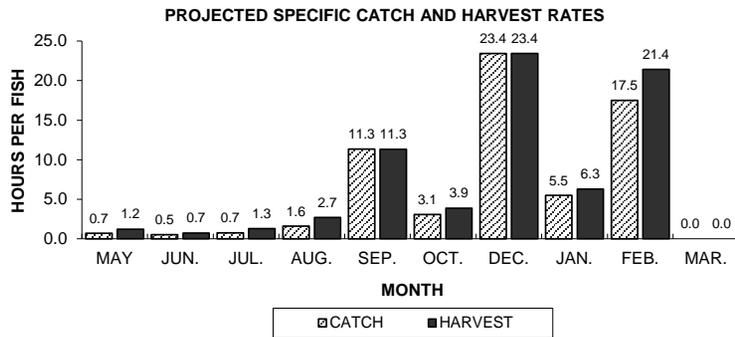
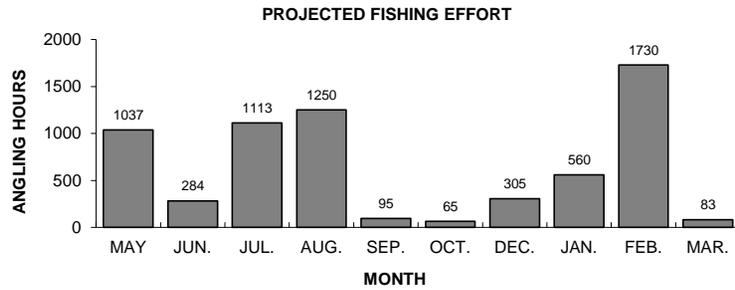
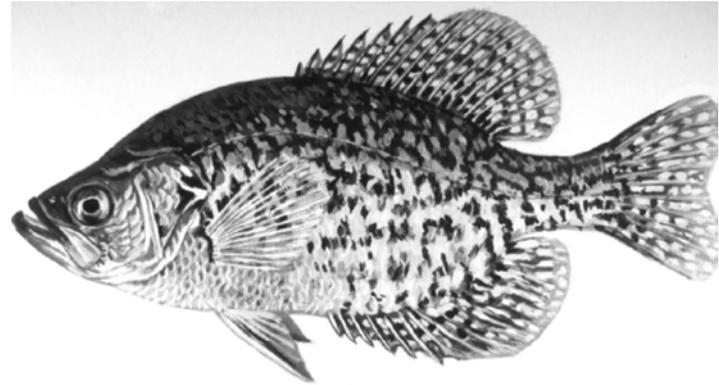


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Squirrel Lake, during 2014-15.