

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

CRESCENT LAKE

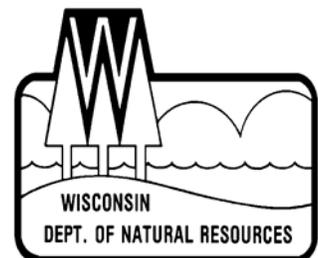
ONEIDA COUNTY

2010-11



Treaty Fisheries Publication

**Compiled by Tim Tobias
Treaty Fisheries Technician**



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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 good 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). But 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 also measure the sport harvest to assess its impact on the fishery. But because it would be highly impractical and very costly to conduct a complete census of every angler who fishes on a lake, 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, except during the month of 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 numbers of anglers on a lake at predetermined times, and to interview anglers who have completed their fishing trip to collect data on what species they fished for, catch, harvest, lengths of fish harvested, marks (finclips 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.

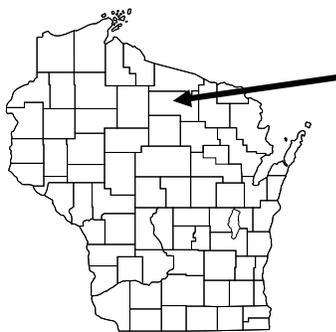
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Crescent Lake

Location

Crescent Lake is located in Oneida County 4 miles west of the City of Rhinelander.

Physical Characteristics

Crescent Lake is a 626-acre drainage lake with a maximum depth of 32 feet. Littoral substrate consists primarily of sand, gravel, rubble and muck. Crescent Lake is a soft water spring lake with slightly alkaline, clear water of high transparency.

Seasons Surveyed

The period referred to in this report as the 2010-11 fishing season ran from May 1, 2010 through March 6, 2011. The open water creel survey ran from May 1 through October 31, 2010 and the ice fishing creel survey ran from December 1, 2010 through March 6, 2011.

Weather

Ice-out on Crescent Lake was around March 30, 2010. Fishable-ice formed on Crescent Lake in early December.

Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Crescent Lake during the 2010-11-fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass& Smallmouth Bass	5/01-6/18	Catch & Release	
	6/19-3/06	1	18"
Musky	5/29-11/30	1	34"
Northern Pike	5/01-3/06	5	none
Walleye	5/01-3/06	2*	none 1 > 14"
Panfish	year round	25	none
Rock Bass	year round	none	none

* The statewide bag limit was 5 walleye, but due to tribal declarations it was reduced on Crescent 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 6 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 Crescent Lake. The last treaty surveys took place in 1992.

General Angler Information

Anglers spent 18,327 hours or 29.3 hours per acre fishing Crescent Lake during the 2010 season (Table 1). That was less than the Oneida County average of 37.6 hours per acre. July was the most heavily fished

month (5.0 hours per acre). Fishing effort was lightest in February (2.3 hours per acre).

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Walleyes were the most sought-after species during the 2010 season. Anglers spent 8,854 hours targeting walleyes. Walleye fishing effort was greatest in December (1,819 hours). September had the least amount of walleye fishing effort (334 hours).

Total catch of walleyes was 1,317 fish with a harvest of 924 fish. Highest catch (335 fish) and harvest (226 fish) occurred in December. Anglers fished 6.8 hours to catch and 9.7 hours to harvest a walleye during 2010.

The mean length of harvested walleyes was 14.5 inches and the largest walleye measured was a 26.0-inch fish caught in January.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 3,886 hours during the 2010 season. Northern pike fishing effort was greatest in December (1,511 hours).

Total catch of northern pike was 650 fish with a harvest of 232 fish.

The mean length of harvested northern pike was 21.3 inches and the largest northern pike measured was a 33.6-inch fish.

Muskellunge (Table 2, Figure 3)

Anglers spent 4,786 hours targeting muskellunge during the 2010 season. Muskellunge fishing effort was greatest in July (1,139 hours).

Total catch of muskellunge was 193 fish. Highest catch (51 fish) occurred in July.

Anglers fished 27.6 hours to catch a muskellunge during 2010.

Smallmouth Bass (Table 2, Figure 4)
Fishing effort targeted at smallmouth bass was 1,148 hours during the 2010 season. Smallmouth bass fishing effort was greatest in May (330 hours).

Total catch of smallmouth bass was 954 fish with 4 fish harvested. Highest catch (325 fish) occurred in May. Anglers fished 2.4 hours to catch a smallmouth bass during 2010.

Largemouth Bass (Table 2, Figure 5)
Fishing effort directed at largemouth bass was 370 hours during the 2010 season. Largemouth bass fishing effort was greatest in May (120 hours).

Total catch of largemouth bass was 148 fish. Highest catch (57 fish) occurred in July. Anglers fished 12.0 hours to catch a largemouth bass during 2010.

Panfish (Table 2, Figures 6-10)
Yellow Perch were the most sought after panfish species during the survey. Fishing effort directed at yellow perch was 6,303 hours.

Total catch of yellow perch was 8,908 fish with 3,085 harvested. The mean length of yellow perch harvested was 8.9 inches.

Bluegills were the second most sought after panfish species during the survey. Fishing effort directed at bluegills was 2,277 hours.

Total catch of bluegills was 2,085 fish with a harvest 745 fish. The mean length of bluegills harvested was 7.6 inches.

Black Crappie were the third most sought after panfish species during the survey.

Fishing effort directed at black crappie was 1,374 hours.

Total catch of black crappies was 97 fish with 72 harvested. The mean length of black crappies harvested was 10.9 inches.

Pumpkinseeds and rock bass were also caught during the 2010 season.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the technical staff of the fisheries management and Treaty Fisheries Unit. Treaty staff responsible for ensuring completion of this survey included Jeff Blonski, Steve Kramer, Joelle Underwood, Marty Kiepkke, Jason Halverson, and Tim Tobias. Fisheries management staff included, John Kubisiak and Steve Timler. Dave Stahmer and Keith Worrall were the creel clerks on Crescent 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 the cooperators, Glen and Mary Peterson and John Reid who generously allowed the Department to keep a boat and snowmobile respectively on their property during this survey.

This creel report was reviewed by John Kubisiak and Dennis Scholl of the Wisconsin Department of Natural Resources.

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/fish/ceded/reports.html>

Table 1. Sportfishing effort summary, Crescent Lake, 2010-11 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Oneida County Average Hours/Acre	Statewide Average Hours/Acre
May	1702	2.7	5.4	5.8
June	2410	3.8	7.3	6.1
July	3104	5.0	8.3	6.4
August	1799	2.9	6.3	5.4
September	1477	2.4	3.8	3.8
October	1884	3.0	1.8	1.6
December	2068	3.3	1.3	1.7
January	2176	3.5	1.7	1.5
February	1448	2.3	1.7	1.3
March	259	0.4	0.3	**
*Summer Total	12376	19.8	32.7	29.1
*Winter Total	5950	9.5	4.9	4.5
Grand Total	18327	29.3	37.6	33.6

*"Summer" is May-October; "Winter" is December-March

**Too few lakes have been surveyed in March to give a meaningful statewide average.

Total Angler Hours is the estimated total number of hours that anglers spent fishing on Crescent 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 if you wish to compare effort on Crescent 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 can be useful in comparisons as well.

Statewide Average Hours/Acre is the average angler effort in hours per acre for inland lakes in the state surveyed between 1990 and 1995. This value can be used to compare Crescent Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, Crescent Lake, 2010-11 and 1992-93 fishing seasons.

CREEL YEAR: 2010-11

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	8854	29.79%	1317	6.8	924	9.7	14.5
Northern Pike	3886	13.08%	650	9.7	232	18.4	21.3
Muskellunge	4786	16.10%	193	27.6	0		
Smallmouth Bass	1148	3.86%	954	2.4	4		19.1
Largemouth Bass	370	1.24%	148	12.0	0		
Yellow Perch	6303	21.21%	8908	0.7	3085	2.0	8.9
Bluegill	2277	7.66%	2085	1.2	745	3.1	7.6
Pumpkinseed	160	0.54%	42	3.7	36	4.3	8.0
Rock Bass	562	1.89%	721	3.5	152	4.6	10.7
Black Crappie	1374	4.62%	97	15.0	72	19.1	10.9

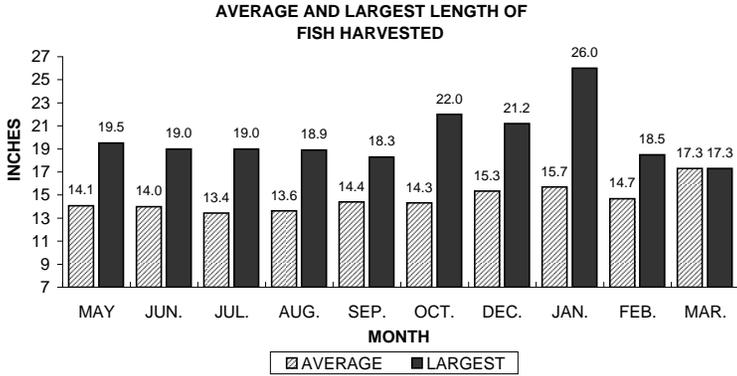
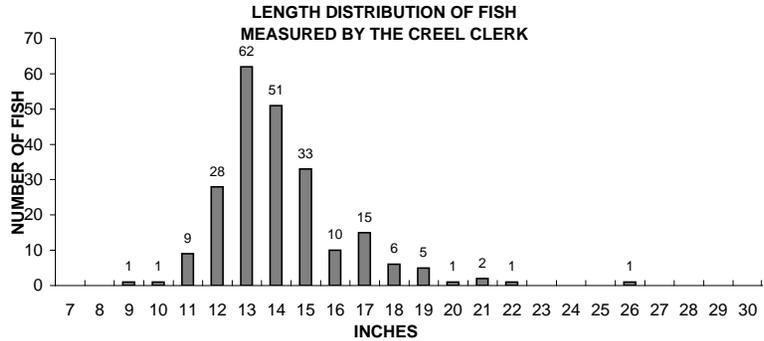
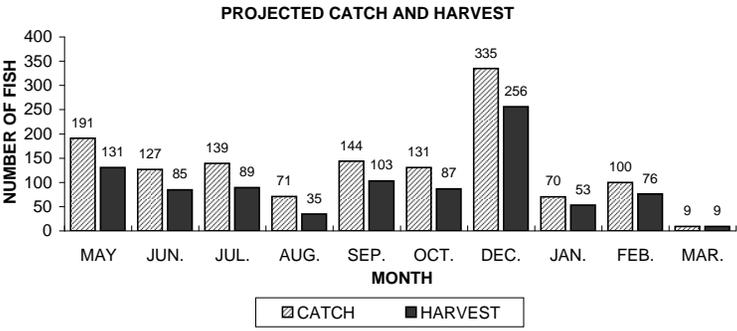
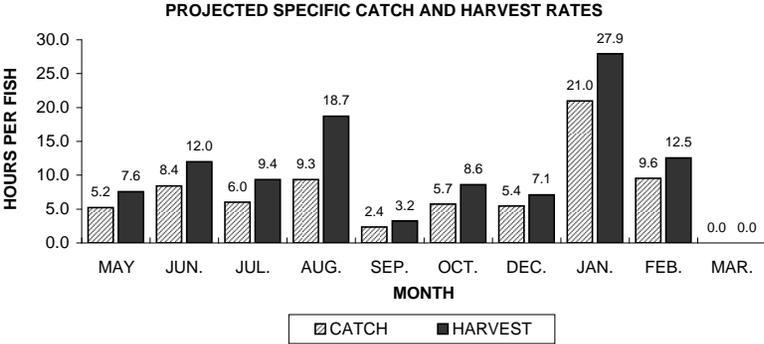
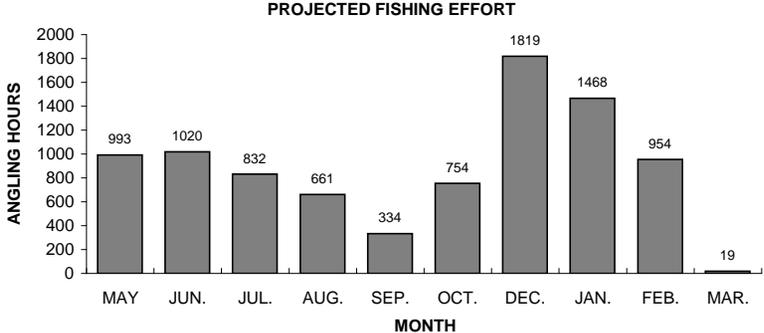
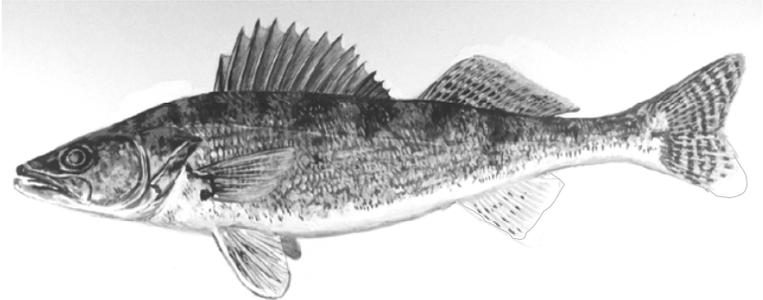
* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** 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	8847	16.66%	1272	7.4	144	66.2	18.1
Northern Pike	385	0.72%	14		0		
Muskellunge	13203	24.86%	496	28.5	21	769.2	36.1
Smallmouth Bass	1009	1.90%	209	16.6	11		12.4
Largemouth Bass	927	1.75%	133	24.5	18	51.0	13.6
Yellow Perch	13530	25.47%	23248	0.6	9058	1.5	7.8
Bluegill	9429	17.75%	15574	0.6	6035	1.6	6.5
Pumpkinseed	886	1.67%	653	1.4	267	3.3	6.1
Rock Bass	2985	5.62%	4404	1.3	1160	3.6	7.1
Black Crappie	1910	3.60%	468	5.0	331	7.5	10.1

WALLEYE



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Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

NORTHERN PIKE

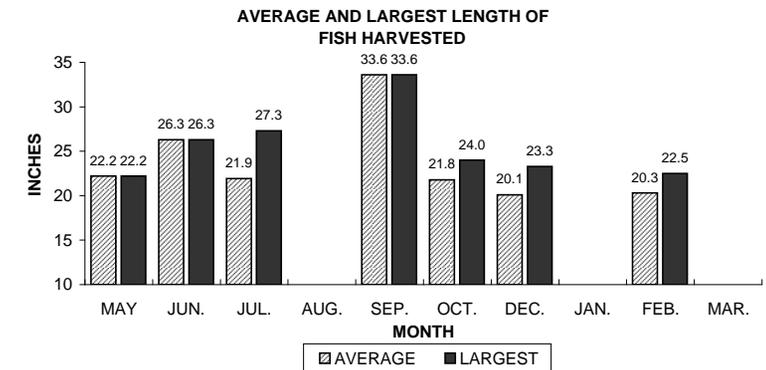
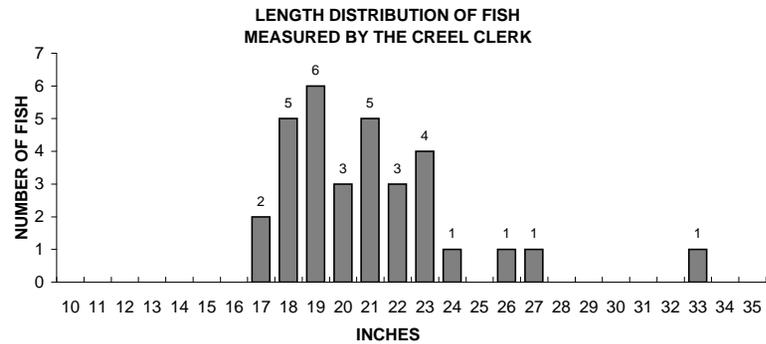
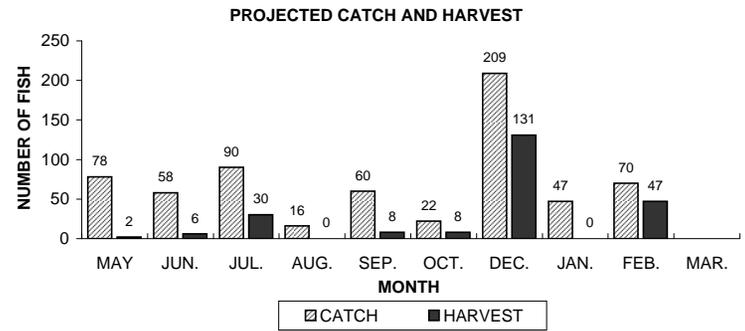
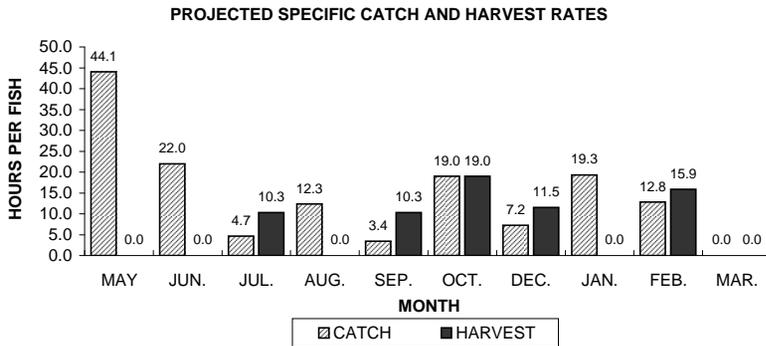
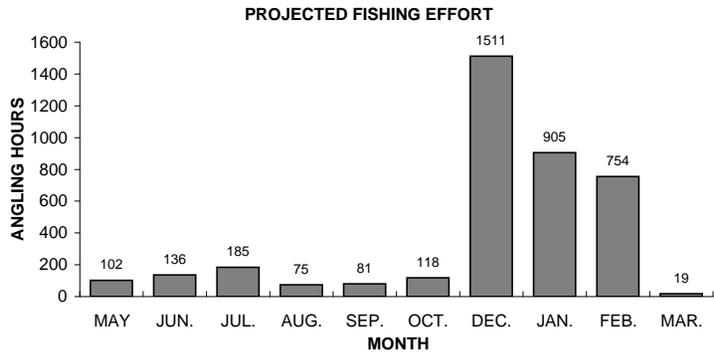
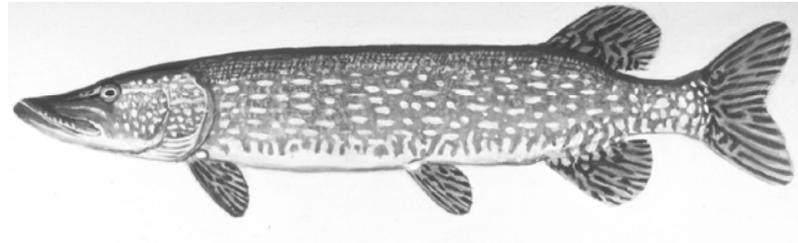
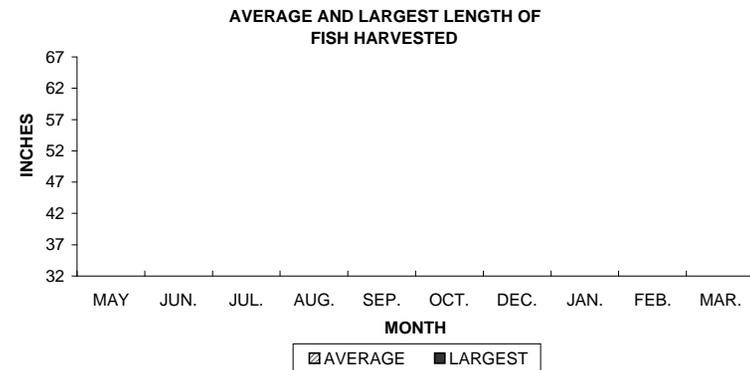
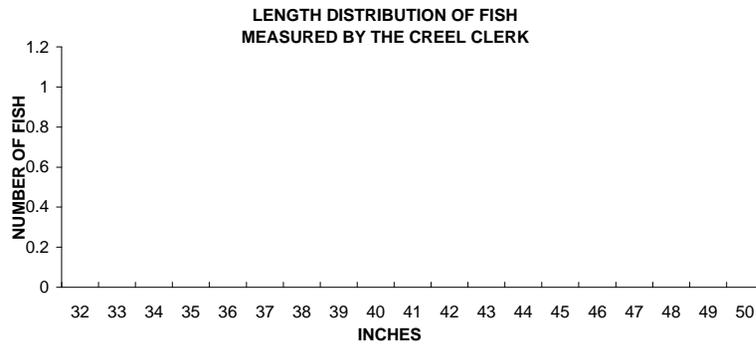
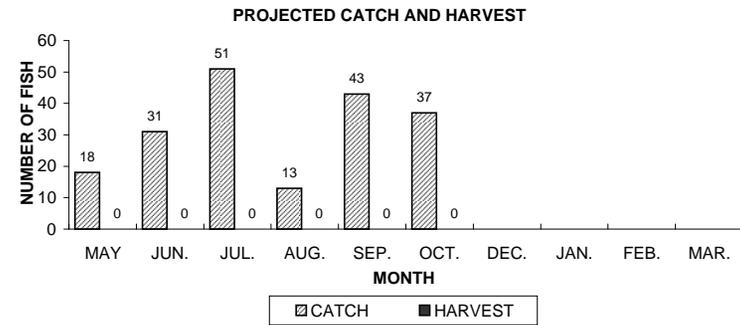
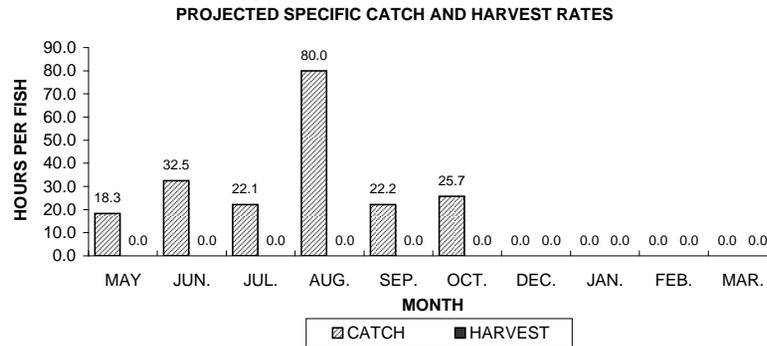
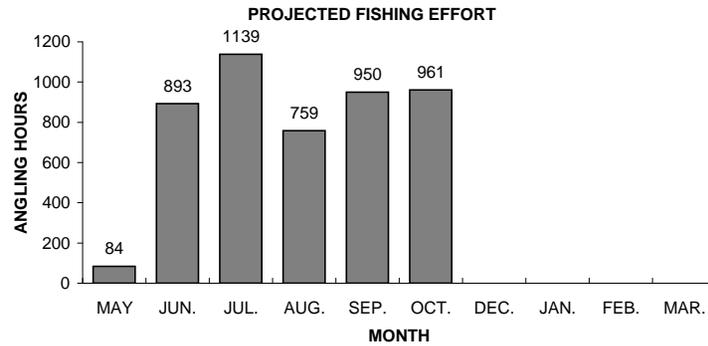
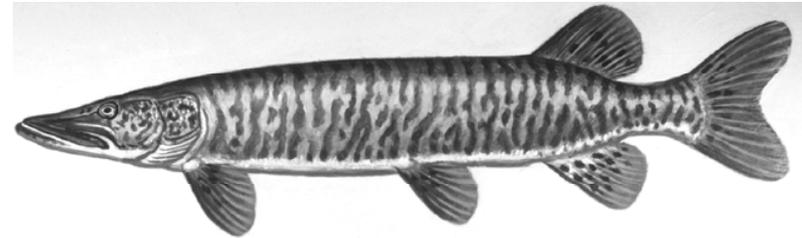


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

MUSKELLUNGE



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Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

SMALLMOUTH BASS

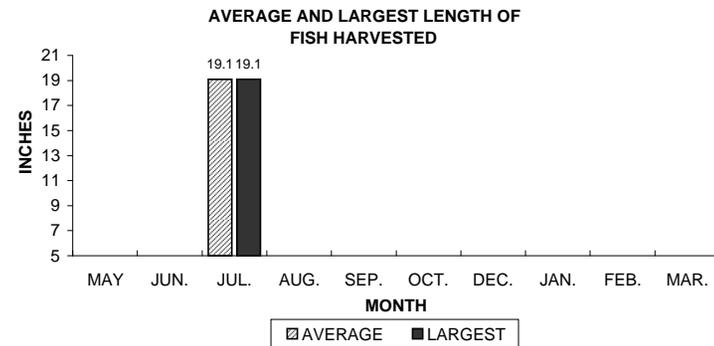
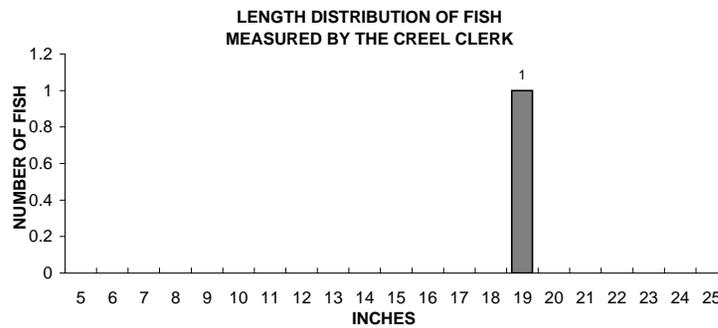
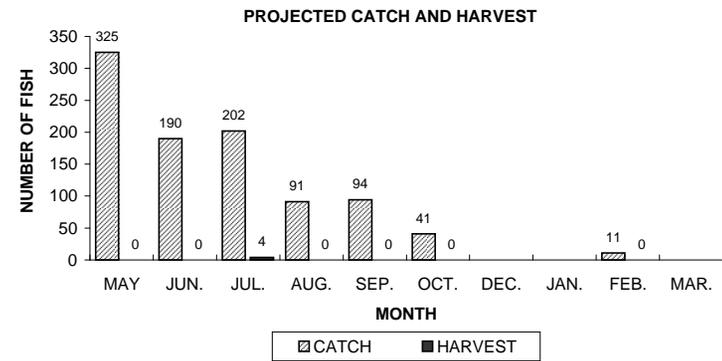
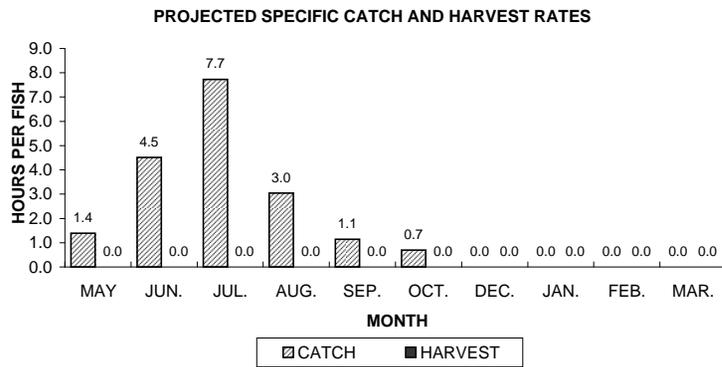
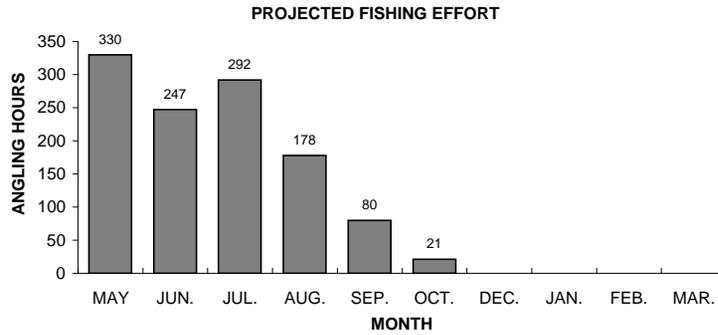
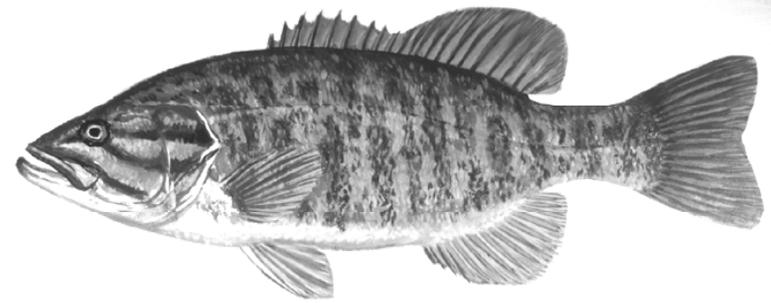


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

LARGEMOUTH BASS

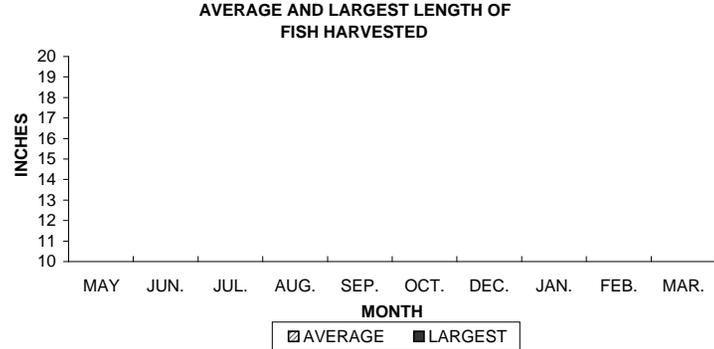
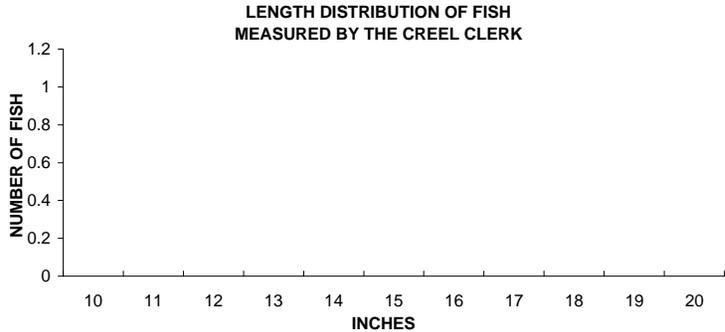
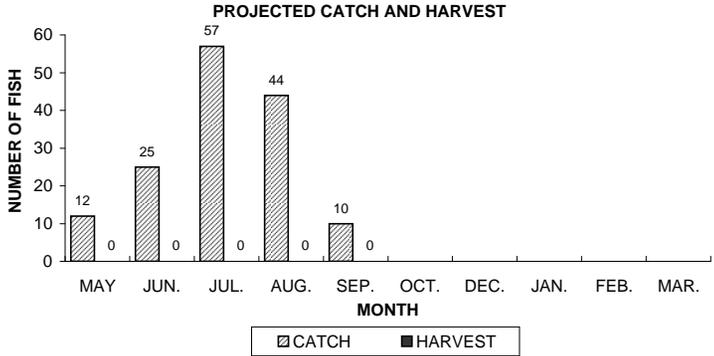
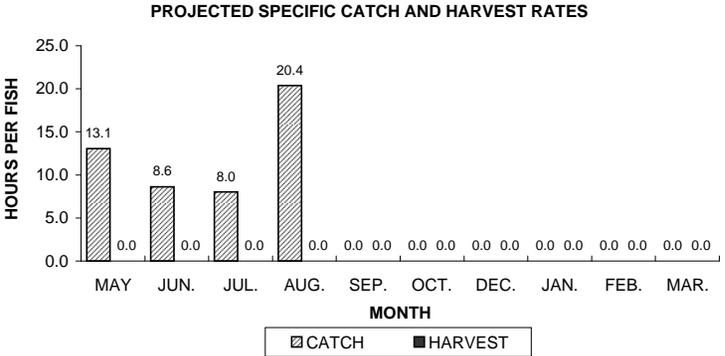
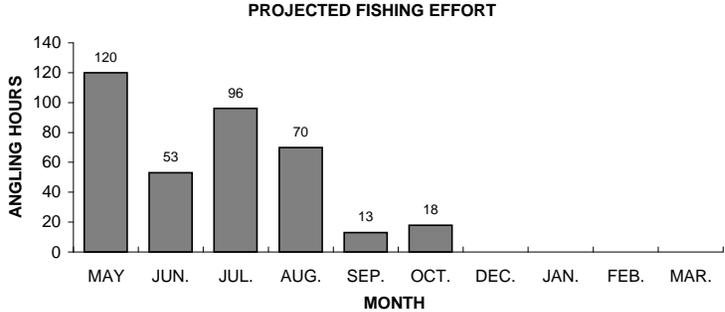
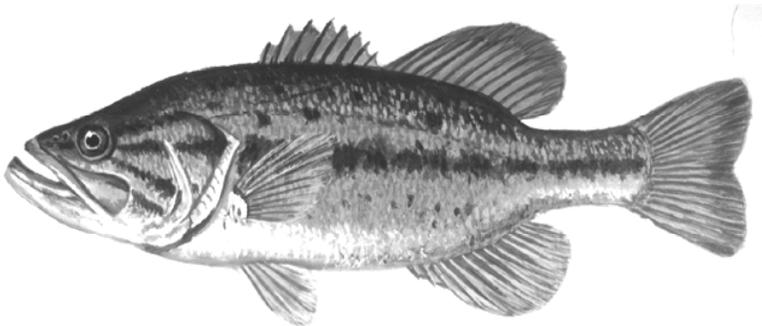


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

YELLOW PERCH

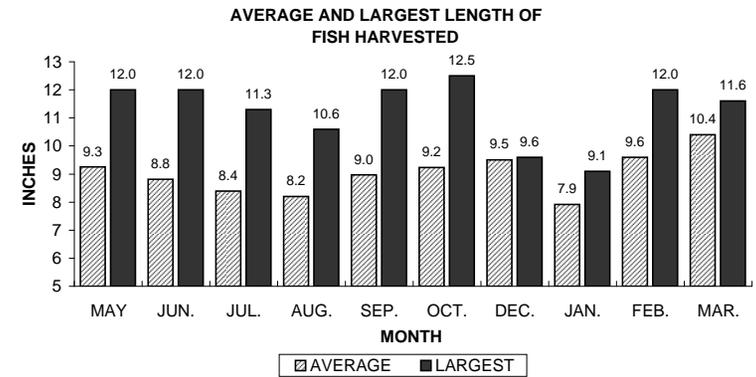
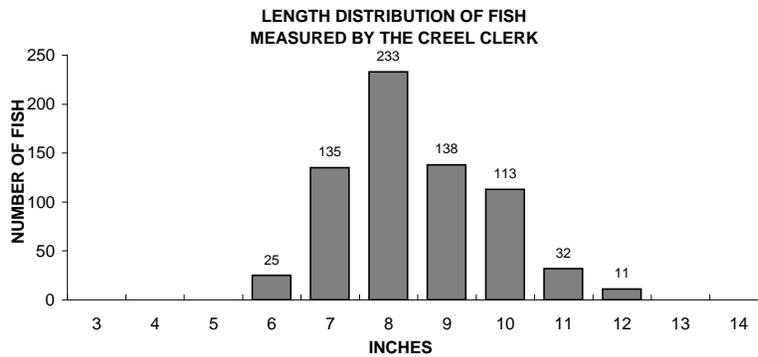
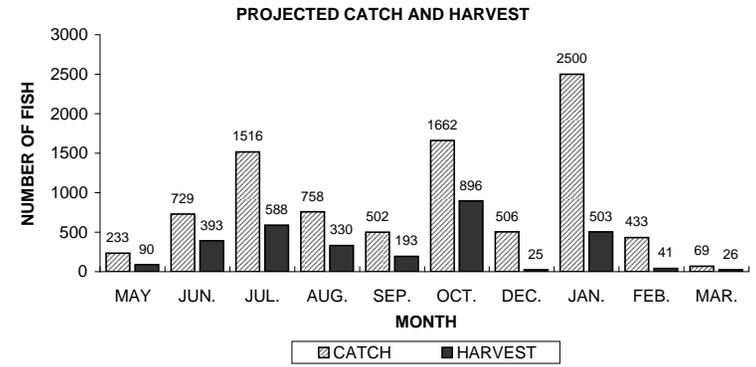
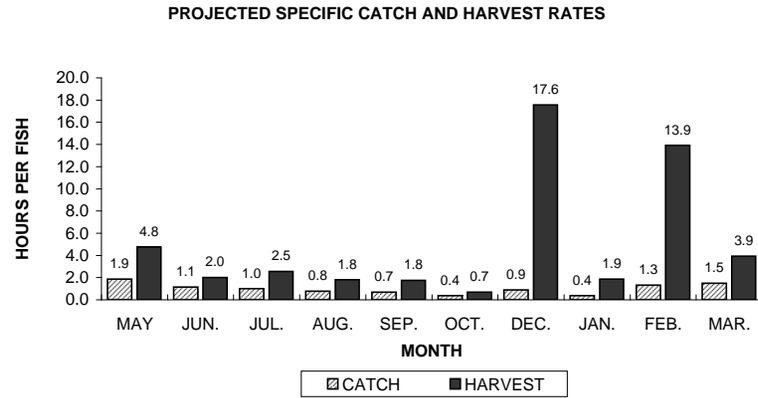
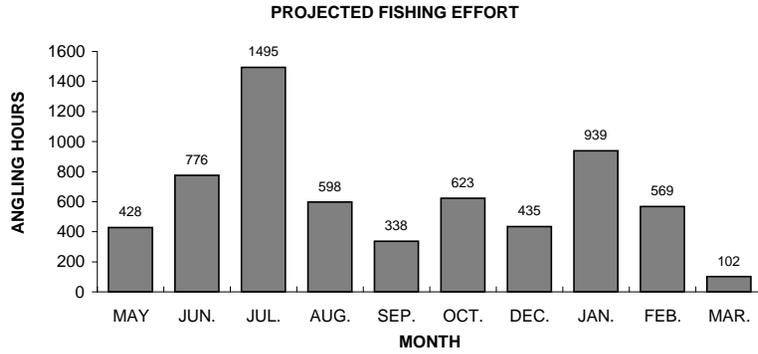
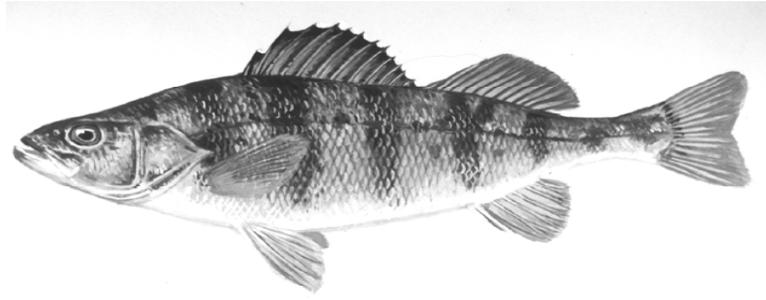


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

BLUEGILL

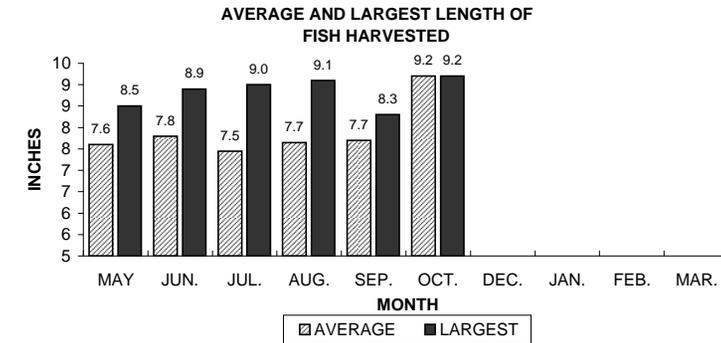
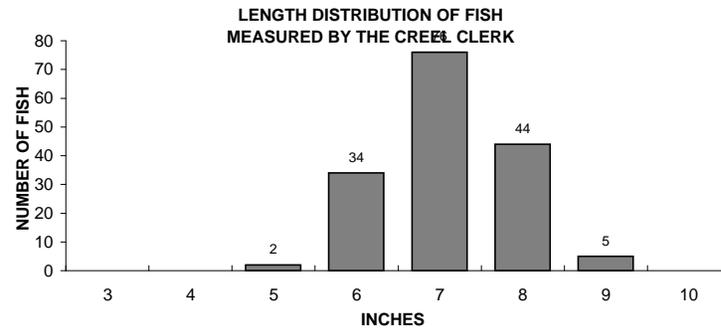
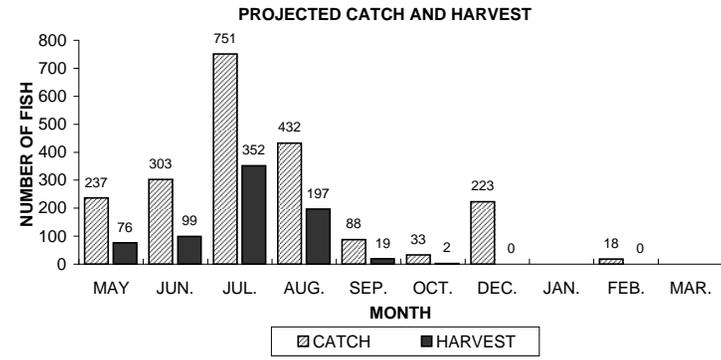
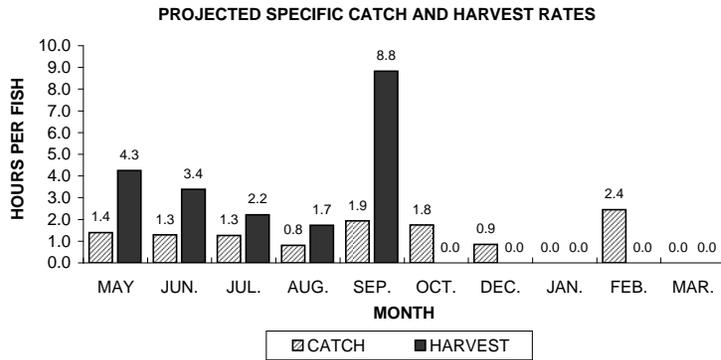
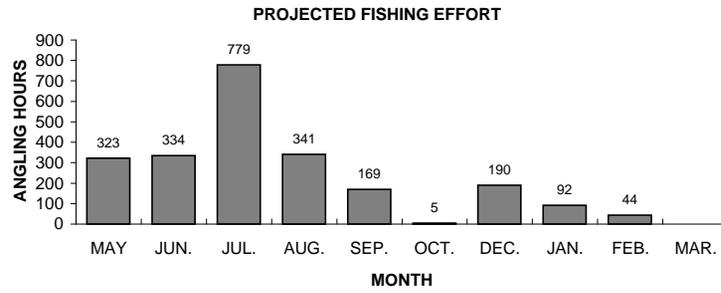
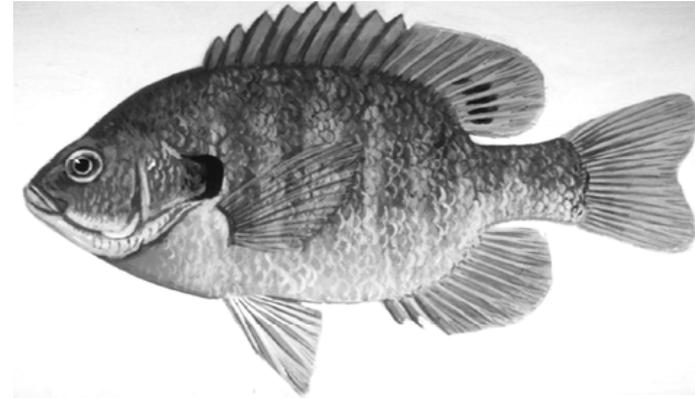


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

PUMPKINSEED

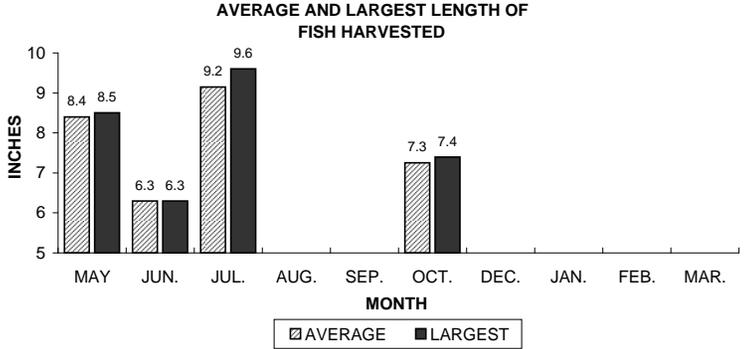
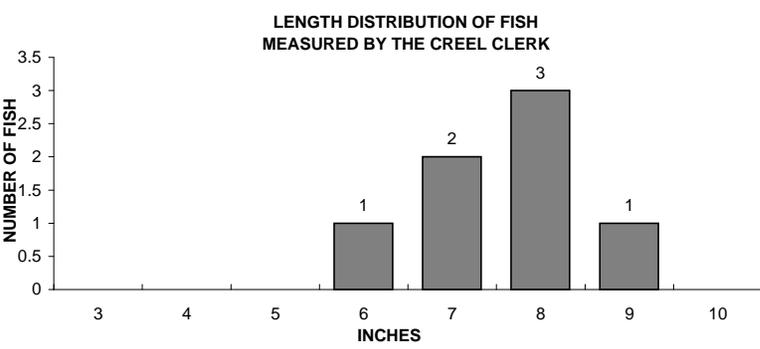
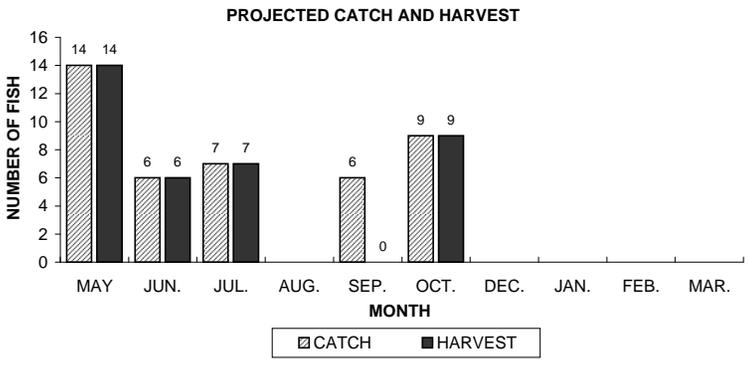
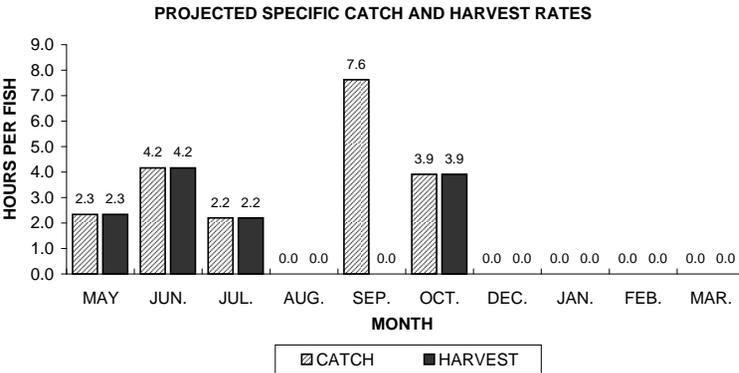
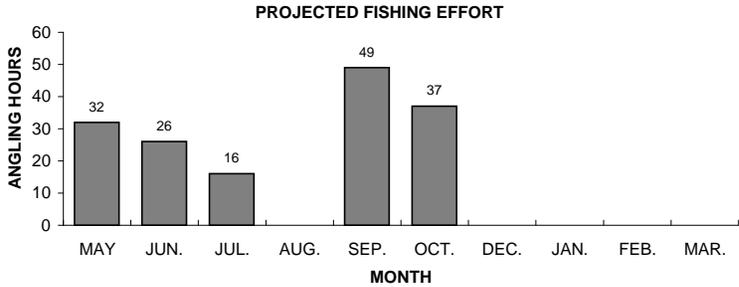
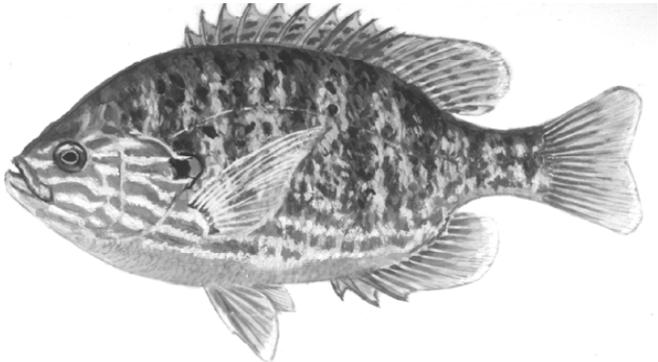


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

ROCK BASS

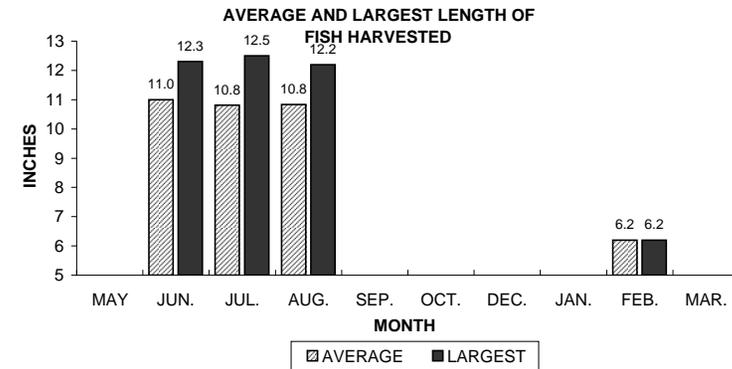
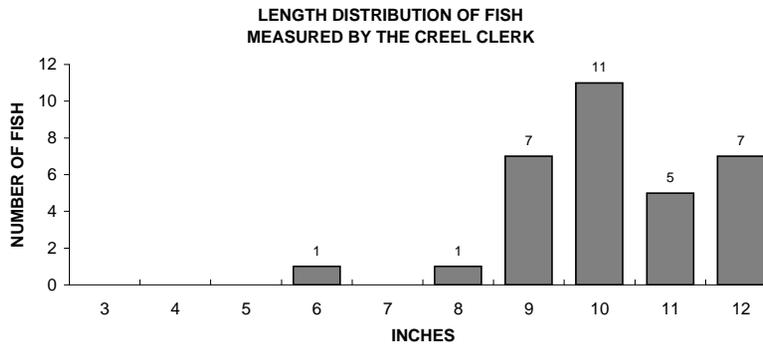
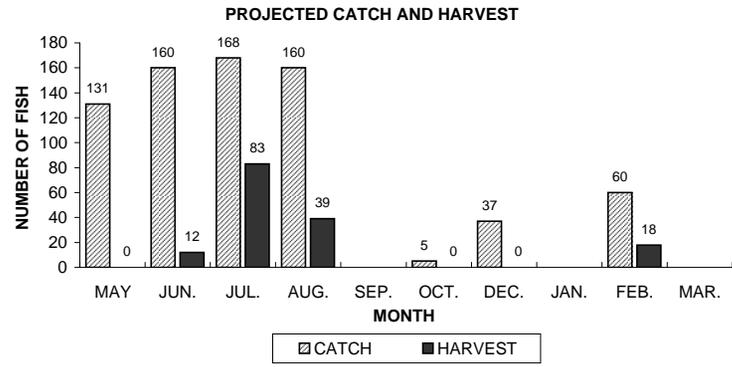
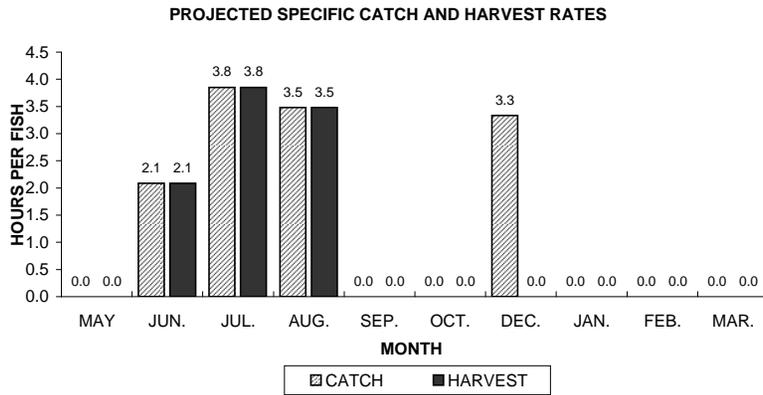
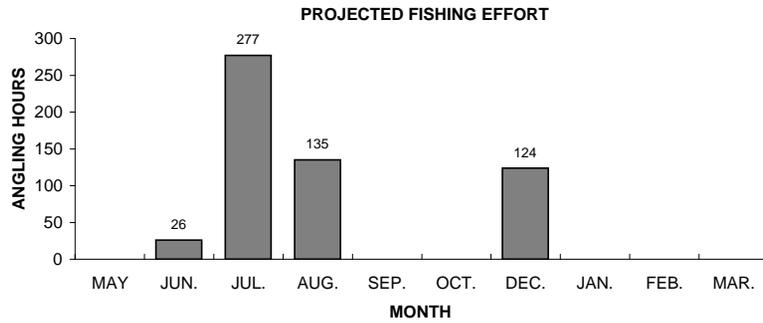
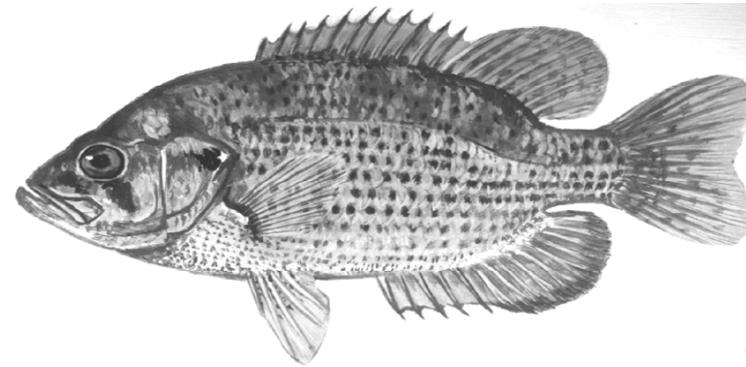


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.

BLACK CRAPPIE

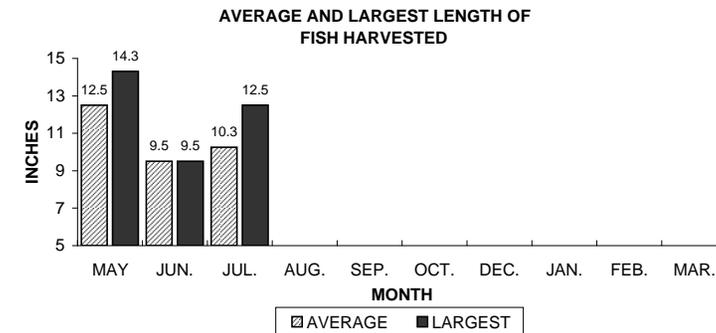
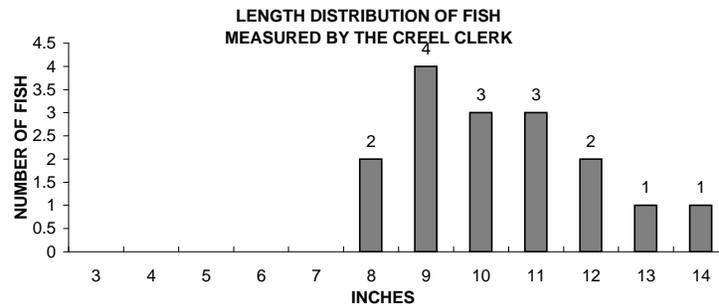
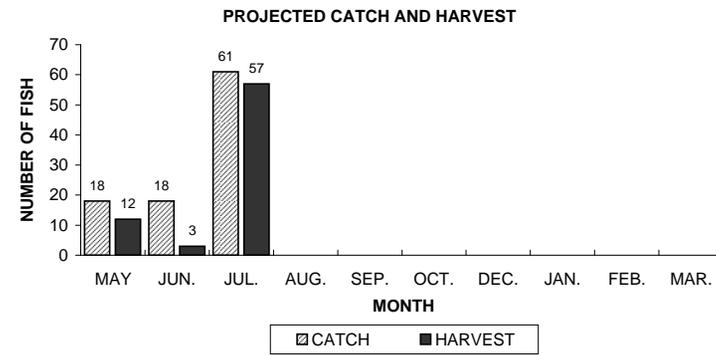
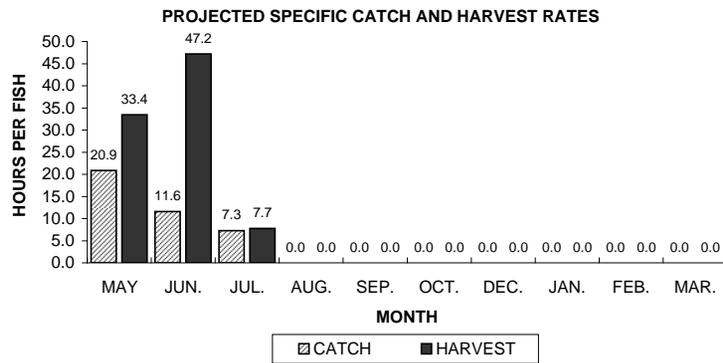
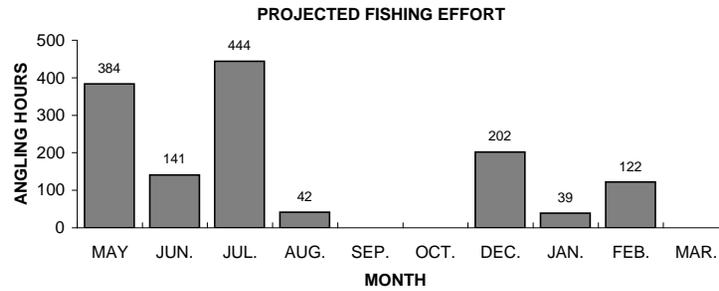
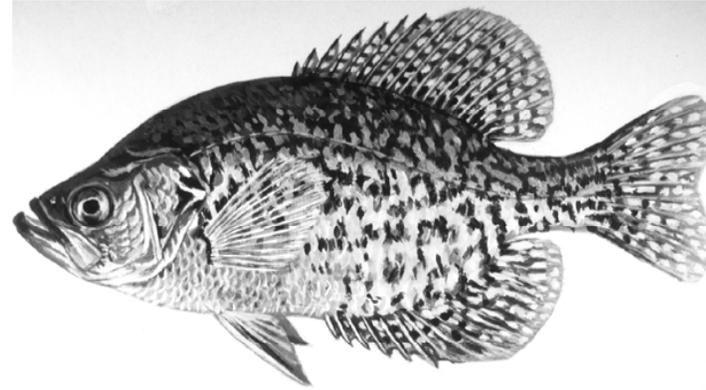


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Crescent Lake, during 2010-11.