

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

MINOCQUA LAKE

ONEIDA COUNTY

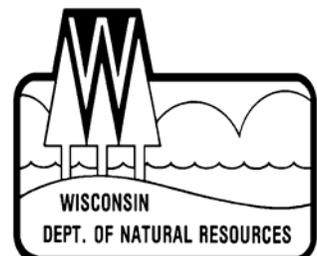
2009-10



Treaty Fisheries Publication

**Compiled by Tim Tobias
Treaty Fisheries Technician**

June 2010



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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 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.

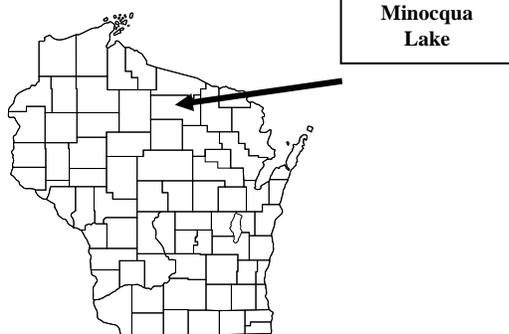
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Location

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

Physical Characteristics

Minocqua Lake is a 1,360-acre drainage lake with a maximum depth of 60 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck, and gravel. Minocqua 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 2009-10 fishing season ran from May 2, 2009 through March 7, 2010. The open water creel survey ran from May 2 through October 31, 2009 and the ice fishing creel survey ran from December 1, 2009 through March 7, 2010.

Weather

Ice-out on Minocqua Lake was around April 21, 2009. Fishable-ice formed on Minocqua Lake in mid December.

Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Minocqua Lake during the 2009-fishing season:

Species	Season	Catch	Release
Largemouth Bass & Smallmouth Bass	5/02-6/19	5	14"
Musky	5/23-11/30	1	34"
Northern Pike	5/02-3/07	5	none
Walleye	5/02-3/07	3*	15"
Panfish	all year	25	none
Rock Bass	all year	none	none

* The statewide bag limit was 5 walleye, but due to tribal declarations it was reduced on Minocqua 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 7 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. Previous angler creel surveys took place in 1987, 1992 and 1998.

General Angler Information

Anglers spent 76,183 hours or 56.0 hours per acre fishing Minocqua Lake during the 2009 season (Table 1). That was more than the Oneida County average of 37.5 hours per acre. February was the most heavily fished month (8.3 hours per acre). Fishing effort was lightest in October (2.0 hours per acre).

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Walleye received the second most fishing pressure during the 2009 season behind bluegill. Anglers spent 23,819 hours targeting walleye. Walleye fishing effort was greatest in February (7,414 hours). October had the least amount of walleye fishing effort (173hours).

Catch was 618 walleye with a harvest of 164 fish. Highest catch (246 fish) occurred in May and harvest (75 fish) occurred in June. Anglers fished 38.5 hours to catch and 144.9 hours to harvest a walleye during 2009.

The mean length of harvested walleye was 18.1 inches and the largest walleye measured was a 24.0-inch fish.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 16,238 hours during the 2009 season. Northern pike fishing effort was greatest in February (6,680 hours).

Total catch was 2,638 northern pike with a harvest of 534 fish.

The mean length of harvested northern pike was 24.3 inches and the largest northern pike measured was a 32.4-inch fish.

Muskellunge (Table 2, Figure 3)

Anglers spent 18,571 hours targeting muskellunge during the 2009 season. Muskellunge fishing effort was greatest in August (3,993 hours).

Catch was 284 fish. Highest catch (69fish) occurred in July. Anglers fished 88.5 hours to catch a muskellunge during 2009.

Smallmouth Bass (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass

was 8,892 hours during the 2009 season. Smallmouth bass fishing effort was greatest in August (2,771 hours).

Catch was 4,337 smallmouth bass with no harvest. Highest catch (1,229 fish) occurred in August. Anglers fished 2.7 hours to catch a smallmouth bass during 2009.

Largemouth Bass (Table 2, Figure 5) Fishing effort directed at largemouth bass was 15,058 hours during the 2009 season. Largemouth bass fishing effort was greatest in July (3,738 hours).

Total catch was 21,407 largemouth bass with a harvest of 68 fish. Highest catch (6,458 fish) occurred in August. Anglers fished 54 minutes to catch a largemouth bass during 2009.

Panfish (Table 2, Figures 6-10) **Bluegills** were the most sought after panfish species during the survey. Fishing effort directed at bluegill was 26,580 hours.

Total catch of bluegill was 36,263 fish with 13,197 harvested. The mean length of bluegill harvested was 7.1 inches.

Black crappies were the second most sought after panfish species during the survey. Fishing effort directed at black crappie was 21,510 hours.

Anglers caught 13,852 black crappie and harvested 7,313 fish. The mean length of black crappie harvested was 10.4 inches.

Yellow perch were the third most sought after panfish species during the survey. Fishing effort directed at yellow perch was 16,489 hours.

Total catch of yellow perch was 8,129 fish with 2,334 harvested. The mean length of

yellow perch harvested was 8.8 inches.

Pumkinseeds and rock bass were also caught during the 2009 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 Steve Gilbert, Wes Jahns, John Kubisiak and Steve Timler. Dean Johnson and Mike Rynski were the creel clerks on Minocqua 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, Amy Davis and Jane Mason, who generously allowed the department to keep a boat and snowmobile on their properties during this survey.

This creel report was reviewed by Mike Coshun, John Kubisiak and Dennis Scholl 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. Requests should be directed to:

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Table 1. Sportfishing effort summary, Minocqua Lake, 2009-10 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Oneida County Average Hours/Acre	Statewide Average Hours/Acre
May	5569	4.1	5.4	5.8
June	9376	6.9	7.3	6.1
July	10199	7.5	8.3	6.4
August	10166	7.5	6.3	5.4
September	8606	6.3	3.8	3.8
October	2739	2.0	1.7	1.6
December	4558	3.4	1.3	1.7
January	10120	7.4	1.7	1.5
February	11348	8.3	1.6	1.3
March	3502	2.6	0.3	**
*Summer Total	46656	34.3	32.8	29.1
*Winter Total	29528	21.7	4.8	4.5
Grand Total	76183	56.0	37.5	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 Minocqua 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 Minocqua 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 Minocqua Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, Minocqua Lake, 1998 and 2009 fishing seasons.

CREEL YEAR: 2009-10

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	23819	16.06%	618	38.5	164	144.9	18.1
Northern Pike	16238	10.95%	2638	13.9	534	33.7	24.3
Muskellunge	18571	12.52%	284	88.5	0		
Smallmouth Bass	8892	6.00%	4337	2.7	0		
Largemouth Bass	15058	10.15%	21407	0.9	68	588.2	15.8
Yellow Perch	16489	11.12%	8129	2.2	2334	7.6	8.8
Bluegill	26580	17.92%	36263	0.8	13197	2.0	7.1
Pumpkinseed	633	0.43%	990	0.9	297	2.2	6.4
Rock Bass	527	0.36%	2899	1.1	152		7.4
Black Crappie	21510	14.50%	13852	1.6	7313	3.0	10.4

* 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: 1998-99

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	21402	15.82%	6971	3.2	1022	21.7	16.8
Northern Pike	10539	7.79%	3996	6.6	1012	12.0	23.5
Muskellunge	17492	12.93%	486	48.8	13	0.0	42.1
Smallmouth Bass	3081	2.28%	1578	5.0	19	238.1	17.5
Largemouth Bass	6062	4.48%	3144	2.9	154	0.0	15.5
Yellow Perch	24799	18.33%	112107	0.3	25973	1.0	7.6
Bluegill	29450	21.77%	67638	0.5	26905	1.1	7.0
Pumpkinseed	2982	2.20%	7958	0.7	2807	2.0	6.5
Rock Bass	609	0.45%	4896	1.9	1419	2.6	7.5
Black Crappie	18876	13.95%	9715	2.0	5445	3.6	10.1

WALLEYE

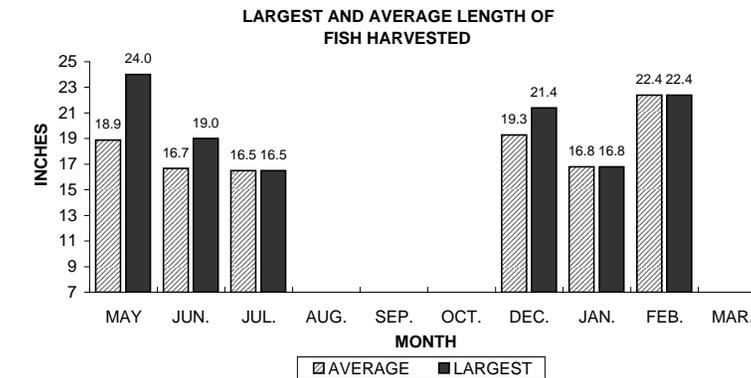
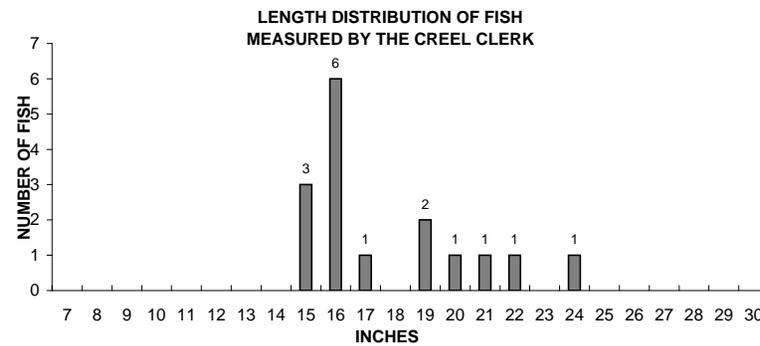
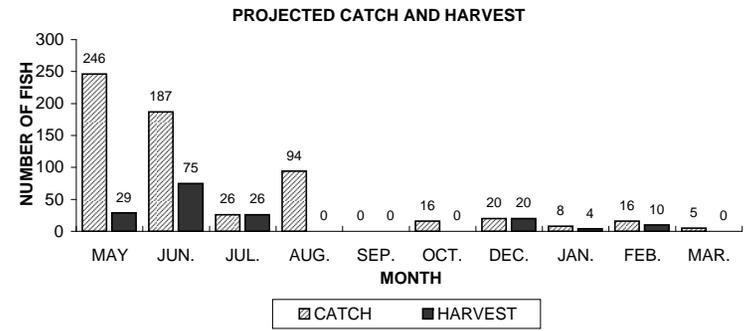
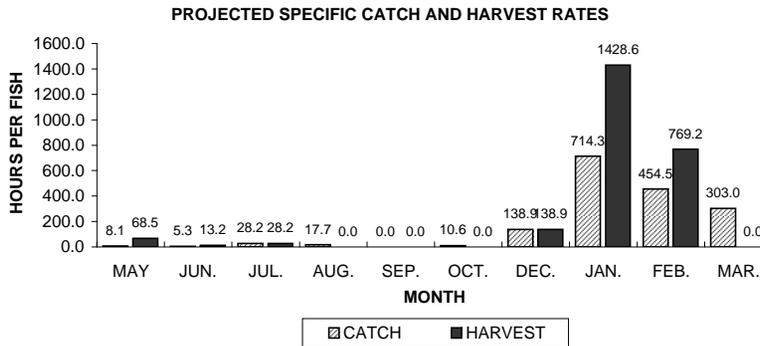
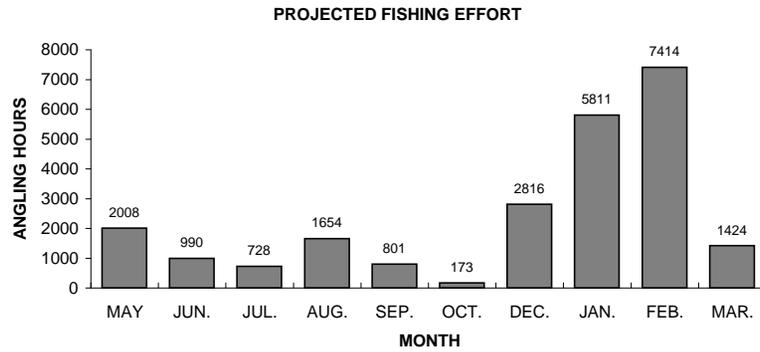
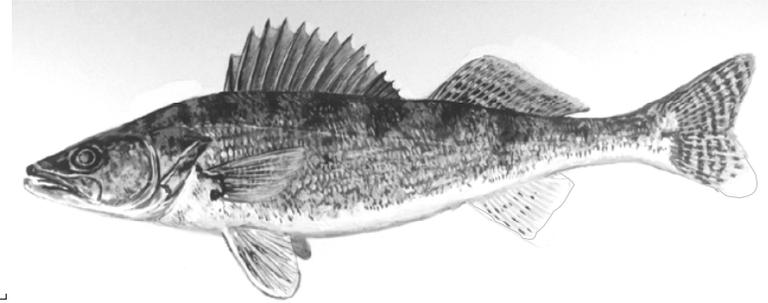


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

NORTHERN PIKE

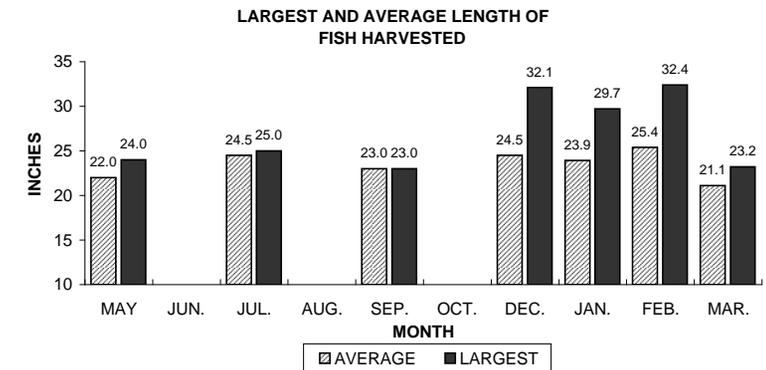
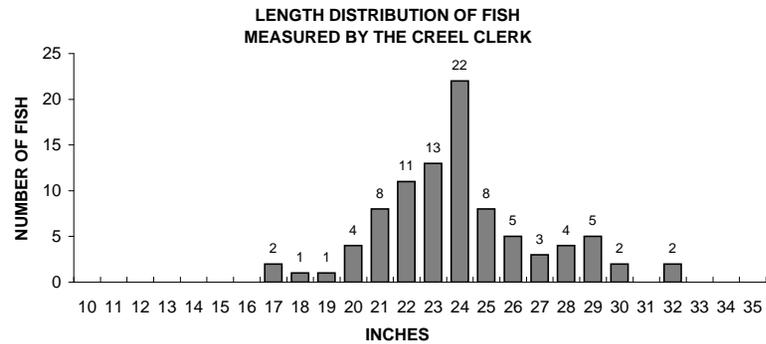
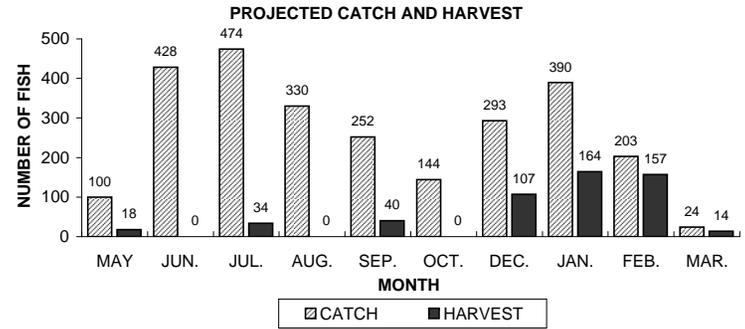
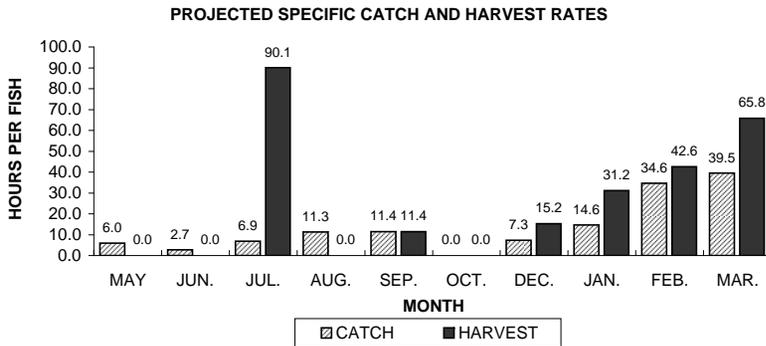
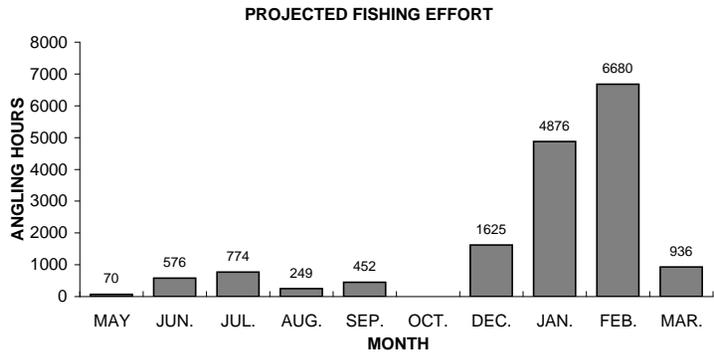
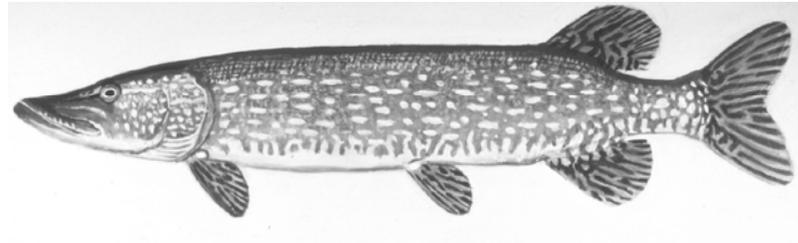
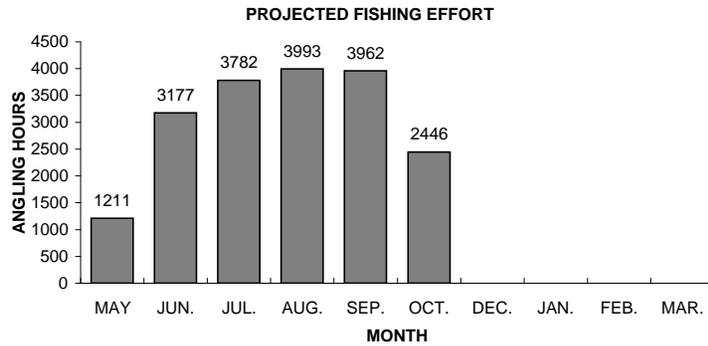
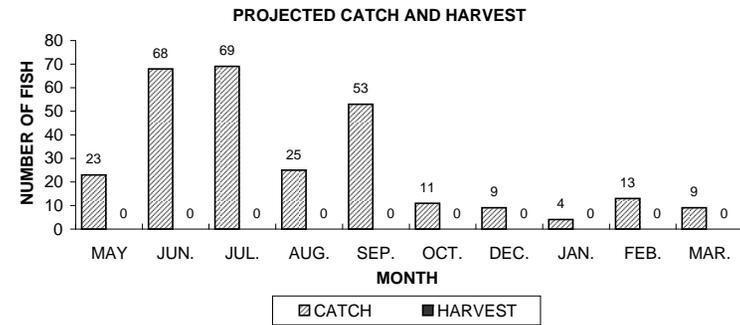
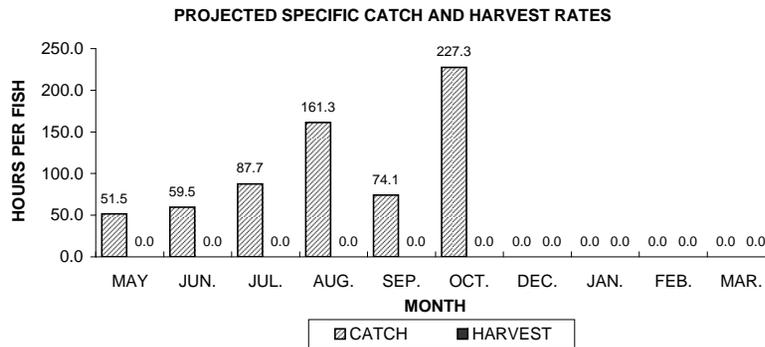
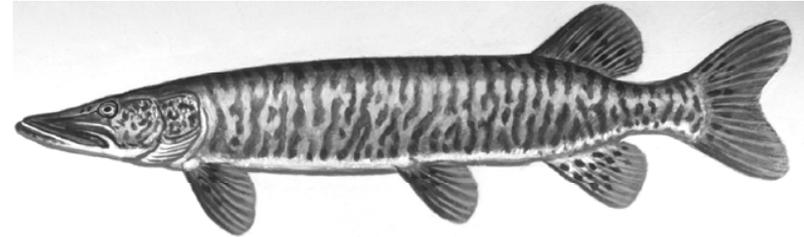


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.



MUSKELLUNGE



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Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

SMALLMOUTH BASS

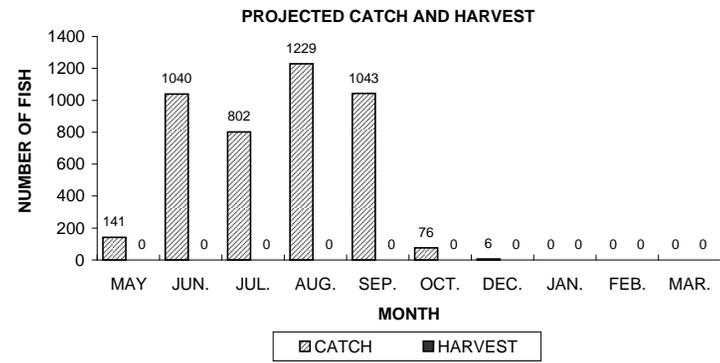
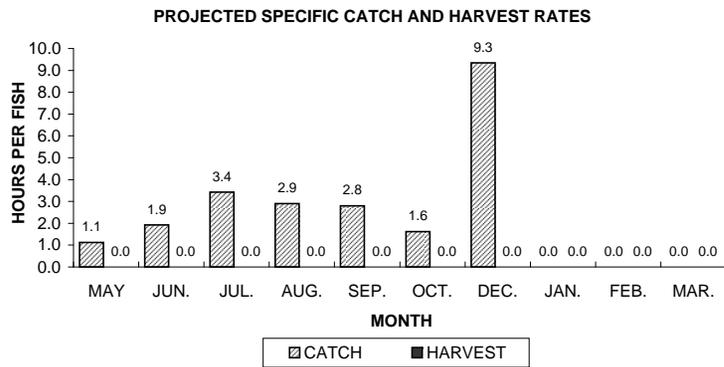
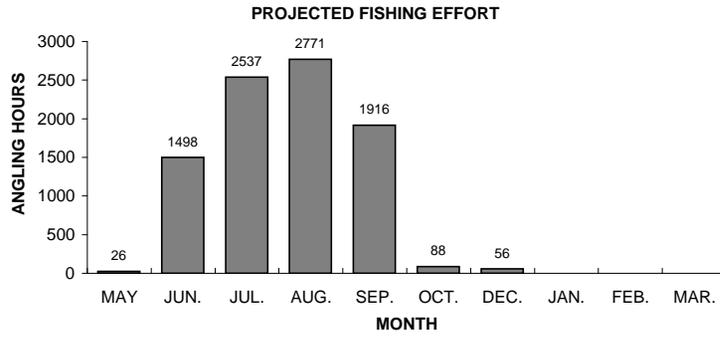
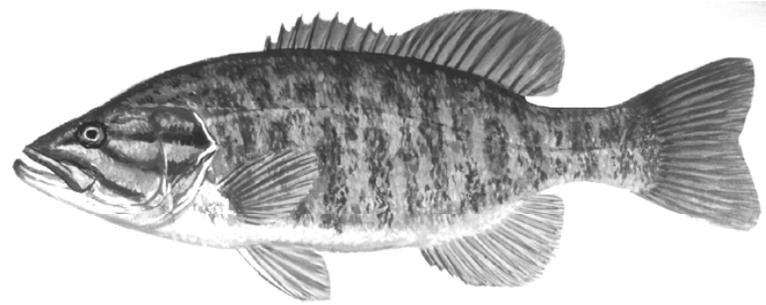


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

LARGEMOUTH BASS

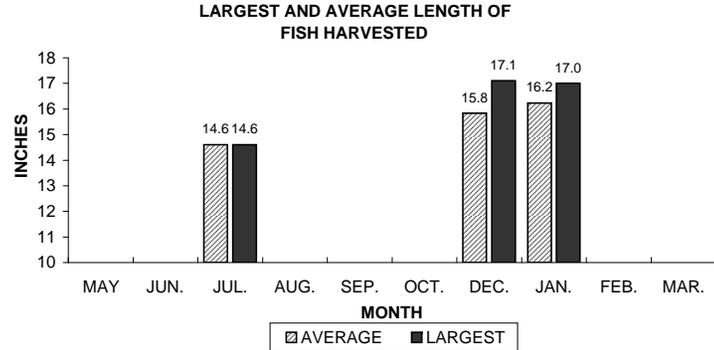
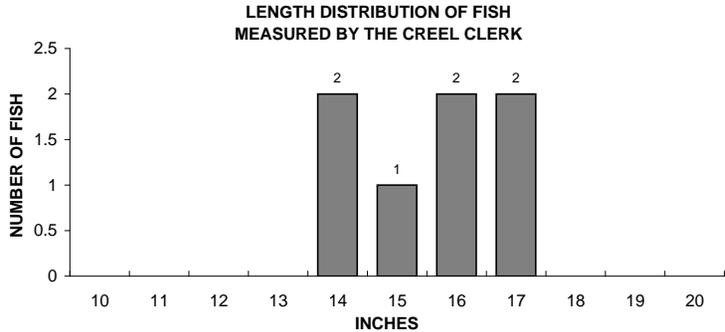
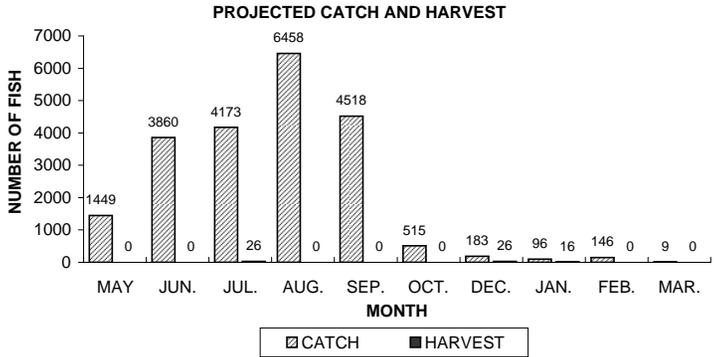
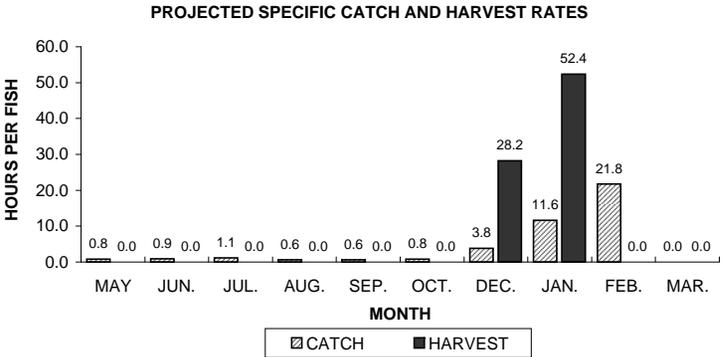
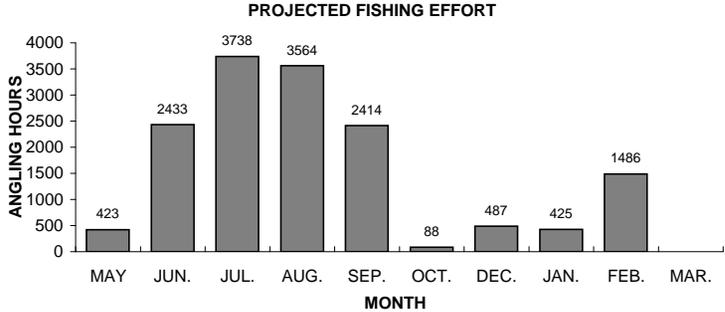
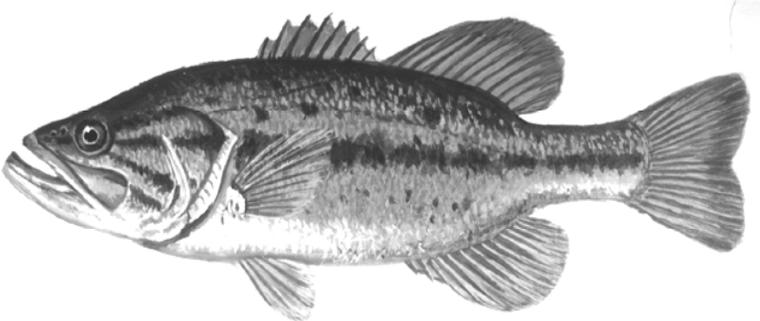


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

YELLOW PERCH

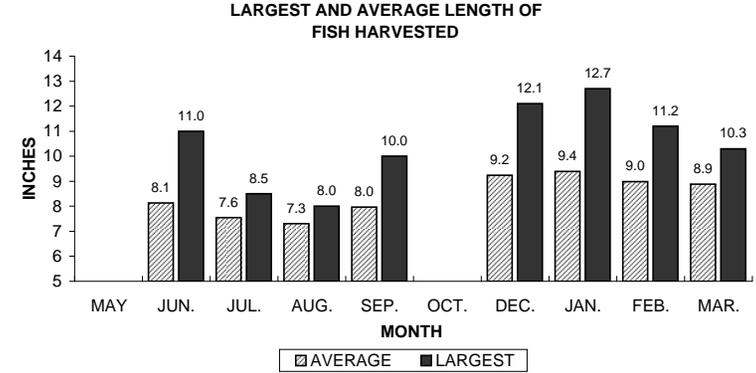
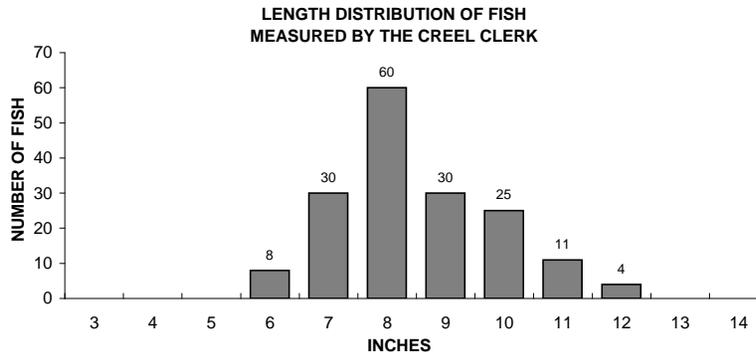
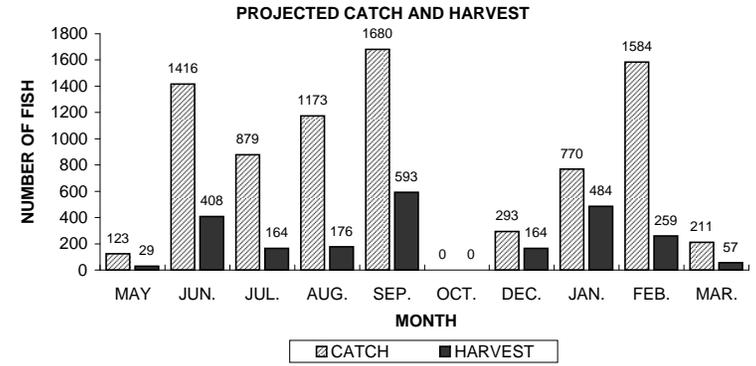
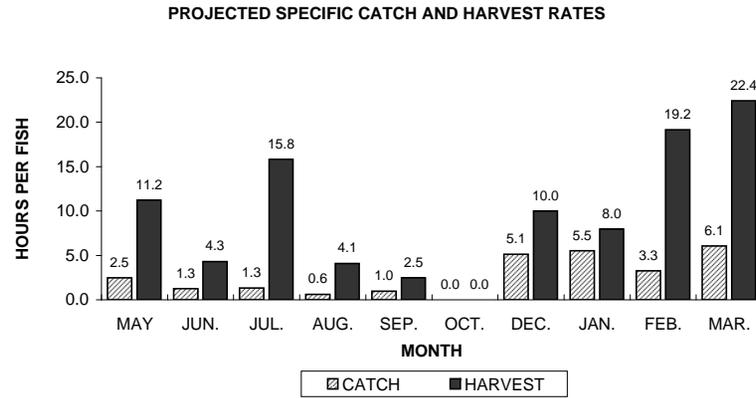
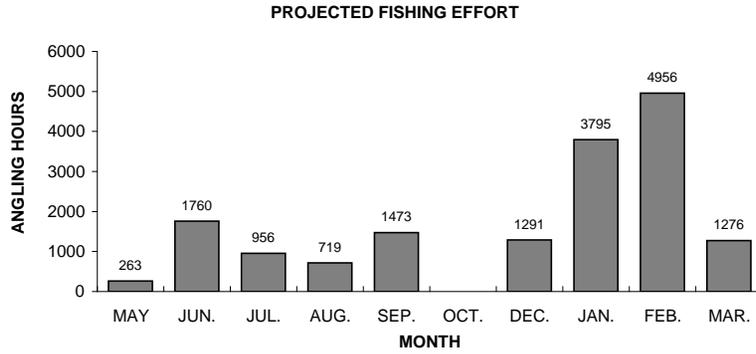


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

BLUEGILL

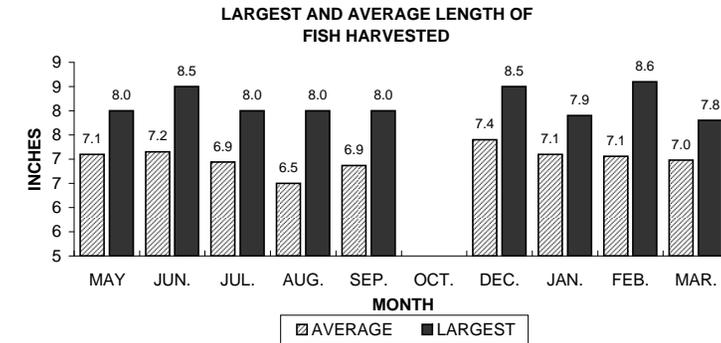
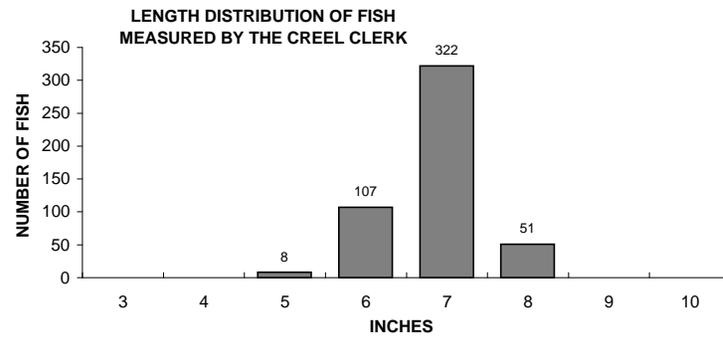
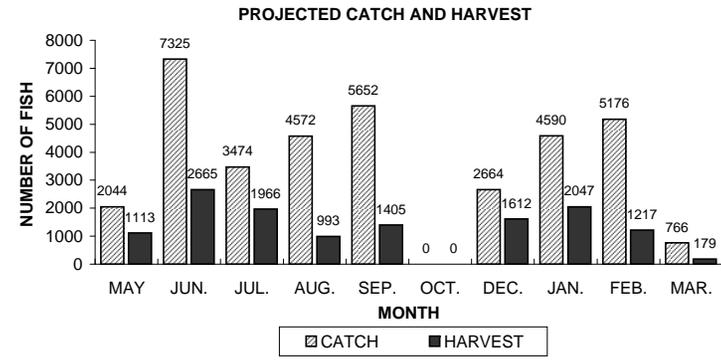
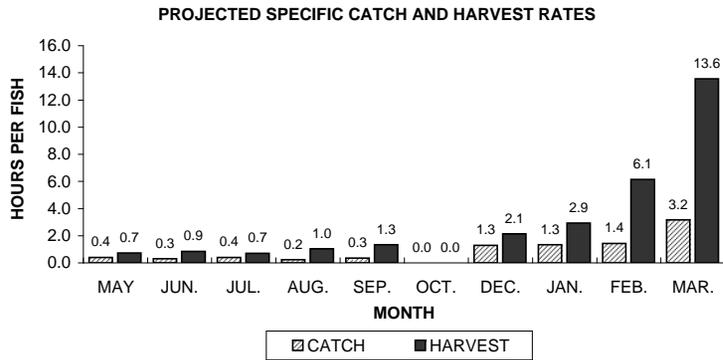
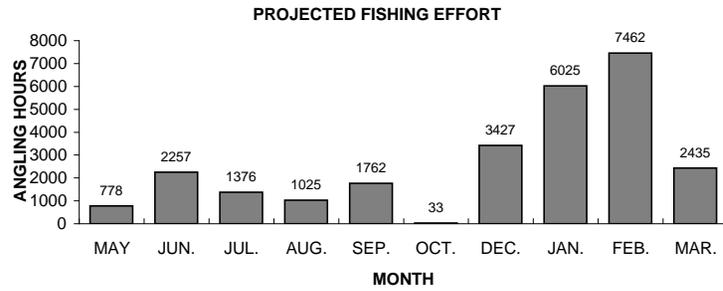
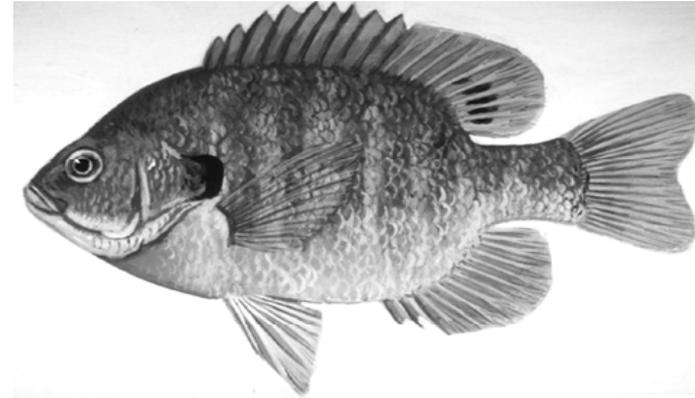


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

PUMPKINSEED

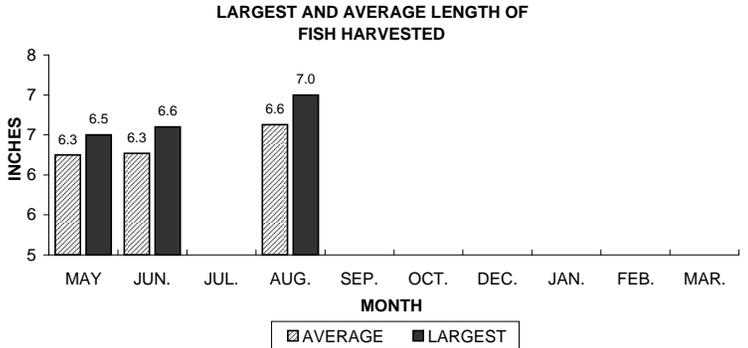
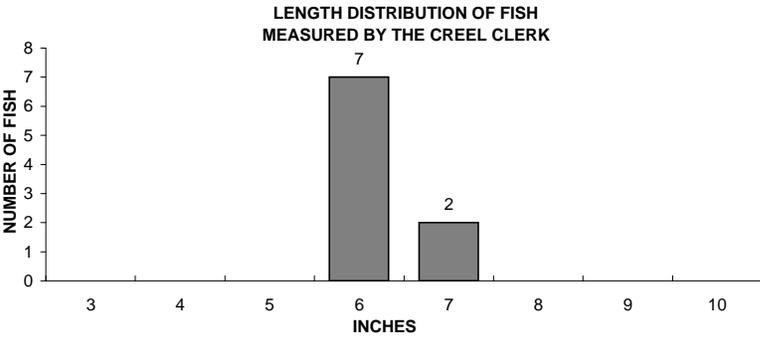
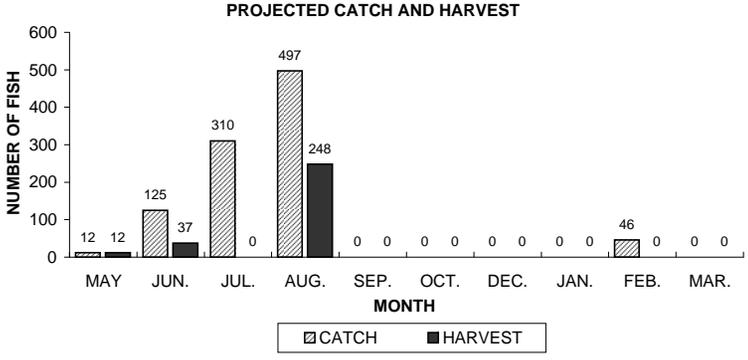
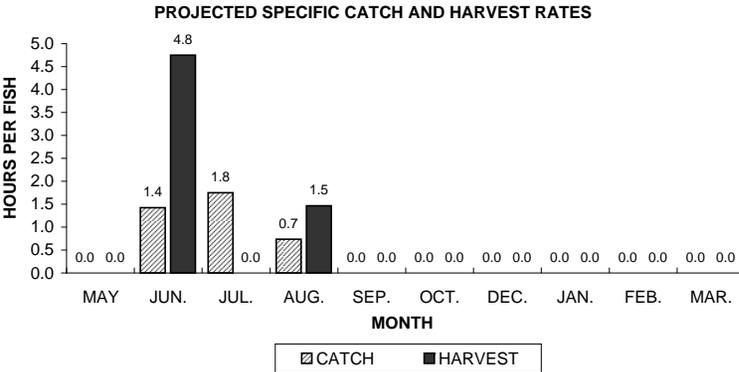
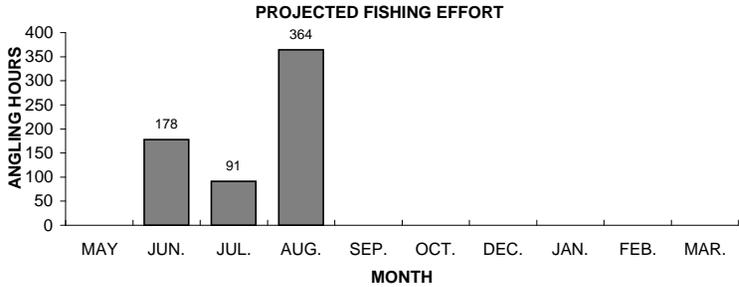
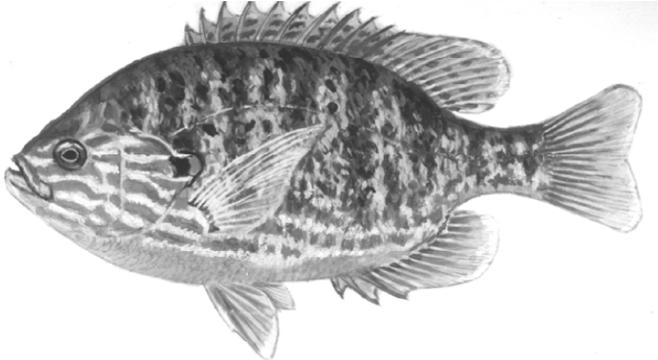


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

ROCK BASS

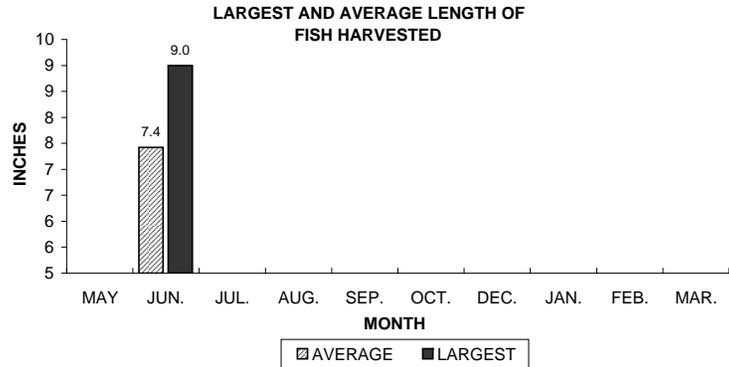
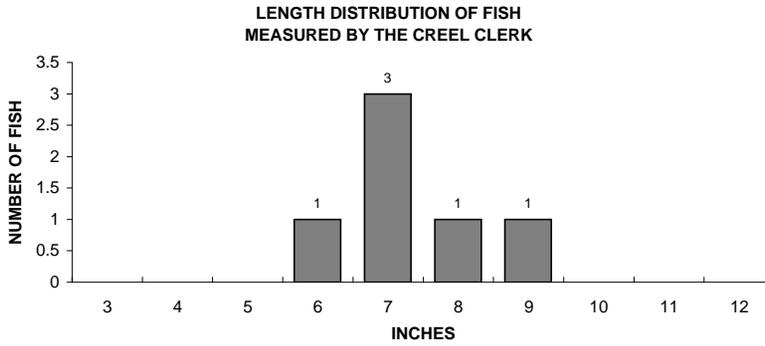
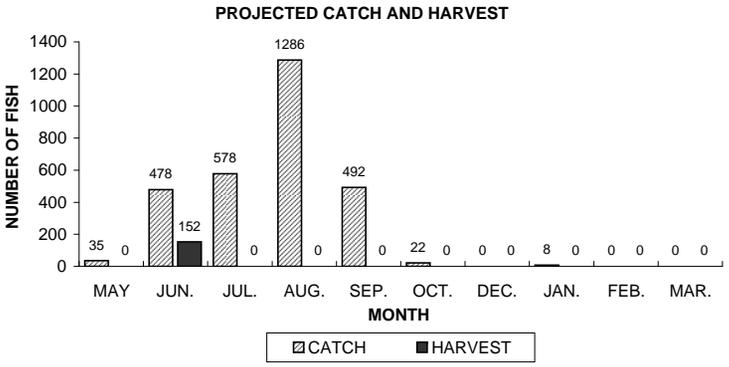
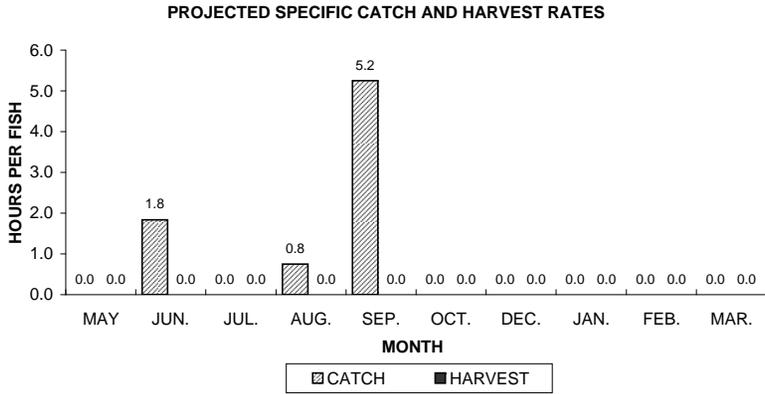
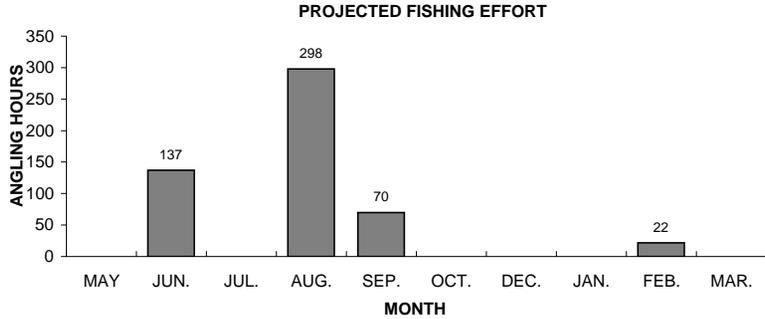
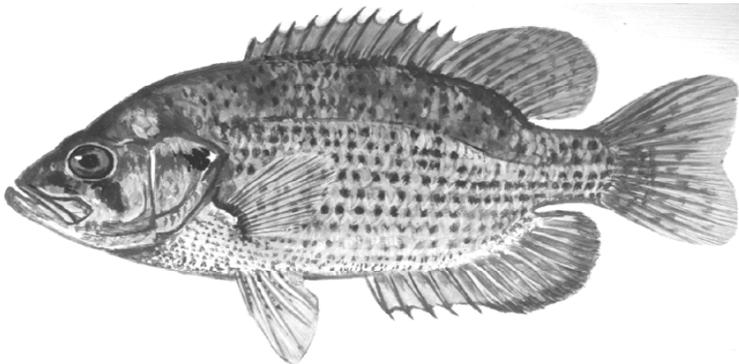


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.

BLACK CRAPPIE

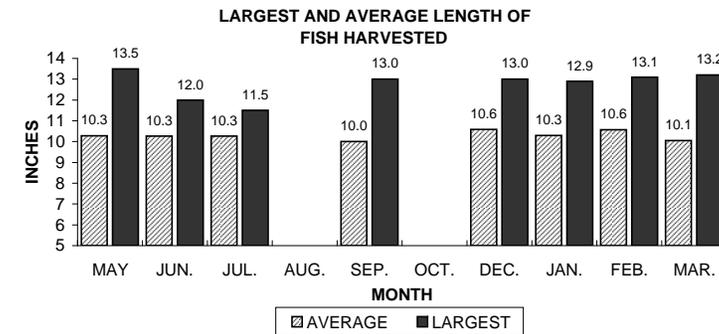
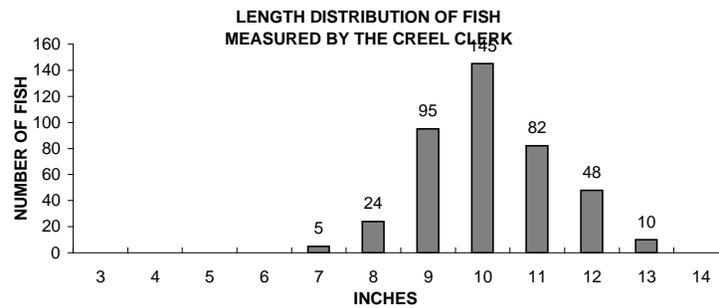
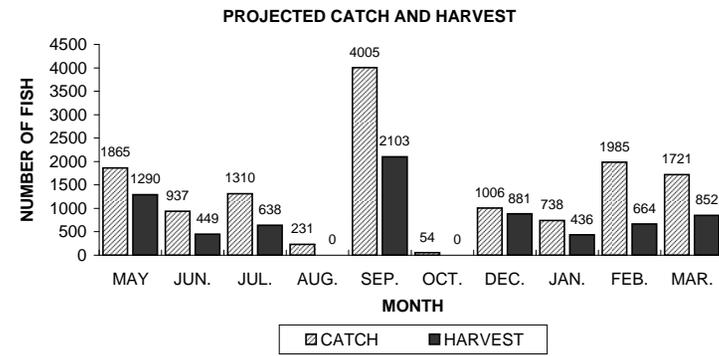
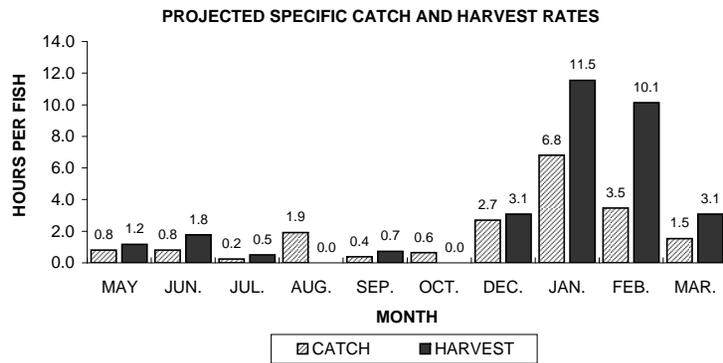
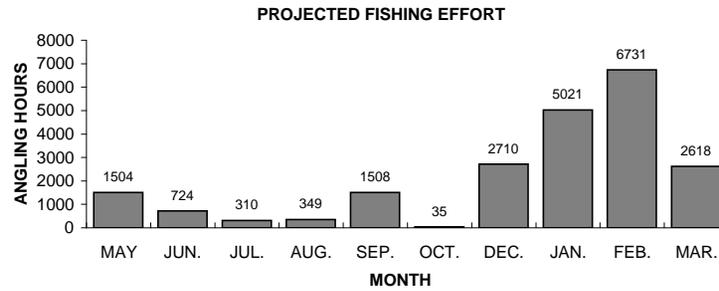
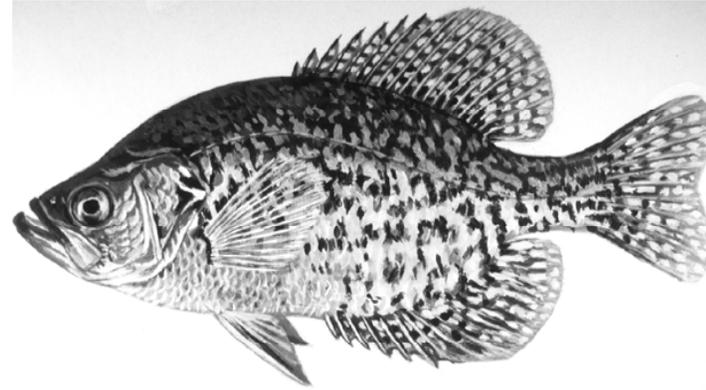


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Minocqua Lake, during 2009-10.