WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CREEL SURVEY REPORT

Oxbow Lake

Vilas County

2008-09

Treaty Fisheries Publication

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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.

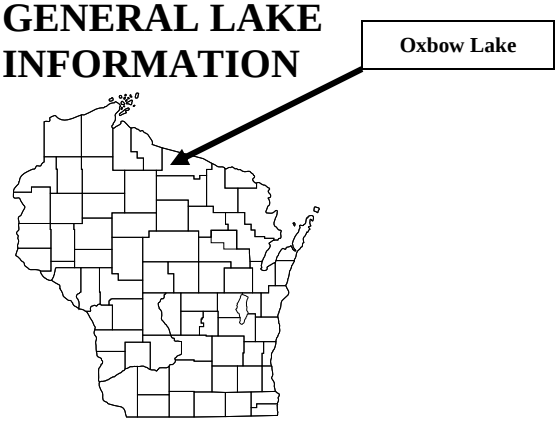
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

This report provides projections of:

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

GENERAL LAKE INFORMATION



Location
Oxbow Lake is located in northern Vilas County approximately 4 miles east of the town of Presque Isle.

Physical Characteristics
Oxbow Lake is a 511-acre drainage lake of low fertility, light brown water and a maximum depth of 42 feet. Littoral substrate consists primarily of sand, gravel and rock.

Seasons Surveyed
The period referred to in this report as the 2008-09 fishing season ran from May 3, 2008, through March 1, 2009. The open water creel survey ran from May 3 through October 31, 2008, and the ice fishing creel survey ran from December 1, 2008, through March 1, 2009.

Weather
Ice-out on Oxbow Lake was around April 29th. Spring, summer and fall weather was normal. Fishable-ice formed on Oxbow Lake by mid December.

Sportfishing Regulations
The following seasons, daily bag limits, and length limits were in place on Oxbow Lake during the 2008-09 fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass&	5/03-6/20	Catch & Release	
Smallmouth Bass	6/21-3/01	5	14"
Northern Pike	5/03-3/01	5	none
Muskellunge	5/03-3/01	1	34"
Walleye	5/03-3/01	3	No minimum one > 14"
Panfish	year round	25	none
Rock Bass	year round	none	none

SPECIES CATCH AND HARVEST INFORMATION

Angling information is summarized for each species (Figures 1-10) with effort and/or catch information. Information presented about species whose fishing season extends beyond March 2 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.

General Angler Information
Anglers spent 13,595 hours or 26.6 hours per acre fishing Oxbow Lake during the 2008 season (Table 1). That was less than the statewide average of 33.6 hours per acre. August was the most heavily fished month (5.7 hours per acre). Fishing effort was lightest in December (4.8 minutes per acre).

SPECIES INFORMATION

Walleye (Table 2, Figure 1)
Fishing effort targeted at walleye was 5,069 hours. Walleye fishing effort was greatest in August(1,354 hours). December had the least amount of walleye fishing effort (45 hours).

Catch was 4,308 fish with a harvest of 1,326 fish. Highest catch (1,226 fish) occurred in August and harvest (449 fish) occurred in August. Anglers fished 1.2 hours to catch a walleye and 3.9 hours to harvest a walleye during 2008.

The mean length of harvested walleye was 12.5 inches and the largest walleye measured was a 27.2-inch fish harvested in February.

Northern Pike (Table 2, Figure 2)
There were 312 hours of directed effort for northern pike on Oxbow Lake during the 2008 season.

Catch was 263 fish with a harvest of 45 fish. Highest catch (111 fish) occurred in August. Anglers fished 7.7 hours to catch a northern pike during the 2008 season.

Muskellunge (Table 2, Figure 3)
There were 5,690 hours of directed effort for muskellunge on Oxbow Lake during the 2008 season.

Catch was 314 fish with a harvest of 0 fish. Highest catch (136 fish) occurred in August. Anglers fished 21.5 hours to catch a muskellunge during the 2008 season.

Smallmouth Bass (Table 2, Figure 4)
There were 1,363 hours of directed effort for smallmouth bass on Oxbow Lake during the 2008 season.

Catch was 1,811 fish with a harvest of 34 fish. Highest catch (934 fish) occurred in August. Anglers fished 1.1 hours to catch a smallmouth bass during the 2008 season.

Largemouth Bass (Table 2, Figure 5)
There were 358 hours of directed effort for largemouth bass on Oxbow Lake during the 2008 season.

Catch was 308 fish with a harvest of 9 fish. Highest catch (232 fish) occurred in July. Anglers fished 5.2 hours to catch a largemouth bass during the 2008 season.

Panfish (Table 2, Figures 6-10)
Panfish accounted for 28 % of the total directed effort or 5,089 hours during the 2008 season.

Bluegill (Table 2, Figure 6)
Bluegill was the second most sought after panfish species with 35% of the directed effort. Bluegill fishing effort was greatest in July (632 hours). February had the least amount of bluegill effort (4 hours).

Catch was 6,320 fish with a harvest of 1,102 fish. Highest catch (2,886 fish) occurred in August. Anglers fished 19.8 minutes to catch a bluegill and 1.6 hours to harvest a bluegill during the 2008 season.

The mean length of harvested bluegill was 6.8 inches and the largest bluegill measured was a 8.2 inch fish harvested in July.

Yellow Perch (Table 2, Figure 7)
Yellow Perch was the most sought after panfish species with 43% or 2,174 hours of the total directed effort. Yellow Perch effort peaked in July (681 hours). February had the least effort (29 hours).

The total estimated catch of yellow perch was 4,498 with an estimated harvest of 1,315 fish.

The mean length of harvested yellow perch was 7.8 inches and the largest measured was 10.5 inches caught in January.
Black crappie, pumpkinseed and rock bass were also caught, but in lower numbers.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the technical staff of the Treaty Fisheries Unit. Treaty staff responsible for ensuring completion of this survey includes Steve Kramer, Joelle Underwood, Marty Kiepke, Tim Tobias, Jason Halverson and Jeff Blonski. Marty Kiepke was the creel clerk on Oxbow Lake during the survey period.

The Department thanks the cooperator, Rob and Sandy Reuss, who generously allowed the department to keep a boat and snowmobile on their property during this survey.

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.

This creel survey report was reviewed by Mike Coshun, Steve Gilbert 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, Oxbow Lake, 2008-09 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	1001	2.0	5.4	5.8
June	2322	4.5	7.0	6.1
July	2711	5.3	7.6	6.4
August	2938	5.7	6.6	5.4
September	2315	4.5	4.2	3.8
October	1605	3.1	2.0	1.6
December	45	0.1	0.5	1.7
January	365	0.7	0.8	1.5
February	288	0.6	0.9	1.3
March	6	0.0	0.1	**
*Summer Total	12892	25.2	32.8	29.1
*Winter Total	703	1.4	2.4	4.5
Grand Total	13595	26.6	35.2	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 Oxbow 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 Oxbow 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 Oxbow Lake to other lakes statewide.

Table 1. Sportfishing effort summary, Oxbow Lake, 1994-95 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	2711	5.3	5.4	5.8
June	3241	6.3	7.0	6.1
July	4864	9.5	7.6	6.4
August	3615	7.1	6.6	5.4
September	2857	5.6	4.2	3.8
October	950	1.9	2.0	1.6
December	90	0.2	0.5	1.7
January	72	0.1	0.8	1.5
February	39	0.1	0.9	1.3
March	0	0.0	0.1	**
*Summer Total	18238	35.7	32.8	29.1
*Winter Total	201	0.4	2.4	4.5
Grand Total	18439	36.1	35.2	33.6

Table 2. Comparison of creel survey synopses, Oxbow Lake, 2008-09 and 1994-95 fishing seasons.

CREEL YEAR: 2008-09

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	5069	28.35%	4308	1.2	1326	3.9	12.5
Northern Pike	312	1.75%	263	7.7	45	22.4	18.2
Muskellunge	5690	31.83%	314	21.5	0		
Smallmouth Bass	1363	7.62%	1811	1.1	34	62.9	14.8
Largemouth Bass	358	2.00%	308	5.2	9	40.5	12.0
Yellow Perch	2174	12.16%	4498	0.7	1315	2.0	7.8
Bluegill	1762	9.86%	6320	0.3	1102	1.6	6.8
Pumpkinseed	287	1.61%	1491	0.6	153	3.0	6.6
Rock Bass	95	0.53%	2701	0.3	180	1.1	7.0
Black Crappie	769	4.30%	193	6.6	34	2.9	9.3

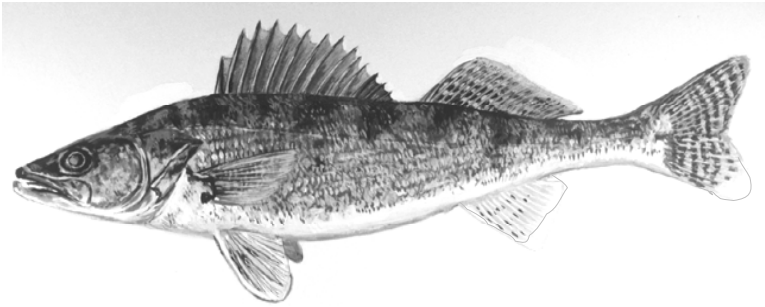
* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

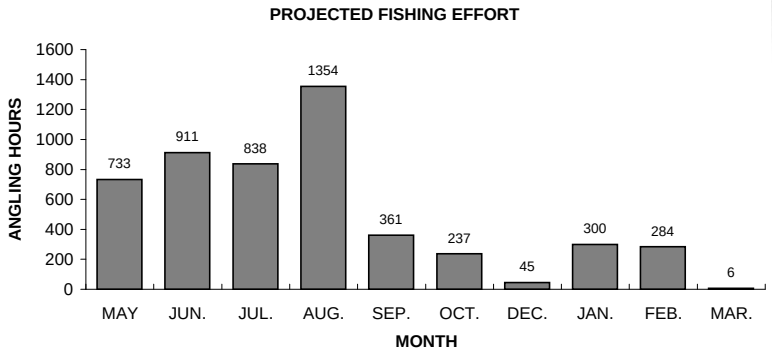
** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

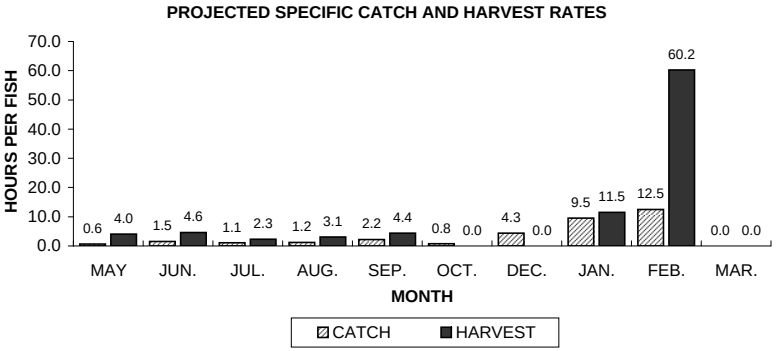
CREEL YEAR: 1994-95

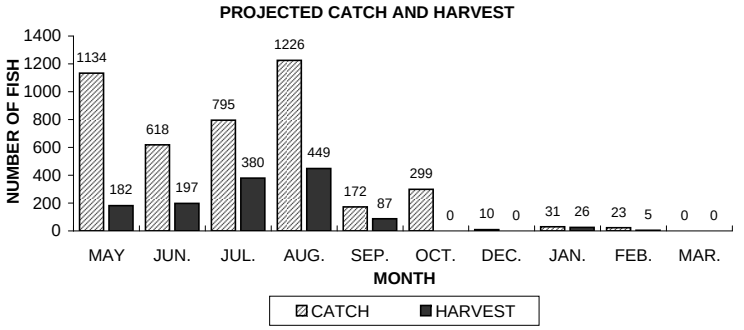
SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	9946	33.64%	2106	4.7	1230	8.1	13.0
Northern Pike	943	3.19%	158	12.6	13	71.4	20.3
Muskellunge	4463	15.10%	182	31.7	2	2500.0	42.5
Smallmouth Bass	1942	6.57%	503	5.6	48	54.3	13.5
Largemouth Bass	59	0.20%	15	4.0	0	0.0	
Yellow Perch	4949	16.74%	4633	1.1	1399	3.7	7.0
Bluegill	4666	15.78%	4820	1.0	677	7.4	5.7
Pumpkinseed	384	1.30%	38	12.6	23	20.1	5.6
Rock Bass	1750	5.92%	981	2.2	268	6.7	6.5
Black Crappie	460	1.56%	105	8.7	35	21.2	10.4

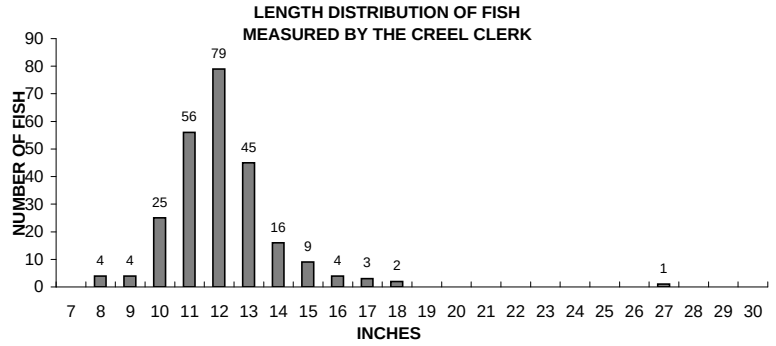
WALLEYE











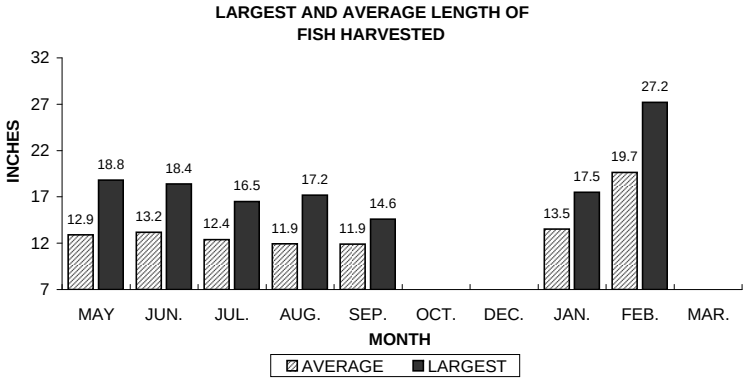
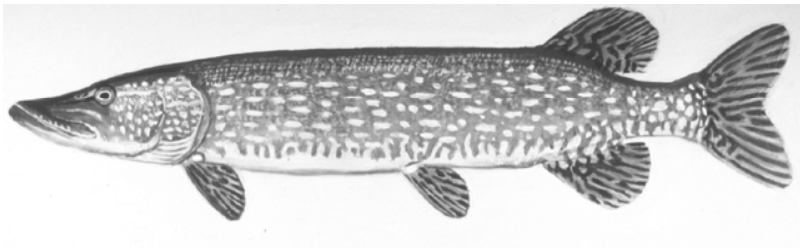
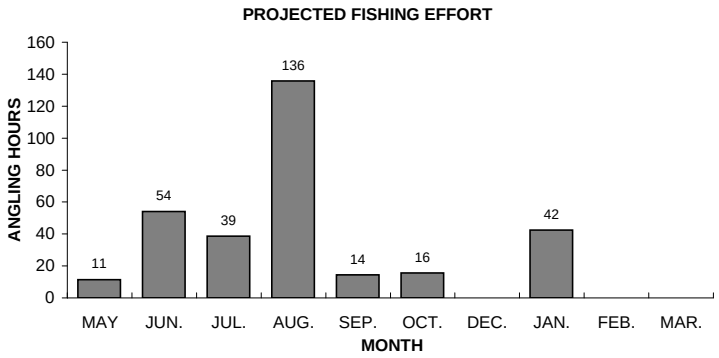
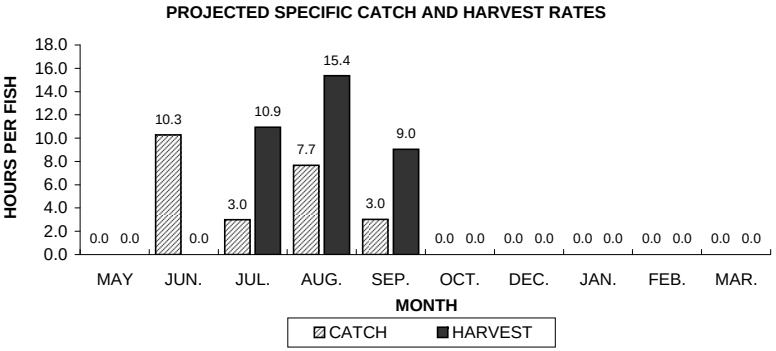


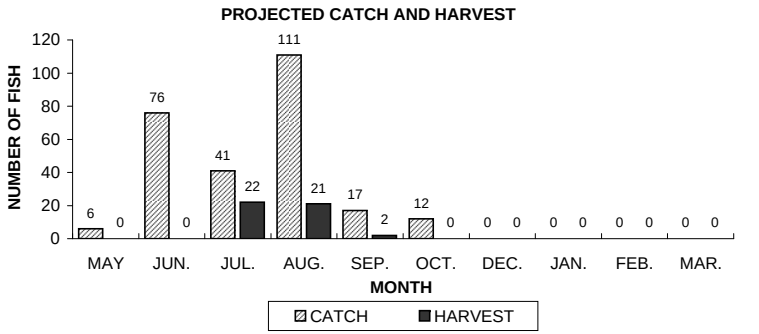
Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

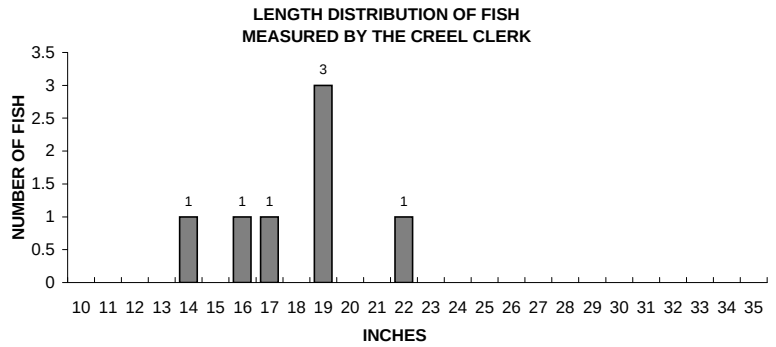
NORTHERN PIKE











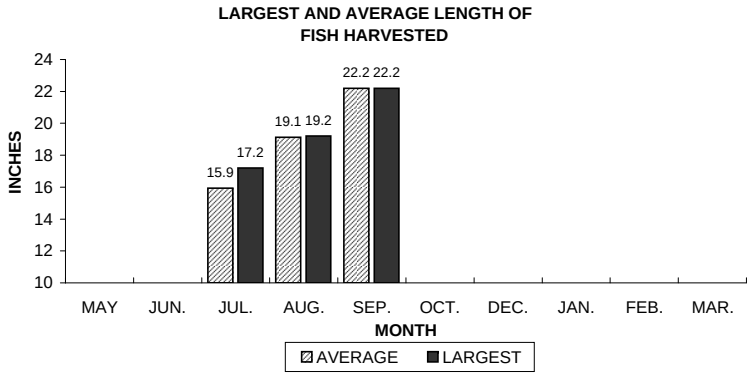
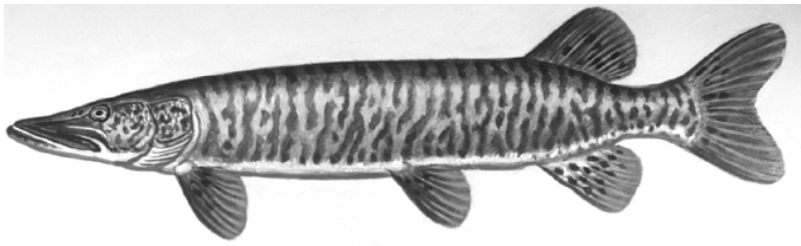
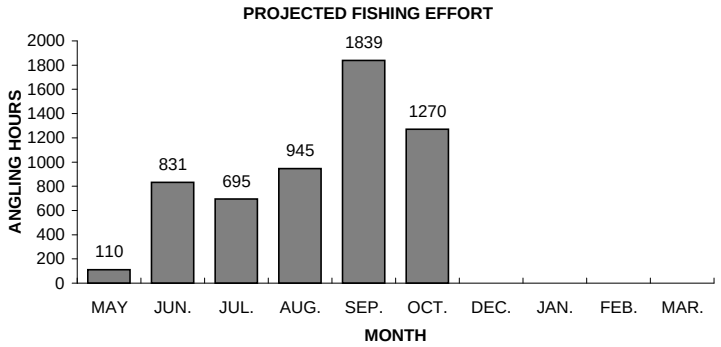
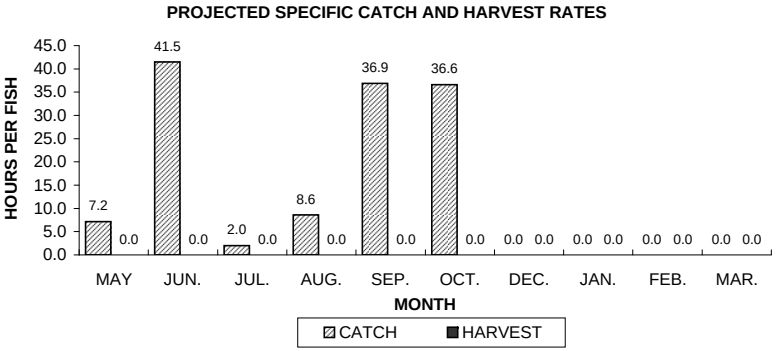


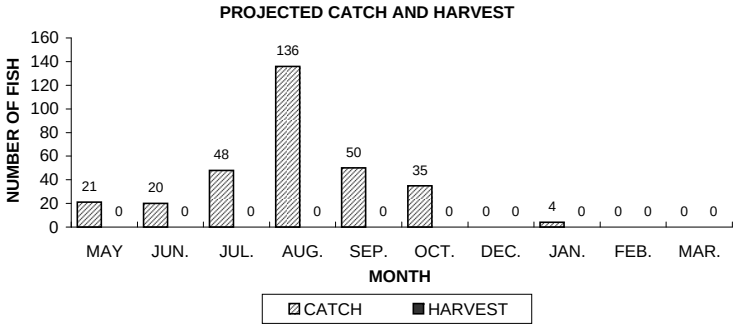
Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

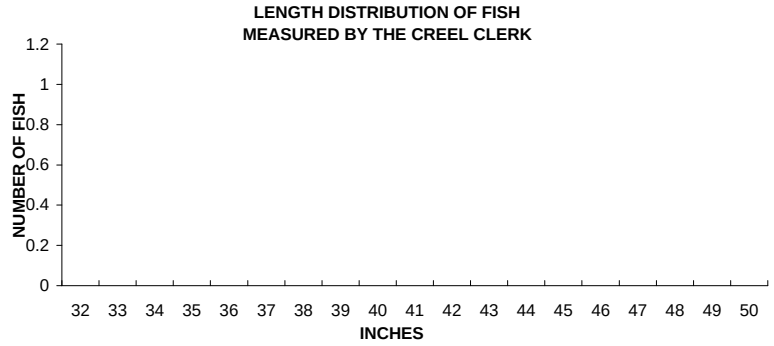
MUSKELLUNGE











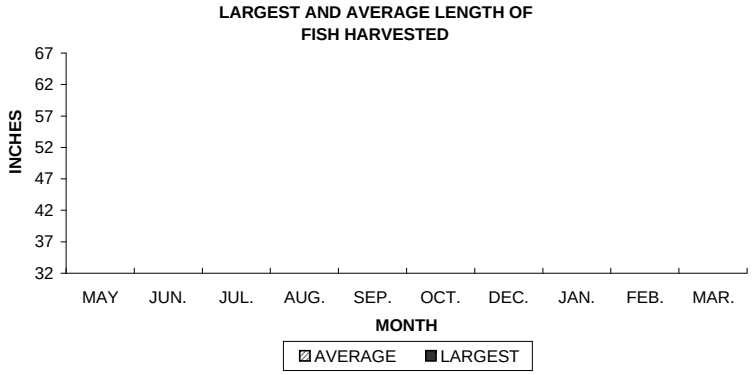
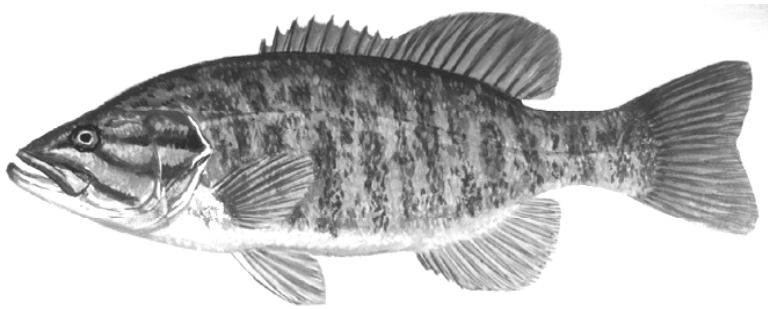
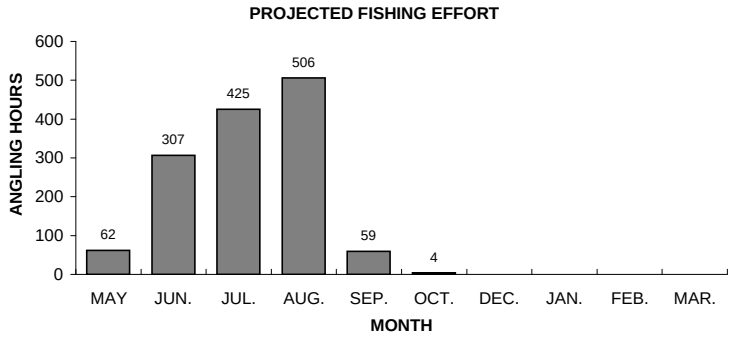
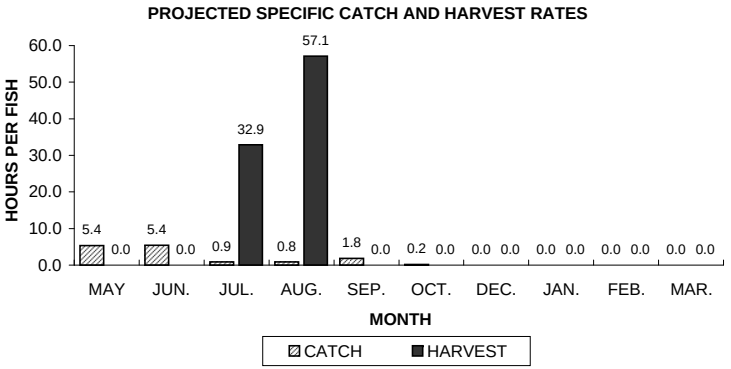


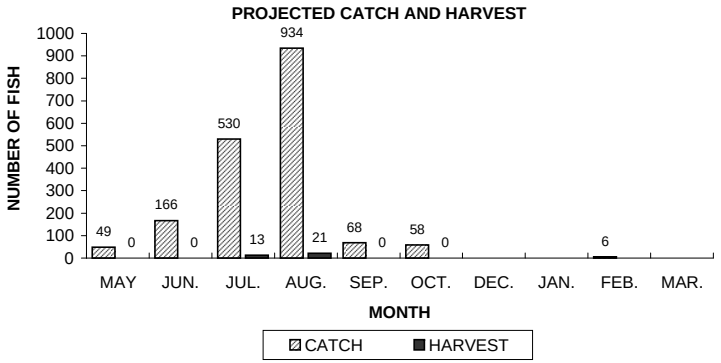
Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

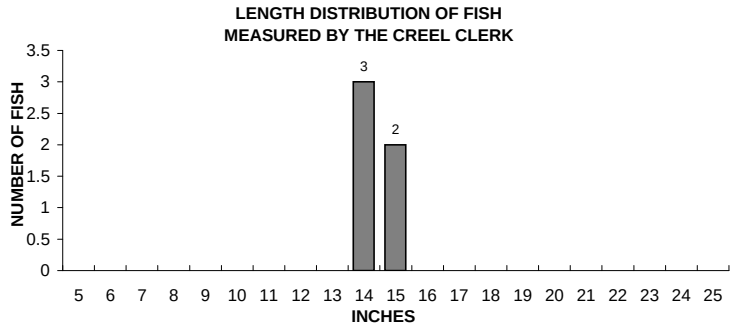
SMALLMOUTH BASS











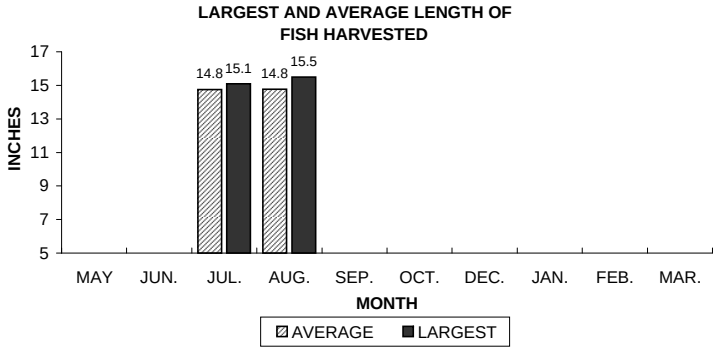
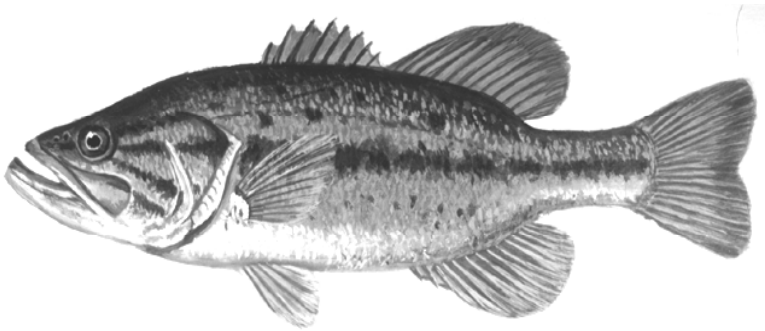
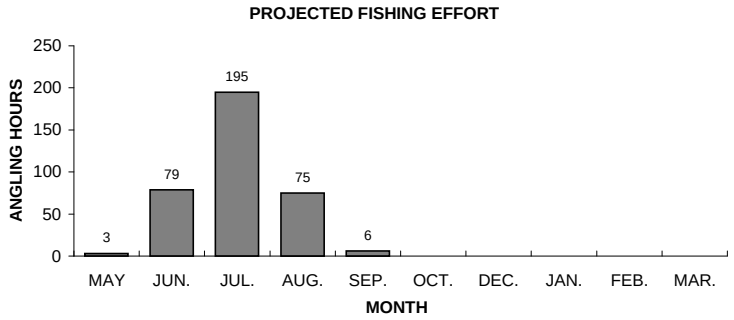
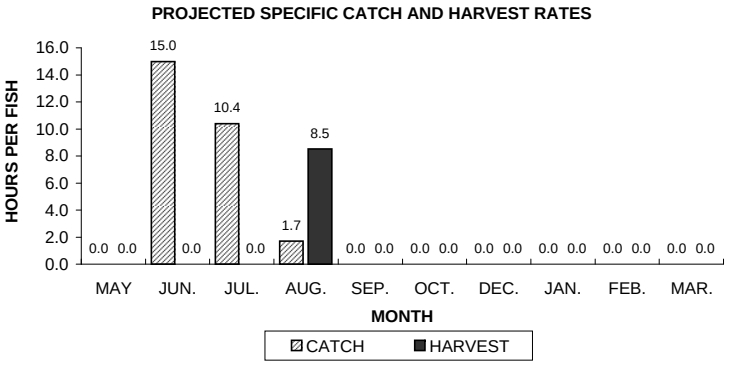


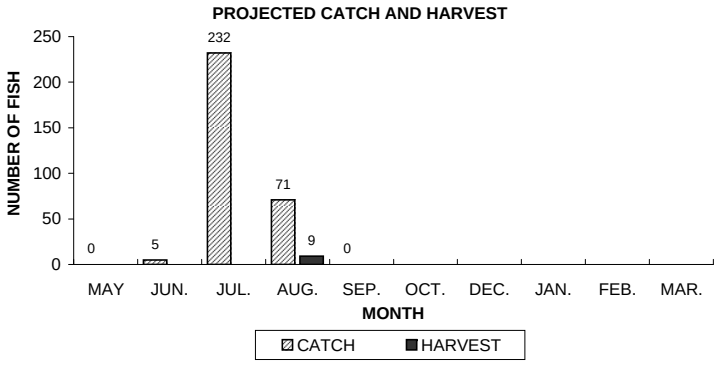
Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

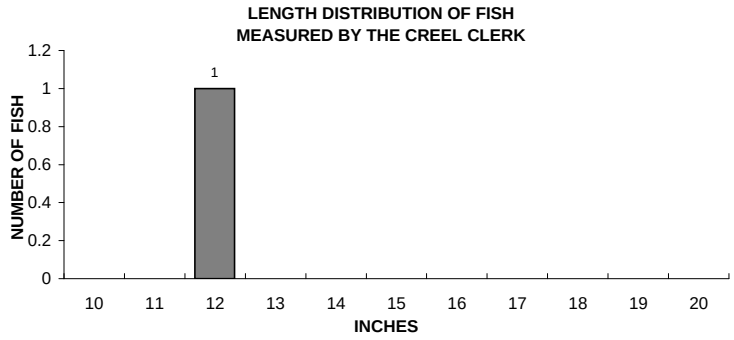
LARGEMOUTH BASS











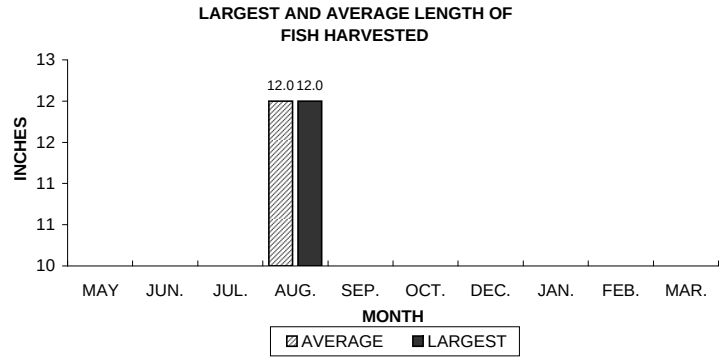
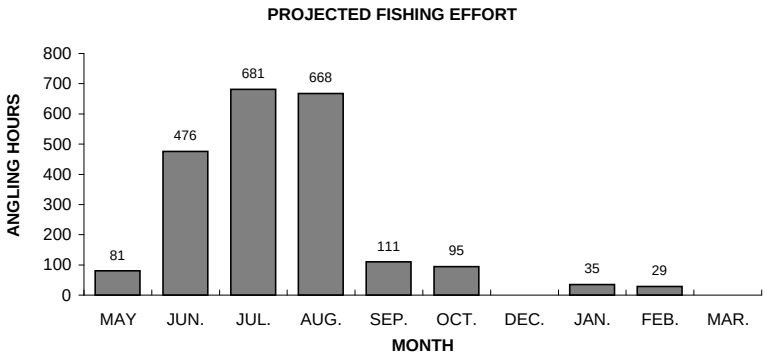
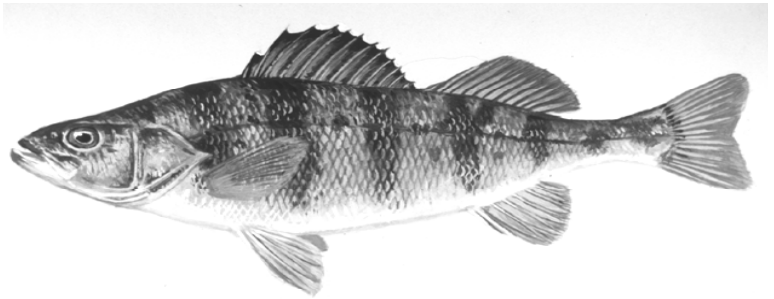
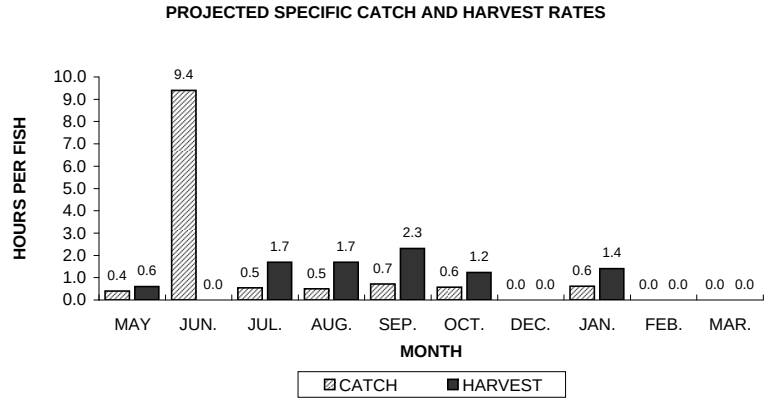


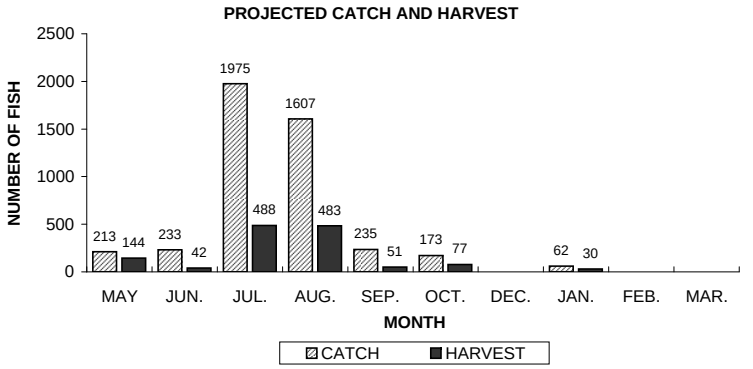
Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

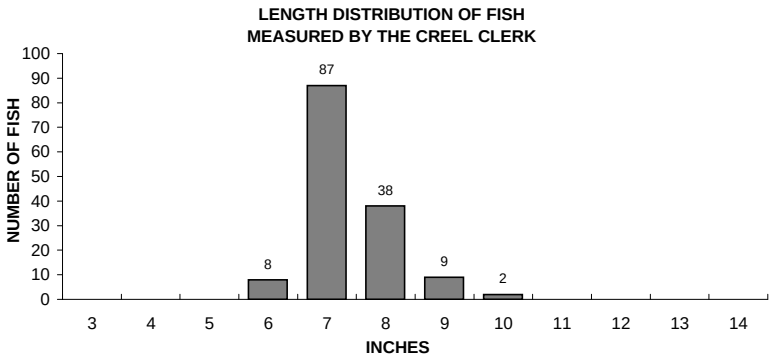
YELLOW PERCH











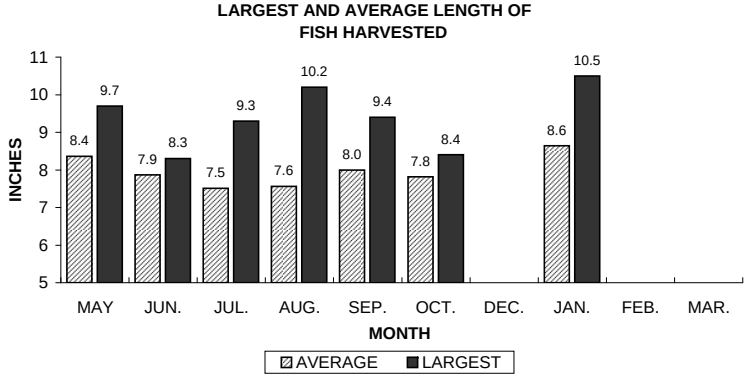
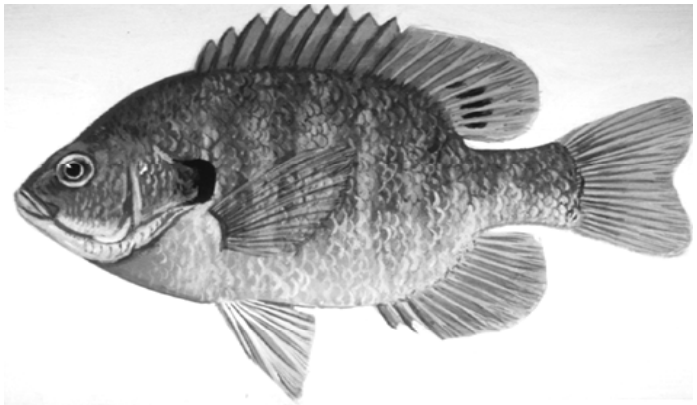
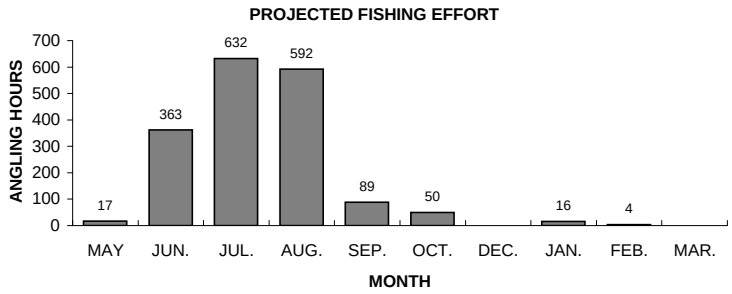
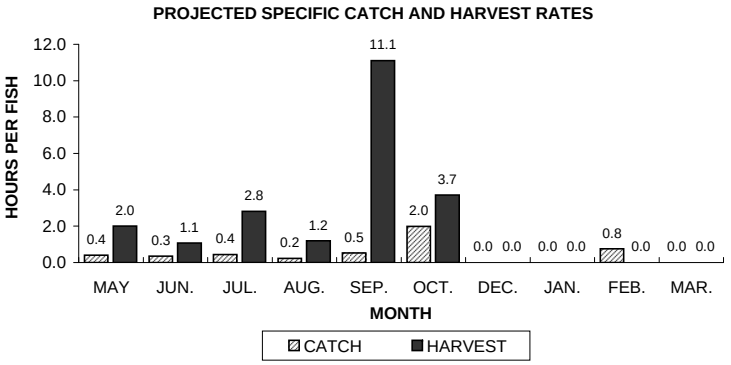


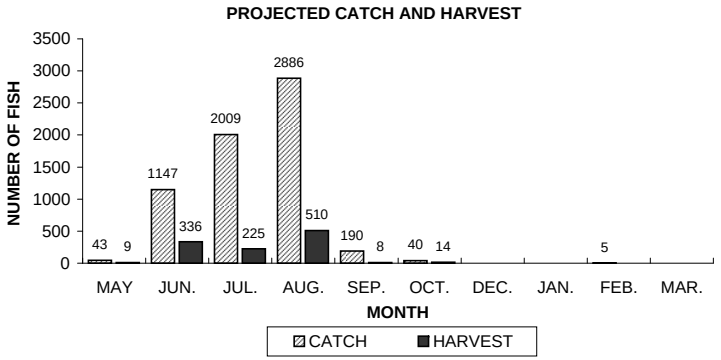
Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

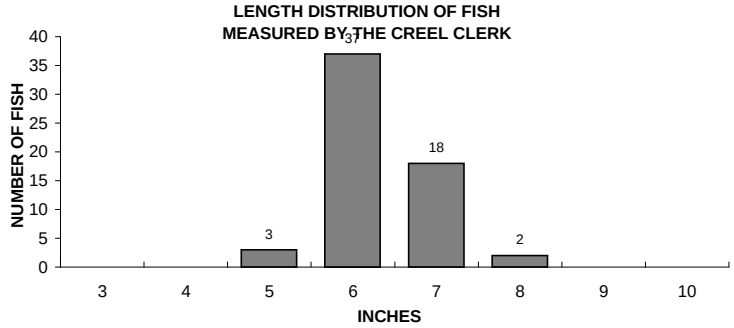
BLUEGILL











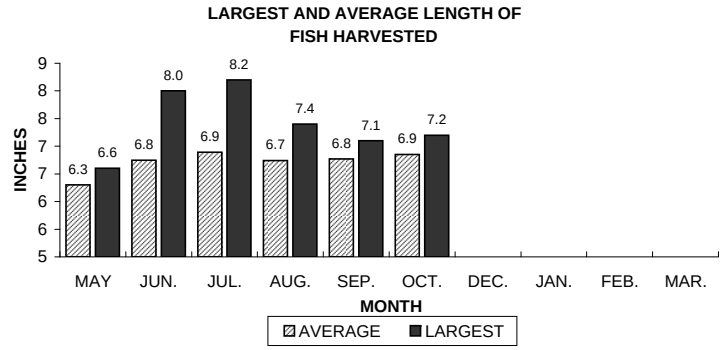
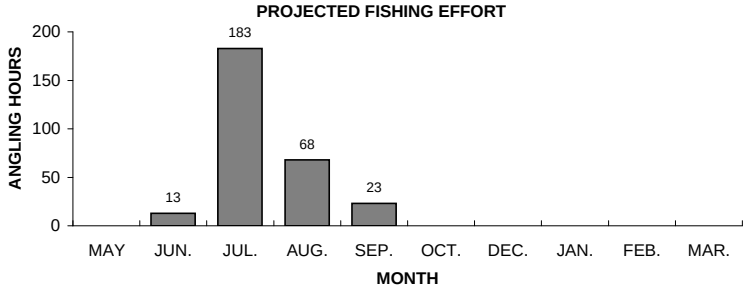
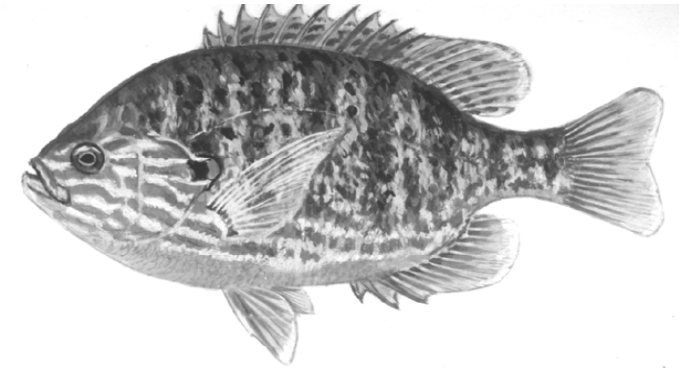
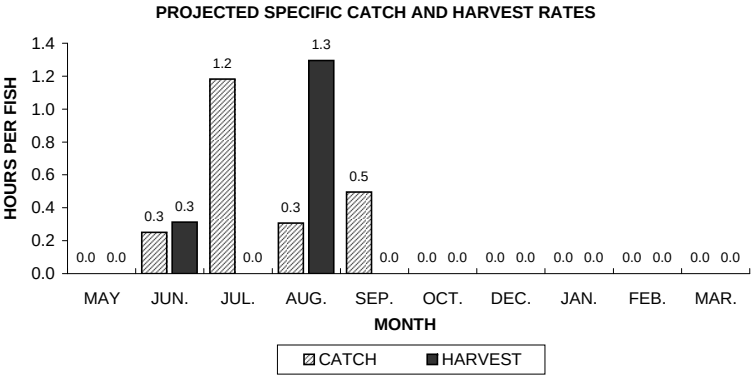


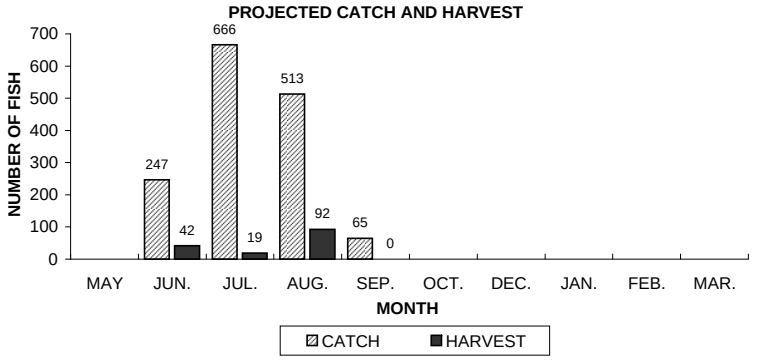
Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

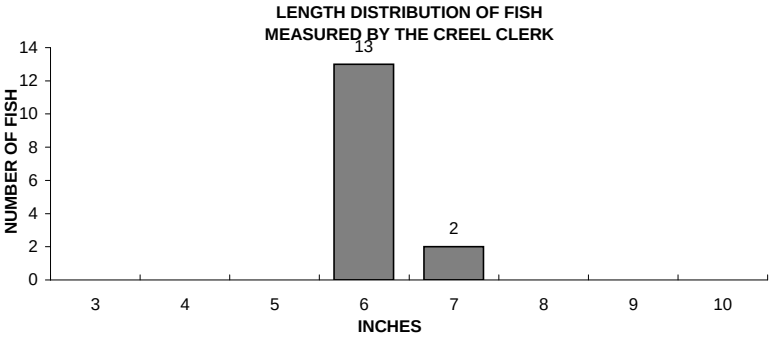
PUMPKINSEED











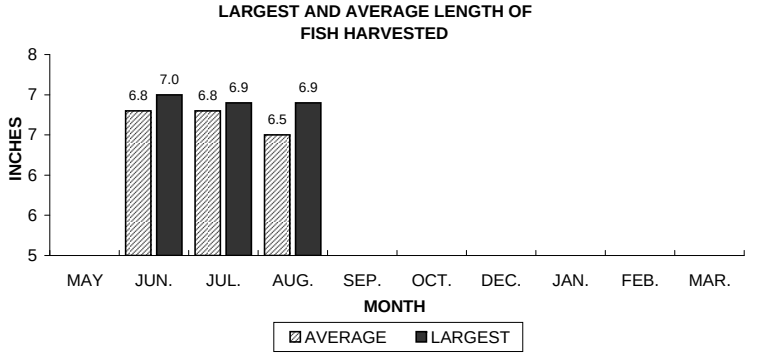
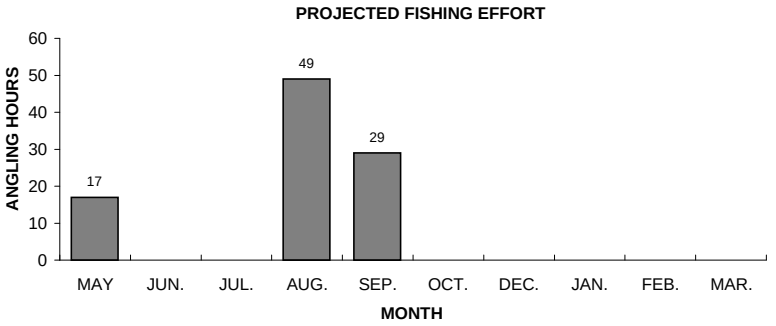
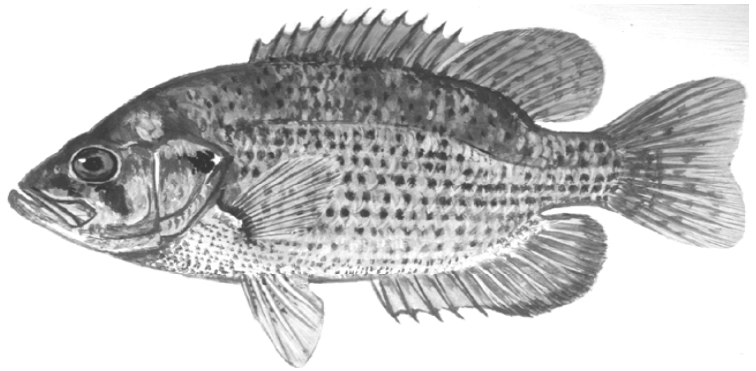
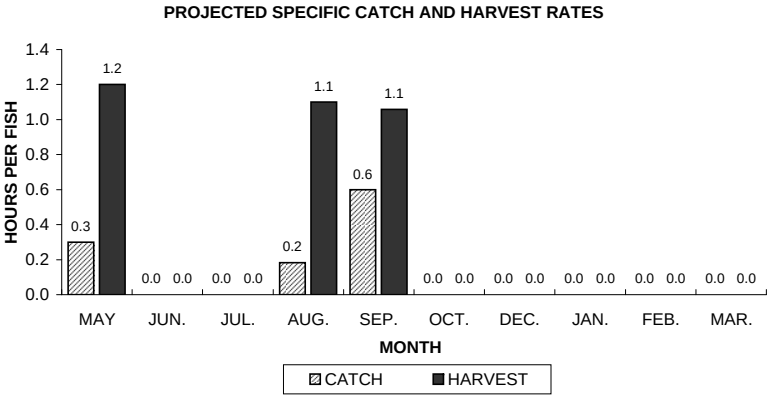


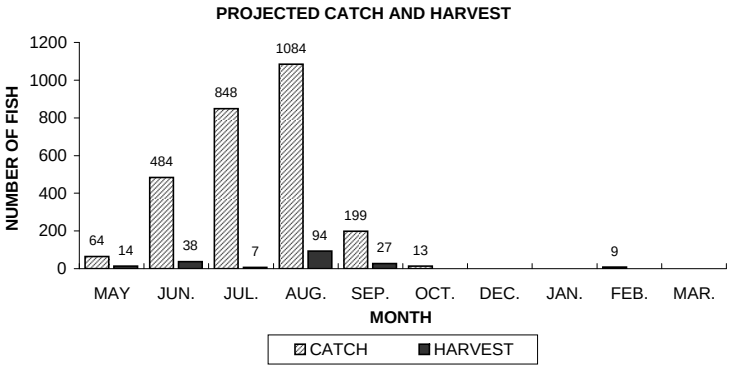
Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

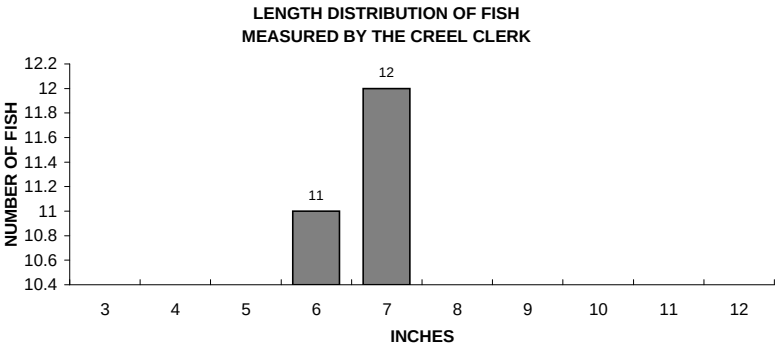
ROCK BASS











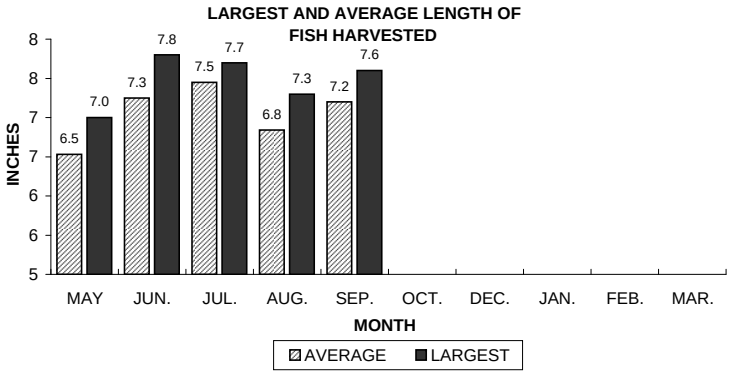
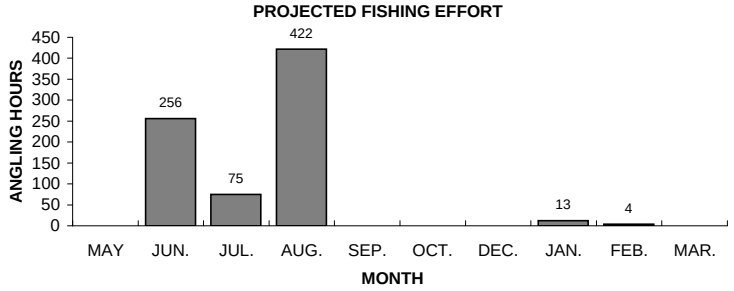
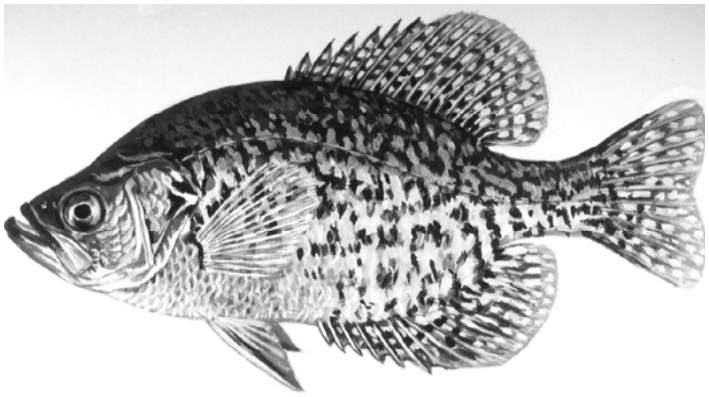
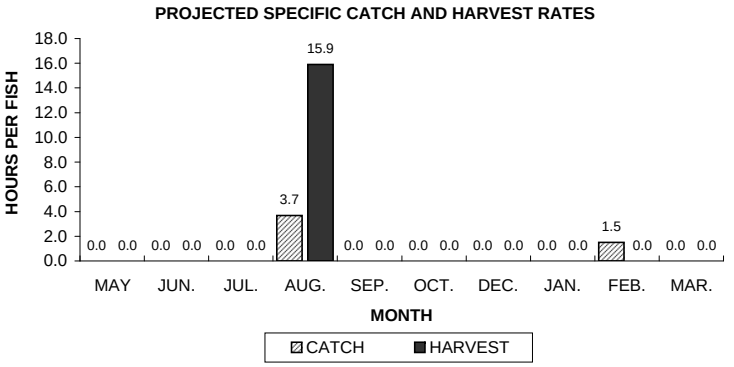


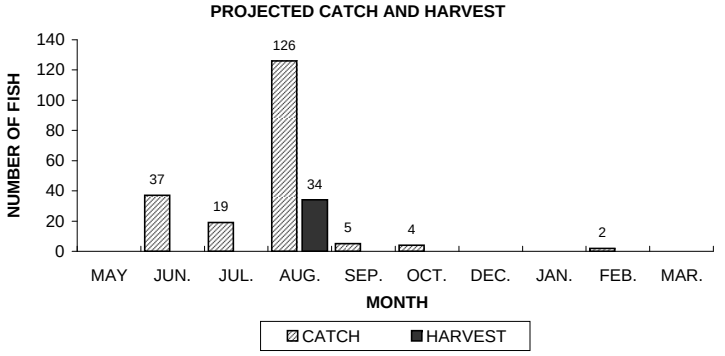
Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.

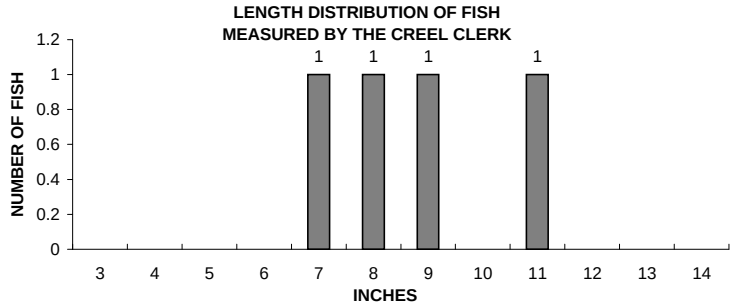
BLACK CRAPPIE











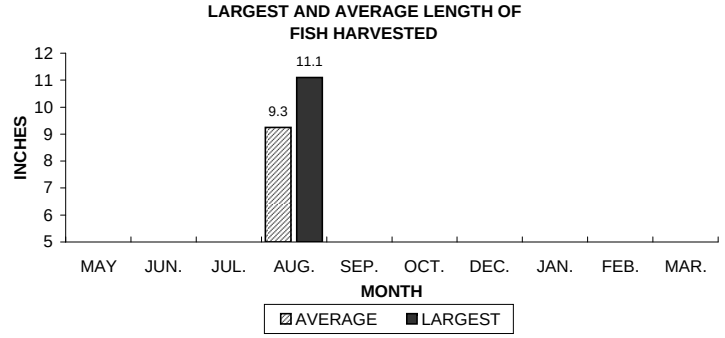


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Oxbow Lake, during 2008-09.