

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

BIG PORTAGE LAKE

VILAS COUNTY

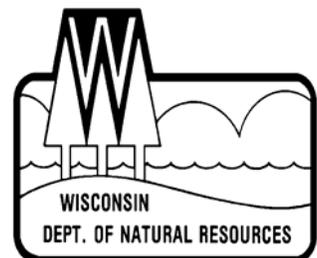
2006-07



Treaty Fisheries Publication

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Treaty Fisheries Technician**

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May 2007

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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.

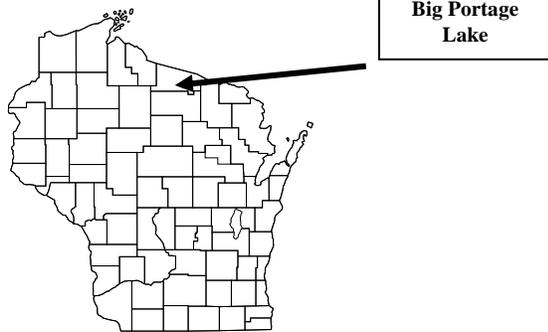
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

This report provides projections of:

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

GENERAL LAKE INFORMATION



Location

Big Portage Lake is located in Vilas County approximately 4 miles southwest of the town of Land O'Lakes.

Physical Characteristics

Big Portage Lake is a 638-acre seepage lake of low fertility with a maximum depth of 38 feet. Littoral substrate consists primarily of sand, gravel and rock. Big Portage Lake has clear water of high transparency.

Seasons Surveyed

The period referred to in this report as the 2006-fishing season ran from May 6, 2006 through March 4, 2007. The open water creel survey ran from May 6 through October 31, 2006 and the ice fishing creel survey ran from December 1, 2006 through March 4, 2007.

Weather

Ice-out on Big Portage Lake was around April 19, 2006 which is considered normal for northern Wisconsin. Spring, summer and fall weather was normal. Fishable-ice formed on Big Portage Lake in early December.

Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Big Portage Lake during the 2006-fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass & Smallmouth Bass	5/06-6/17	Catch & Release	
	6/18-3/04	5	14"
Musky	5/27-11/30	1	34"
Northern Pike	5/06-3/04	5	none
Walleye	5/06-3/04	2*	No Minimum, 14"-18" Protected Slot, 1>18"
Panfish	year round	25	none
Rock Bass	year round	none	none

* The statewide bag limit was 5 fish, but due to tribal declarations it was reduced on Big Portage Lake.

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 4 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 first time the department conducted a creel survey on Big Portage Lake.

General Angler Information

Anglers spent 9,137 hours or 14.3 hours per acre fishing Big Portage Lake during the 2006 season (Table 1). That was less than

half the statewide average of 33.6 hours per acre and the Vilas County average of 36.2 hours per acre. May was the most heavily fished month (4.1 hours per acre). Fishing effort was lightest in February (0.2 hours per acre).

SPECIES INFORMATION

Walleye (Table 2, Figure 1)

Walleye received the most fishing pressure in Big Portage Lake during the 2006 season.

Anglers spent 8,375 hours targeting walleye. Walleye fishing effort was greatest in May (2,612 hours). February had the least amount of walleye fishing effort (69 hours).

Catch was 4,221 fish and harvest 1,560 fish.

Highest catch (2,401 fish) and harvest (816 fish) occurred in May. Anglers fished 2.0 hours to catch and 5.4 hours to harvest a walleye during 2006.

The mean length of harvested walleye was 13.6 inches and the largest walleye measured was a 23.5-inch fish harvested in July.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 51 hours during the 2006 season. Big Portage Lake has a low density of northern pike.

Catch was 3 fish and harvest was 3 fish.

The mean length of harvested northern pike was 22.1 inches and the largest northern pike measured was a 22.1-inch fish.

Smallmouth Bass (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass was 901 hours during the 2006 season. Smallmouth bass fishing effort was greatest in June (307 hours). 842 smallmouth bass were caught with 9 fish harvested. Highest

catch (564 fish) occurred in June. Anglers fished 1.4 hours to catch a smallmouth bass during 2006.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 60 hours during the 2006 season. Largemouth bass fishing effort was greatest in September (44 hours).

Catch was 22 fish and harvest 0 fish. The only month catch (22 fish) occurred was September. Anglers fished 15.8 hours to catch a largemouth bass during 2006.

Panfish (Table 2, Figures 6-10)

Panfish effort was 1,928 hours during the 2006 season.

Yellow perch was the most sought after panfish during the survey. Yellow perch comprised 93% of panfish effort, 87% of catch and 95% of panfish harvest. Anglers fished 3.5 hours to catch and 4.4 hour to harvest a yellow perch during 2006. The mean length of harvested yellow perch was 10.5 inches and the largest yellow perch measured was a 13.5-inch fish harvested in May.

Other panfish caught during the 2005 survey include, bluegill (50 caught, 19 harvested) and rock bass (32 caught, 5 harvested).

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 Kiepeke, Tim Tobias, and Jason Halverson. John Logan and Doug Day were the creel clerks on Big Portage Lake during the survey period.

The Department thanks the cooperators who

generously allowed the department to keep a boat and snowmobile on their property during this survey.

We also thank fish management staff who worked in conjunction with the creel survey performing in-water sampling of the fish community.

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.

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, Big Portage Lake, 2006-07 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	2612	4.1	5.4	5.8
June	1696	2.7	7.1	6.1
July	1433	2.2	7.7	6.4
August	1278	2.0	6.7	5.4
September	873	1.4	4.2	3.8
October	191	0.3	2.0	1.6
December	287	0.4	0.5	1.7
January	521	0.8	0.7	1.5
February	120	0.2	0.9	1.3
March	127	0.2	0.1	**
*Summer Total	8083	12.7	34.1	29.1
*Winter Total	1055	1.7	2.1	4.5
Grand Total	9137	14.3	36.2	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 Big Portage 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 Big Portage 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 Big Portage Lake to other lakes statewide.

Table 2. Creel survey synopses, Big Portage Lake, 2006-07 fishing season.

CREEL YEAR: 2006-07

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	8375	73.78%	4221	2.0	1560	5.4	13.6
Northern Pike	51	0.4%	3		3		22.1
Muskellunge	37	0.33%	0		0		
Smallmouth Bass	901	7.94%	842	1.4	9	125.0	16.0
Largemouth Bass	60	0.53%	22	15.8	0		
Yellow Perch	1787	15.74%	550	3.5	441	4.4	10.5
Bluegill	111	0.98%	50		19		8.6
Rock Bass	30	0.26%	32		5		

* 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.

WALLEYE

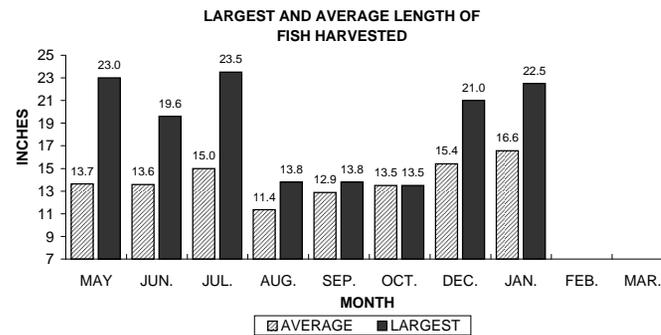
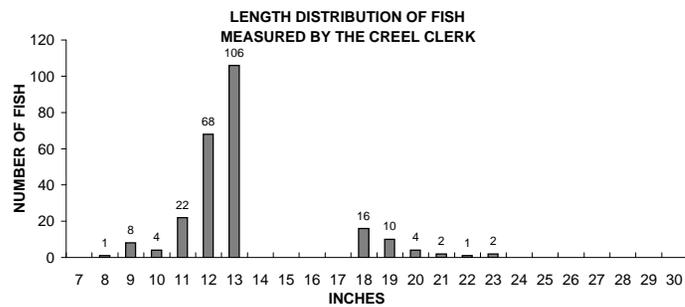
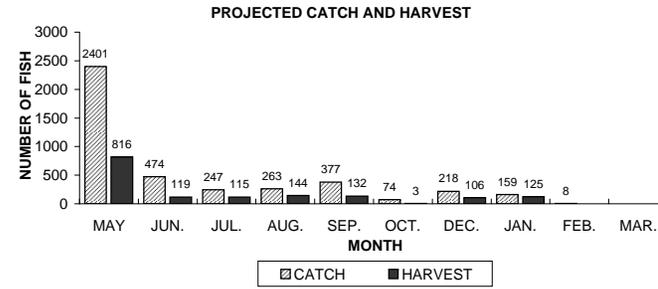
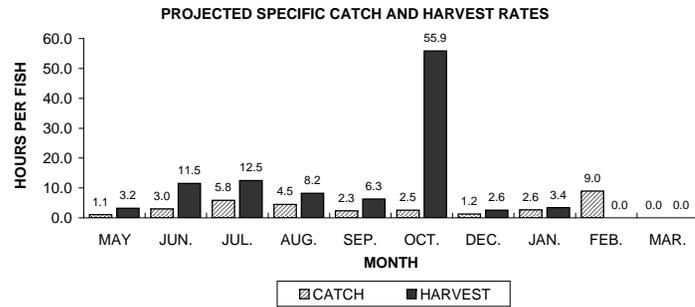
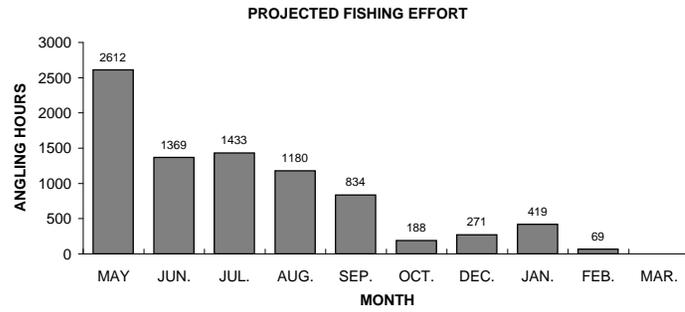
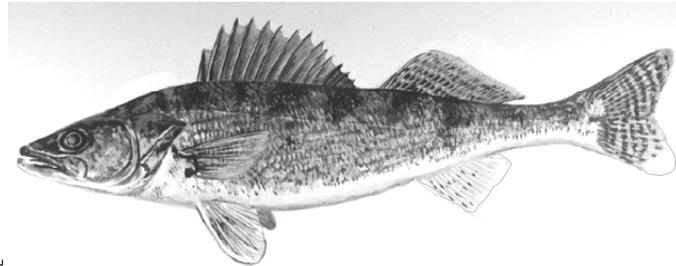


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

NORTHERN PIKE

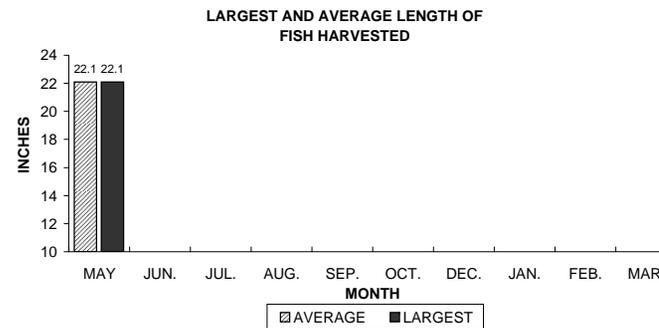
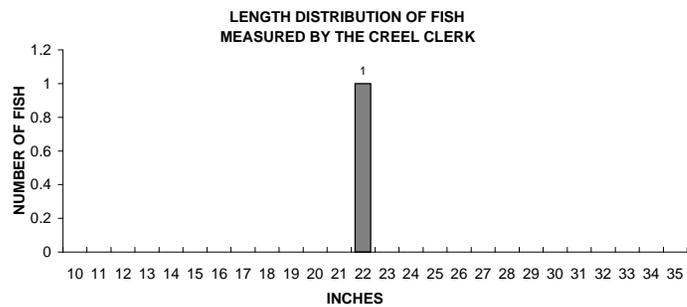
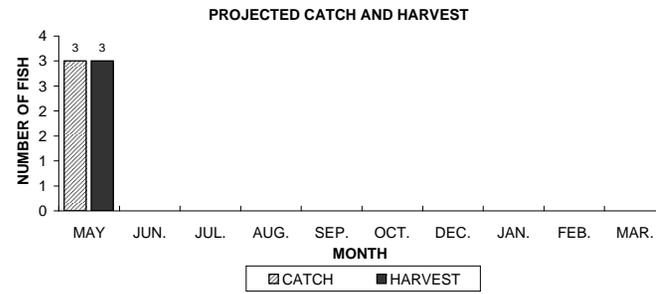
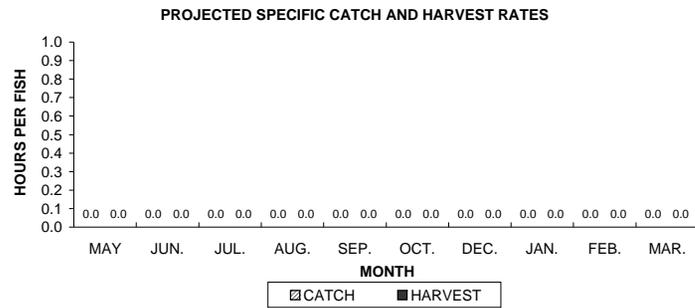
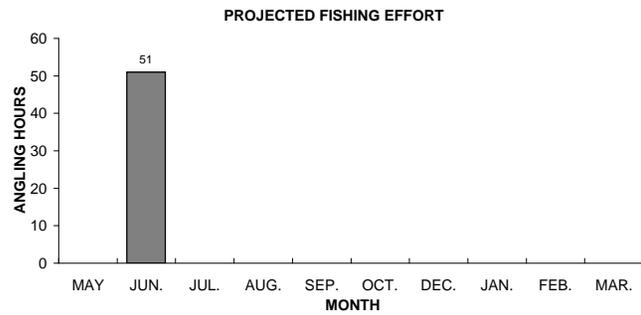
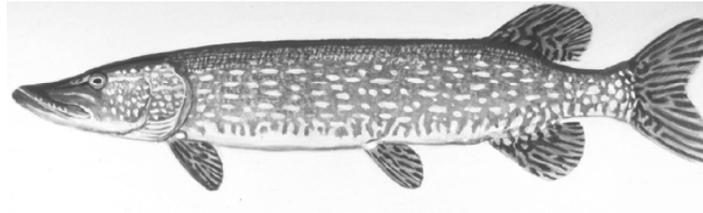


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

MUSKELLUNGE

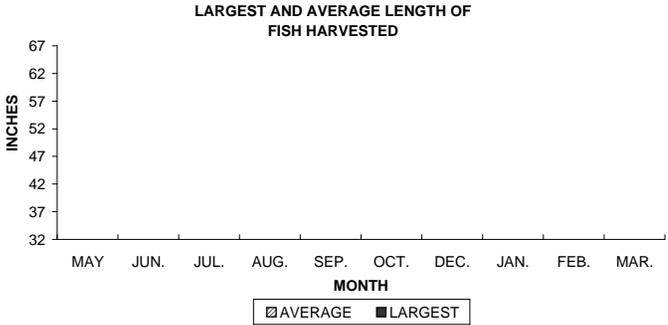
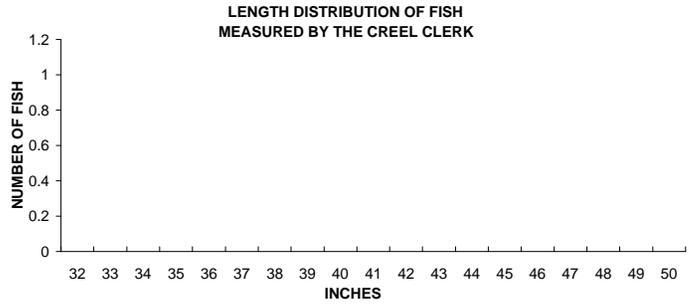
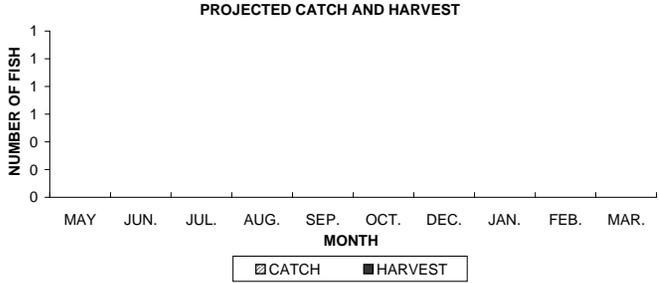
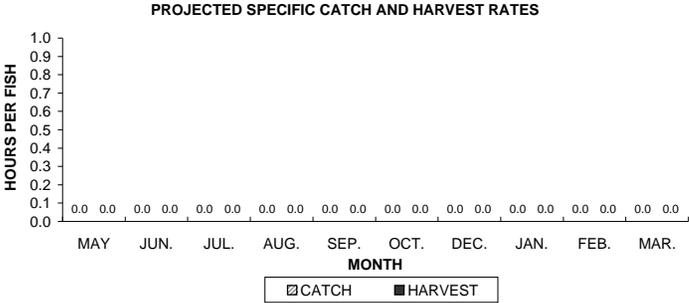
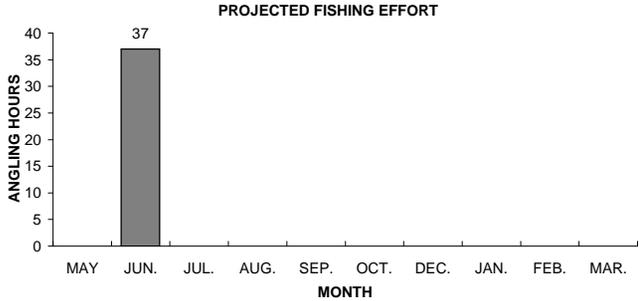


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

SMALLMOUTH BASS

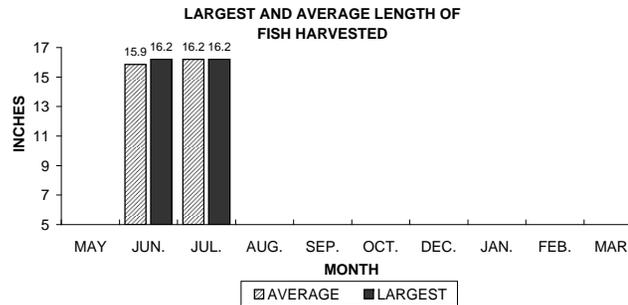
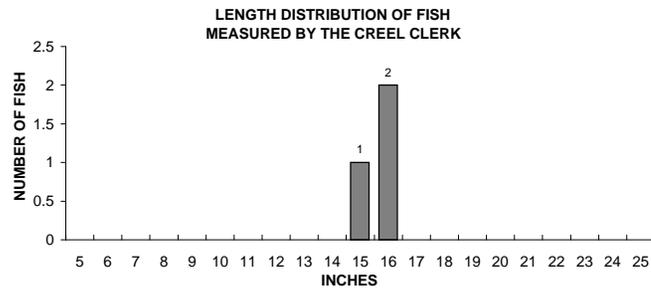
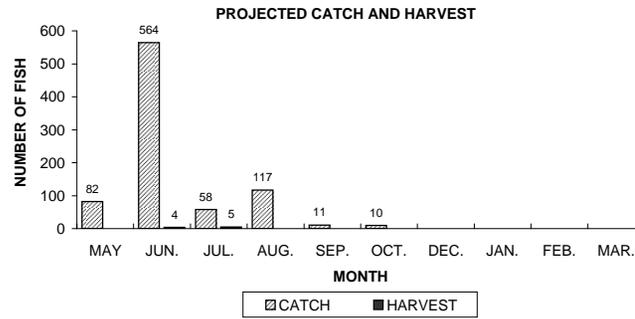
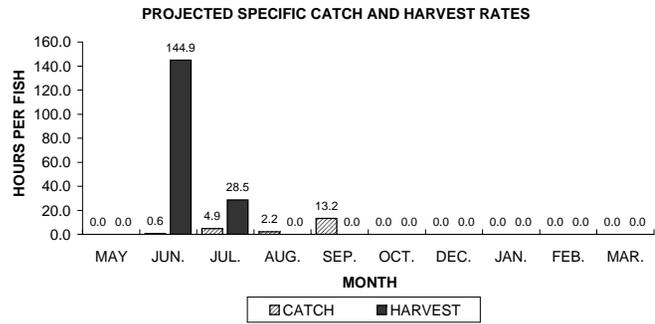
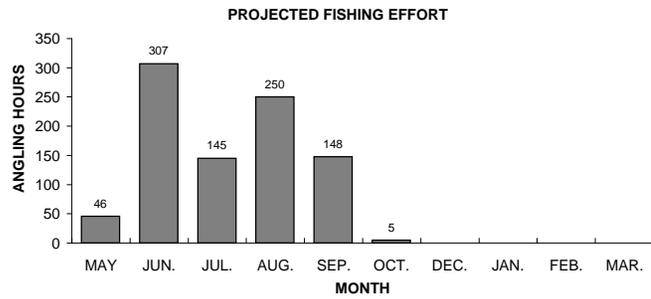
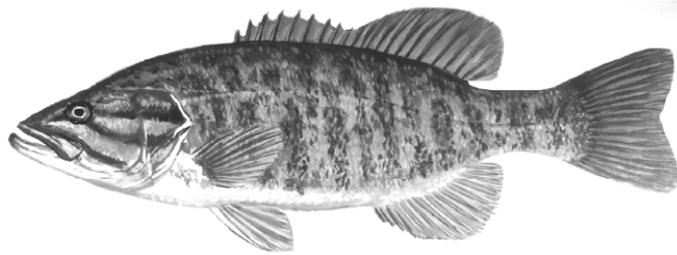


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and distribution, Big Portage Lake, during 2006-07.

LARGEMOUTH BASS

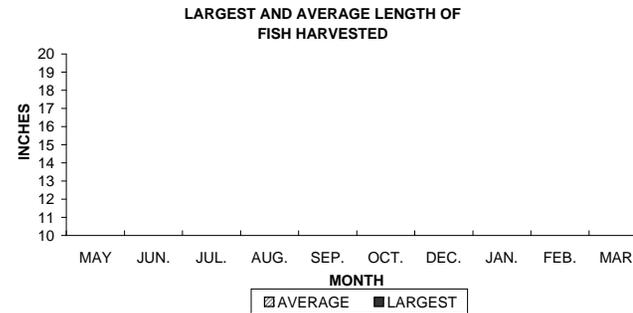
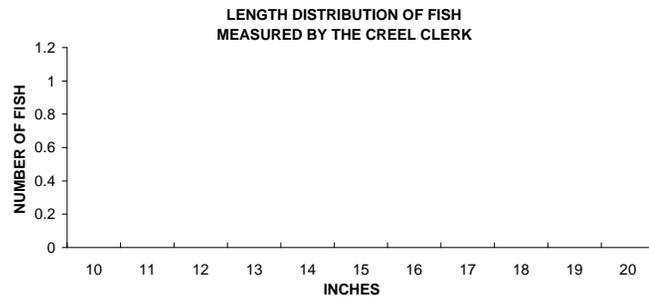
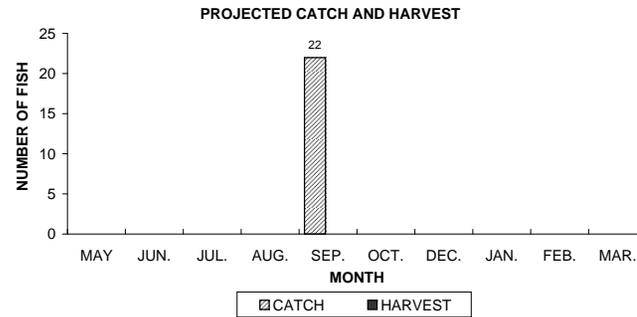
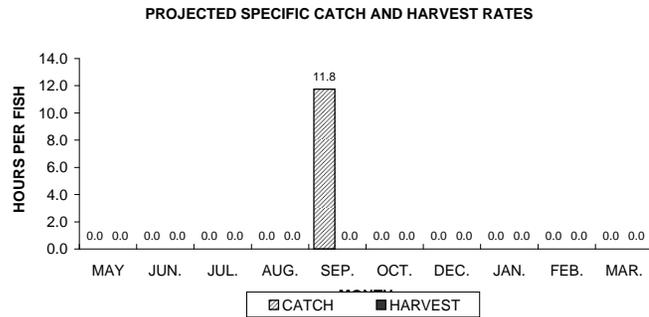
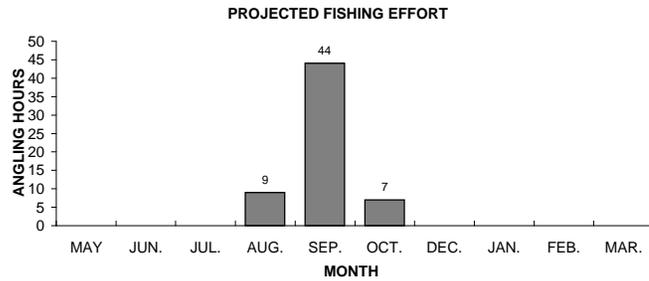
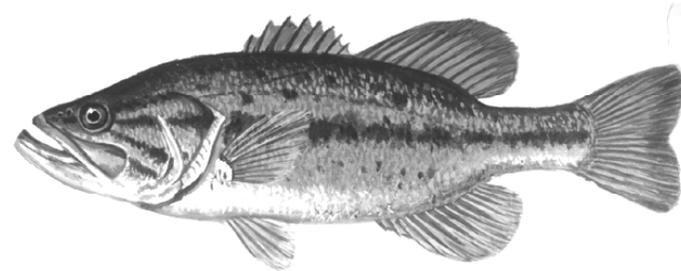


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

YELLOW PERCH

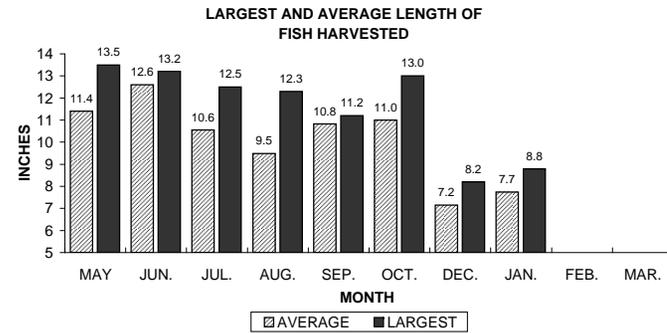
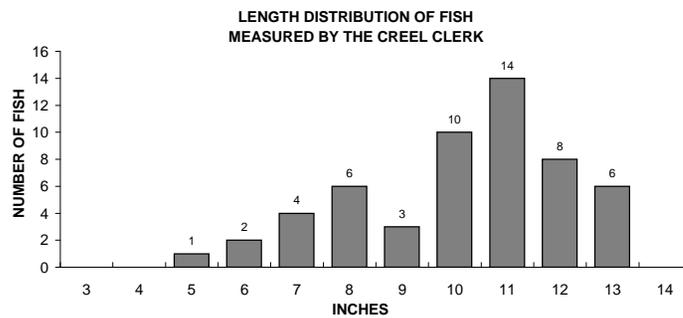
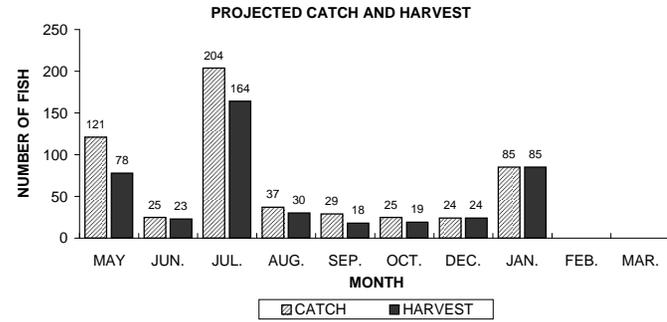
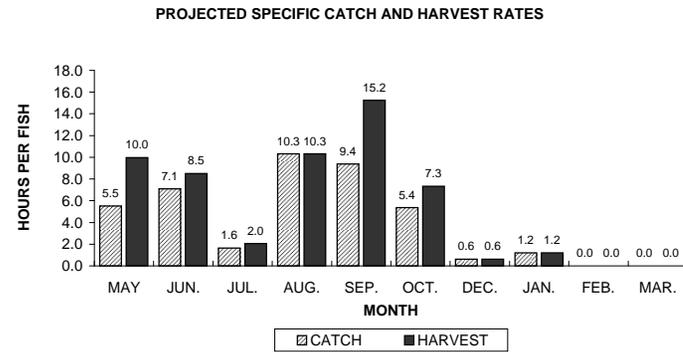
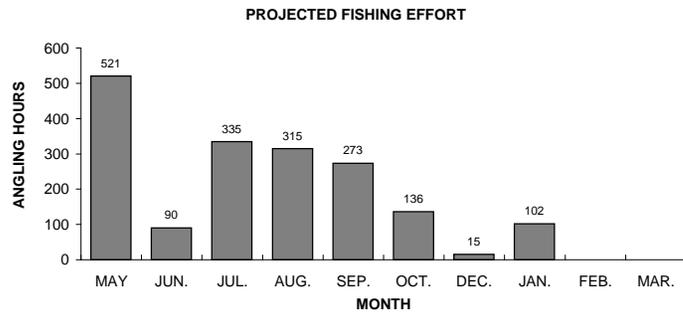
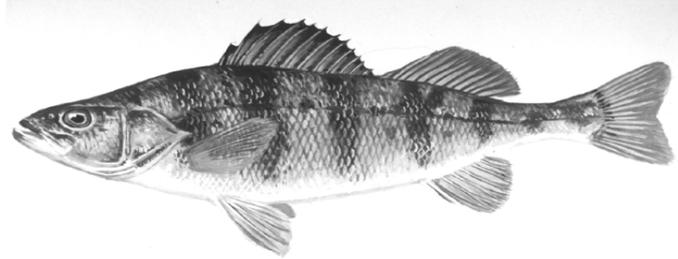


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

BLUEGILL

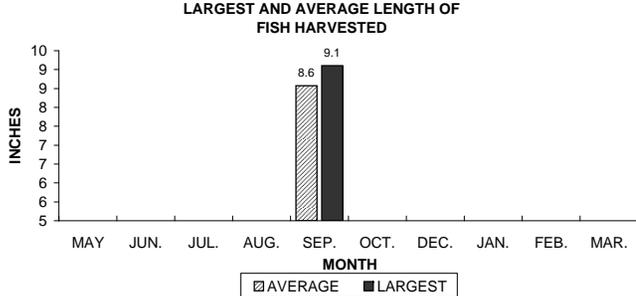
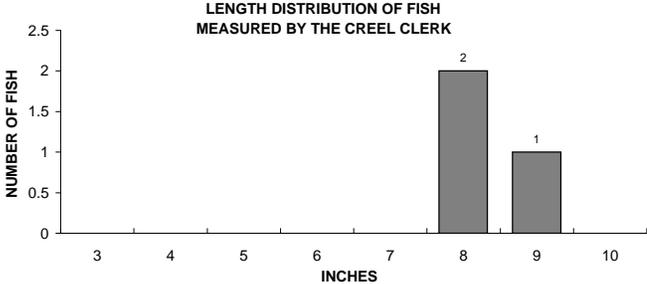
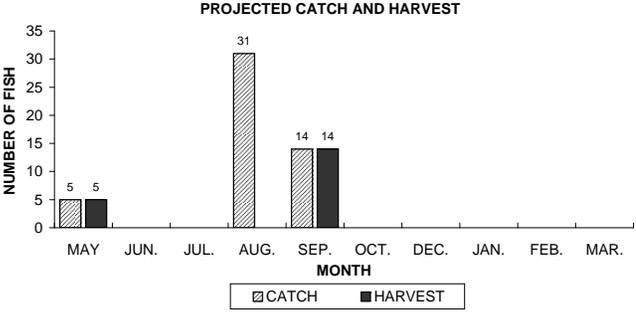
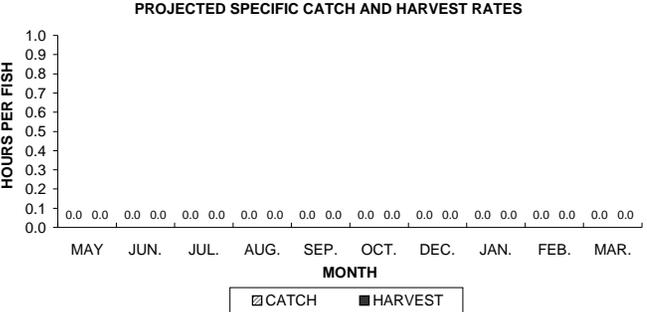
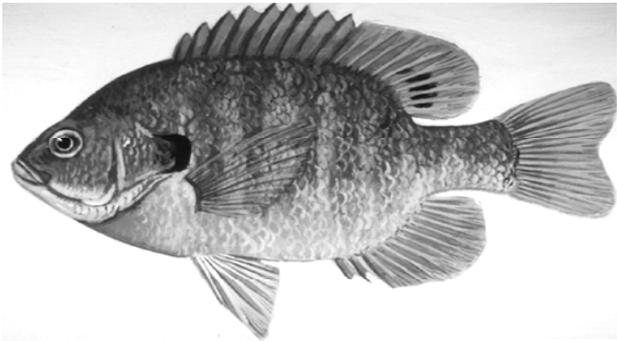
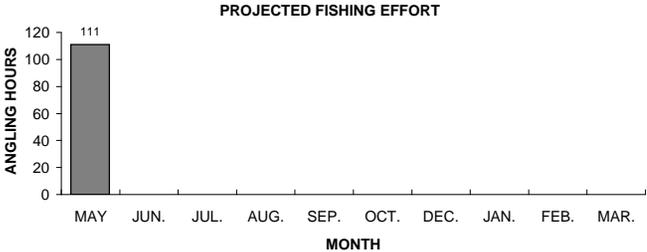


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.

ROCK BASS

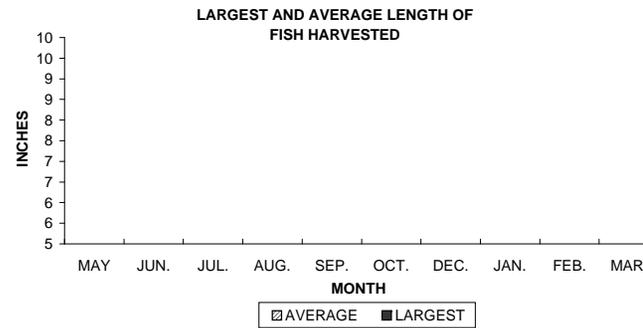
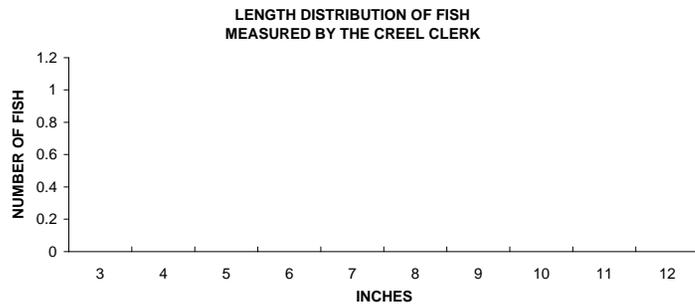
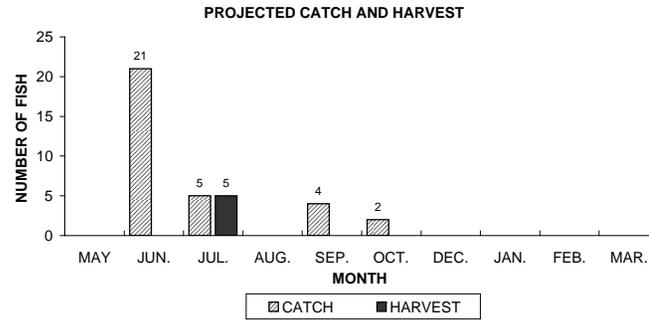
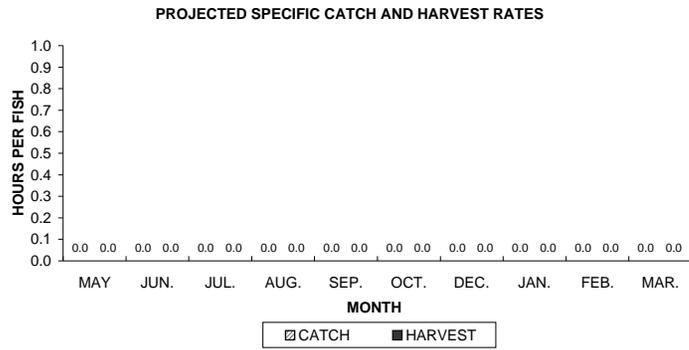
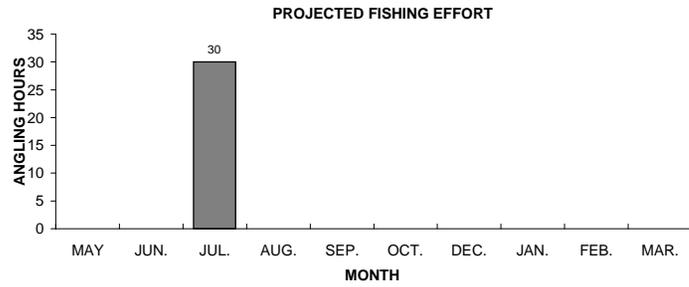
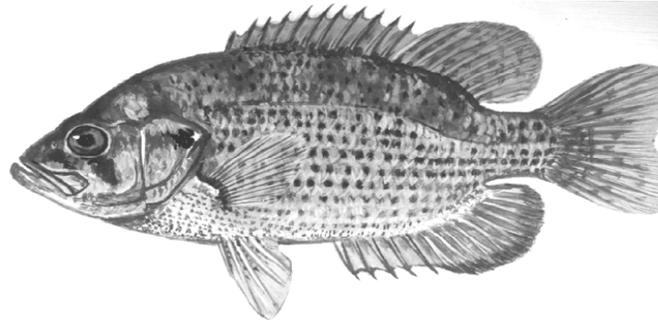


Figure 8. Rock bass sportfishing effort, catch, harvest, and length distribution, Big Portage Lake, during 2006-07.