WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CREEL SURVEY REPORT

NORTH TURTLE LAKE

VILAS COUNTY

2010-11

Treaty Fisheries Publication

Compiled by Tim Tobias
Treaty Fisheries Technician

CONTENTS

SUMMARY TABLES

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.

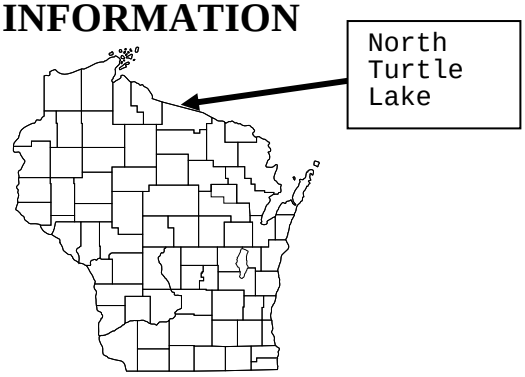
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Location
North Turtle Lake is located in Vilas County in the Town of Winchester.

Physical Characteristics
North Turtle Lake is a 369-acre drainage lake with a maximum depth of 58 feet. North Turtle Lake is in the Turtle Chain which also includes South Turtle and Rock Lake. Littoral substrate consists primarily of sand, with rock and gravel. North Turtle Lake is a drainage lake of moderate fertility, slightly alkaline light brown water of moderate 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 North Turtle Lake was around March 30, 2010. Fishable-ice formed on North Turtle Lake in early December.

Sportfishing Regulations
The following seasons, daily bag limits, and length limits were in place on North Turtle Lake during the 2010-fishing season:

Species	Season	Bag Limit	Min. Size
Largemouth Bass&	5/01-6/18	Catch & Release	
Smallmouth Bass	6/19-3/06	5	14"
Musky	5/29-11/30	1	34"
Northern Pike	5/01-3/06	5	none
Walleye	5/01-3/06	3*	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 North Turtle 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 second time the Department conducted a creel survey on North Turtle Lake. The last creel survey of the chain took place in 1991.

General Angler Information
Anglers spent 6,692 hours or 18.1 hours per acre fishing North Turtle Lake during the 2010 season (Table 1). That was less than the Vilas County average of 34.5 hours per acre. September was the most heavily fished month (3.9 hours per acre). Fishing effort was lightest in December and January (0.1 hours per acre).

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)
Walleyes received the most fishing effort of any species during the 2010 season. Anglers spent 3,771 hours targeting walleyes. The greatest fishing effort for walleyes was in August (879 hours). December had the least amount of walleye fishing effort (35 hours).

Total catch of walleyes was 2,502 with a harvest of 1,250 fish. Highest catch (592 fish) and harvest (339 fish) occurred in August. Anglers fished 1.5 hours to catch and 3.0 hours to harvest a walleye during 2010.

The mean length of harvested walleye was 12.7 inches and the largest walleye measured was a 23.1-inch fish.

Northern Pike (Table 2, Figure 2)
Fishing effort directed at northern pike was 167 hours during the 2010 season. Only 50 northern pike were reported caught by anglers during the survey. Northern pike are currently only a small part of the North Turtle lake fishery.

Muskellunge (Table 2, Figure 3)
Anglers spent 2,208 hours targeting muskellunge during the 2010 season. Muskellunge fishing effort was greatest in September (847 hours).

Total catch of muskellunge was 94 fish. Highest catch (36 fish) occurred in October. Anglers fished 31.7 hours to catch a

muskellunge during 2010.

Smallmouth Bass (Table 2, Figure 4) Fishing effort targeted at smallmouth bass was 687 hours during the 2010 season. Smallmouth bass fishing effort was greatest in July (305 hours).

Total catch of smallmouth bass was 484 with 19 harvested. Highest catch (178 fish) occurred in August. Anglers fished 1.9 hours to catch a smallmouth bass during 2010.

Largemouth Bass (Table 2, Figure 5) Fishing effort directed at largemouth bass was 335 hours during the 2010 season. Largemouth bass fishing effort was greatest in October (138 hours).

Total catch of largemouth bass was 30 fish. Anglers fished 11.3 hours to catch a largemouth bass during 2010.

Panfish (Table 2, Figures 6-10)

Bluegills Fishing effort directed at bluegills was 65 hours.

Total catch of bluegills was 968 fish with 194 harvested. The mean length of bluegills harvested was 7.8 inches.

Black crappies Fishing effort directed at black crappies was 21 hours.

Black crappies are currently only a small part of the North Turtle Lake fishery.

Yellow perch Fishing effort directed at yellow perch was 98 hours.

Total catch of yellow perch was 375 fish with 150 harvested. The mean length of yellow perch harvested was 9.2 inches.

Pumpkinseeds and rock bass were also caught during the 2010 season. Both species are a minor part of this fishery.

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 Kiepke, Jason Halverson, and Tim Tobias. Fisheries management staff included Steve Gilbert, Wes Jahns, John Kubisiak and Steve Timler. Marty Kiepke was the creel clerk on North Turtle 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, Tom & Julie Rued, who generously allowed the Department to keep a boat and snowmobile on their property during this survey.

This creel report was reviewed by 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 or online at:

http://dnr.wi.gov/fish/ceded/reports.html

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

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	872	2.4	5.3	5.8
June	871	2.4	6.8	6.1
July	1243	3.4	7.4	6.4
August	1198	3.2	6.4	5.4
September	1448	3.9	4.1	3.8
October	817	2.2	2.0	1.6
December	47	0.1	0.5	1.7
January	53	0.1	0.8	1.5
February	144	0.4	1.0	1.3
March	0	0.0	0.2	**
*Summer Total	6449	17.5	32.1	29.1
*Winter Total	243	0.7	2.4	4.5
Grand Total	6692	18.1	34.5	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 North Turtle 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 North Turtle 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 North Turtle Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, North Turtle Lake, 2010-11 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	3771	51.22%	2502	1.5	1250	3.0	12.7
Northern Pike	167	2.27%	50	5.6	5		22.2
Muskellunge	2208	29.99%	94	31.7	0		
Smallmouth Bass	687	9.33%	484	1.9	19	67.1	16.3
Largemouth Bass	335	4.55%	30	11.3	0		
Yellow Perch	98	1.33%	375	0.5	150	1.1	9.2
Bluegill	65	0.88%	968	1.8	194	2.4	7.8
Pumpkinseed	0	0.00%	79		0		
Rock Bass	10	0.14%	86	0.9	4	2.7	7.2
Black Crappie	21	0.29%	69	5.7	69	5.7	10.6

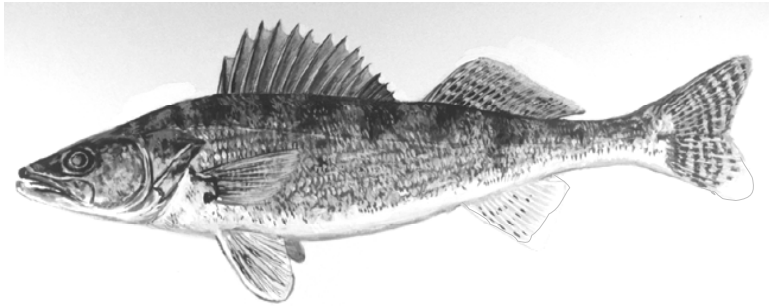
* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

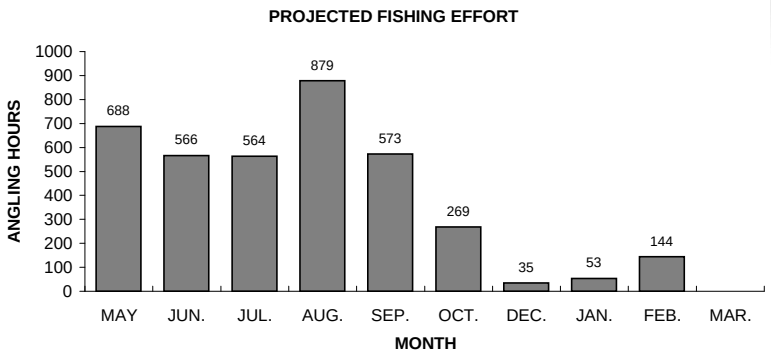
** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

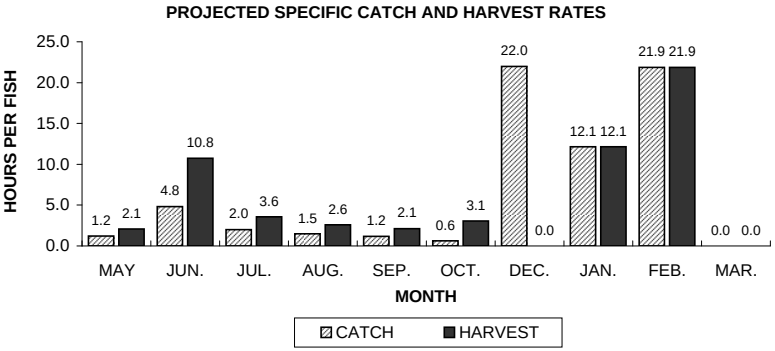
CREEL YEAR: 1991-92

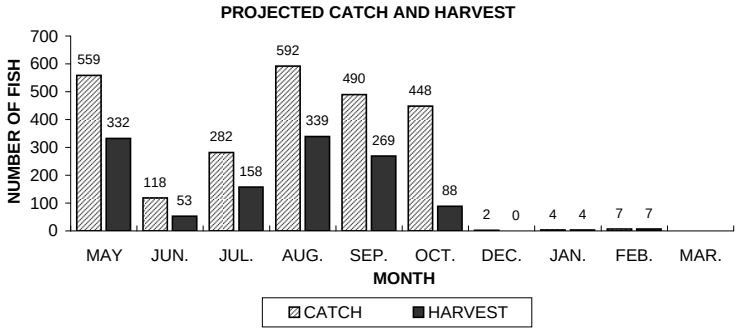
SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	4155	47.39%	4457	0.9	117	37.5	16.1
Northern Pike	221	2.52%	62	36.2	11		20.6
Muskellunge	2463	28.09%	84	45.5	0		
Smallmouth Bass	257	2.93%	179	5.7	33	32.2	13.7
Largemouth Bass	6	0.07%	0		0		
Yellow Perch	533	6.08%	394	1.7	38	14.0	8.3
Bluegill	486	5.54%	746	0.7	177	2.7	6.5
Pumpkinseed	105	1.20%	59	2.2	30	3.5	6.1
Rock Bass	329	3.75%	73	13.9	24	13.9	
Black Crappie	213	2.43%	58	4.0	58	4.0	10.7

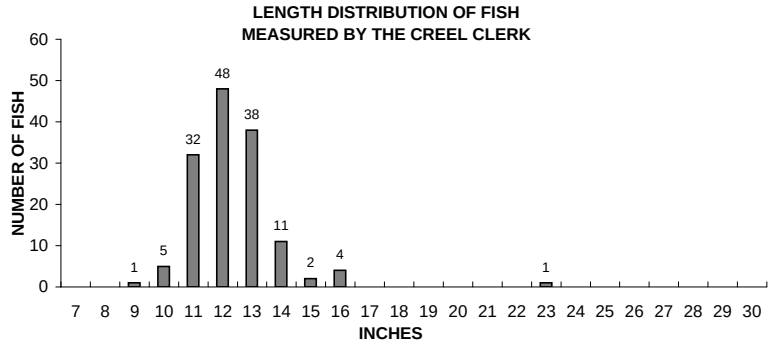
WALLEYE











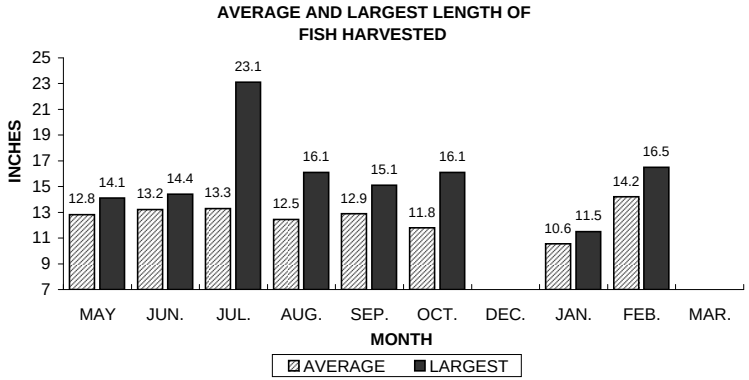
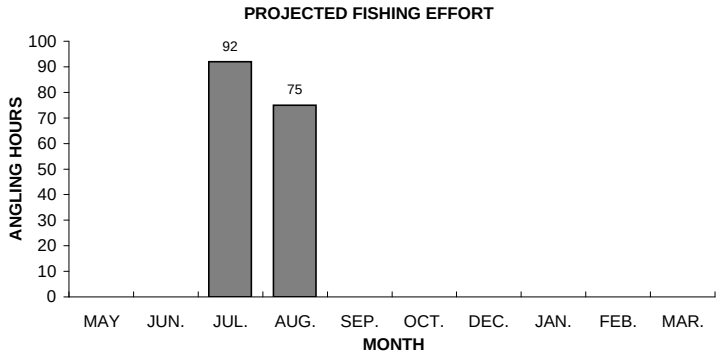
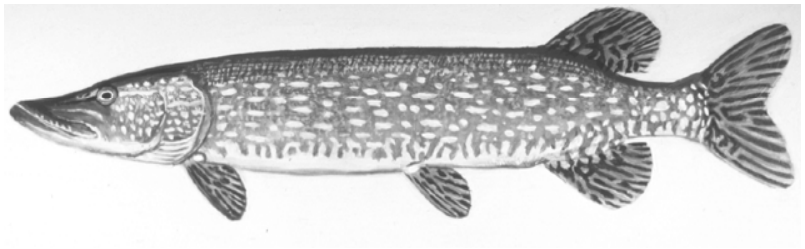
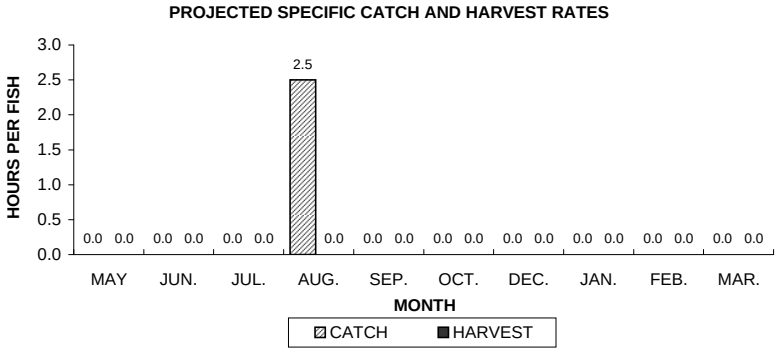


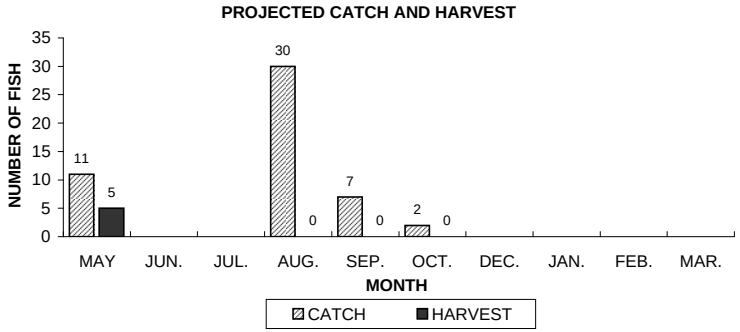
Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

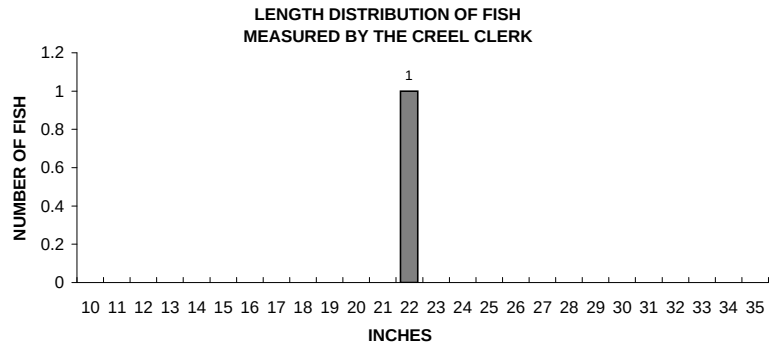


NORTHERN PIKE









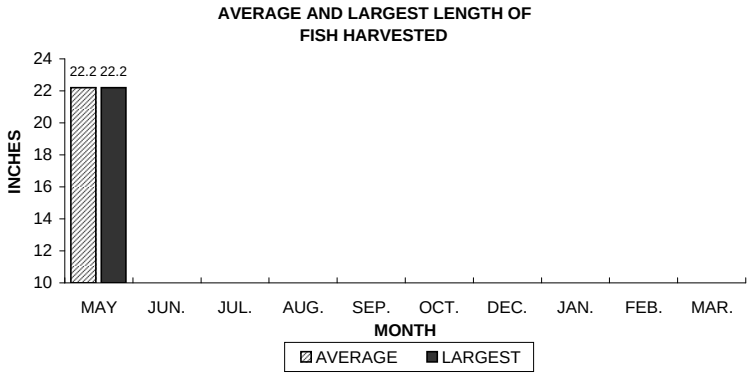
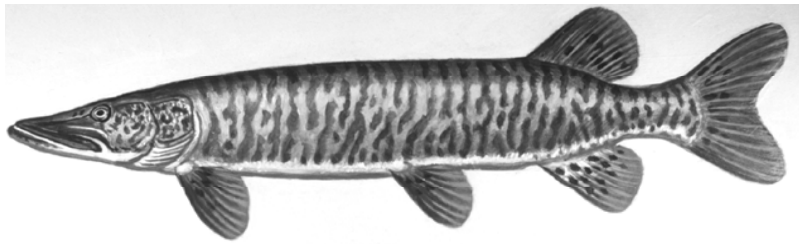
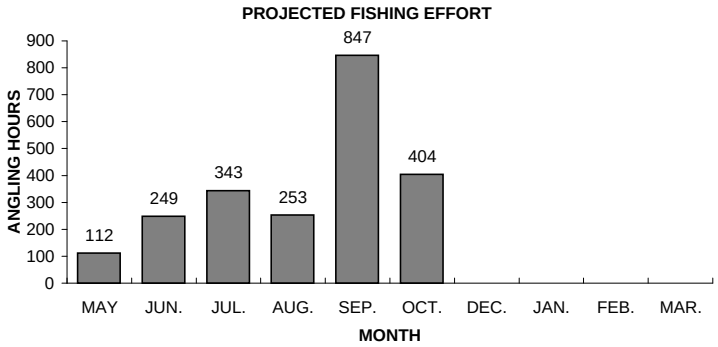
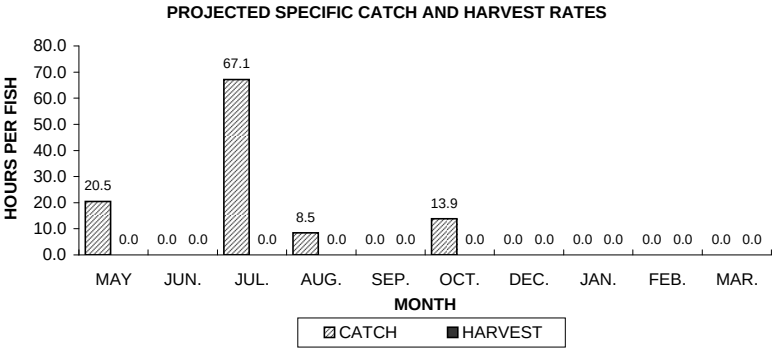


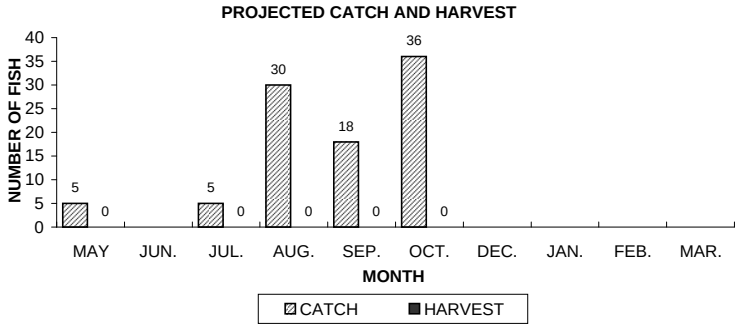
Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution,North Turtle Lake, during 2010-11.

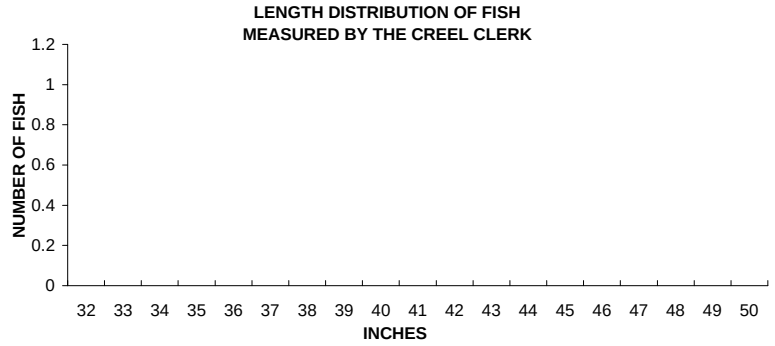
MUSKELLUNGE











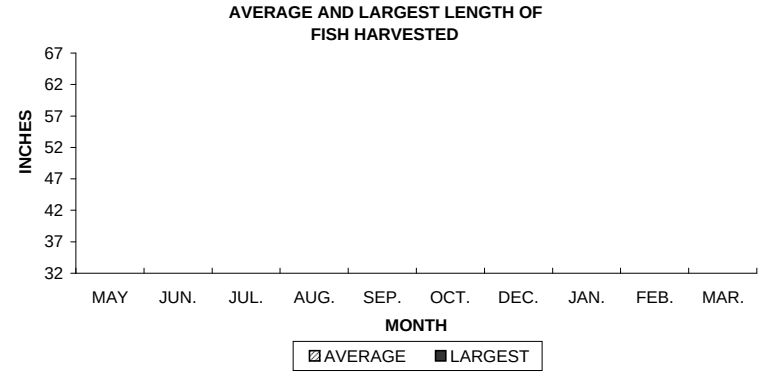
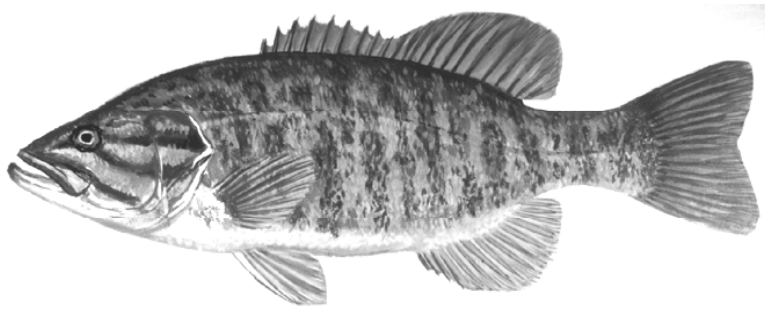
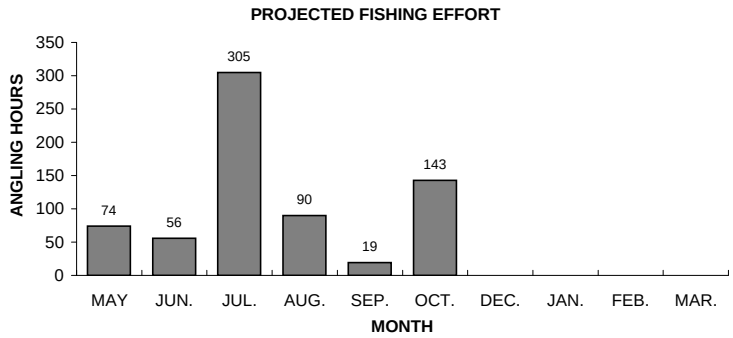
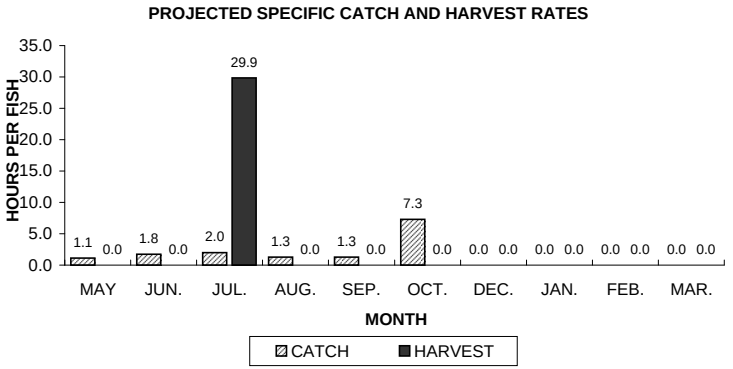


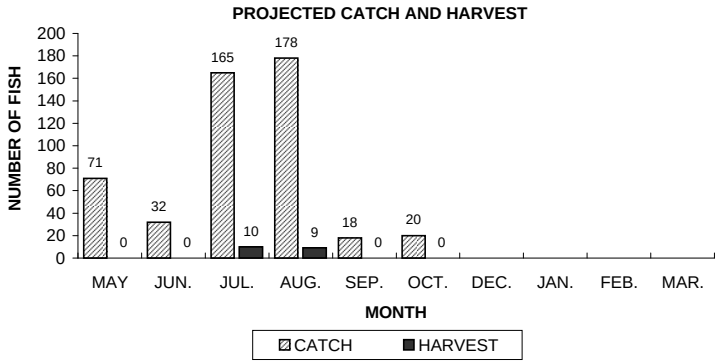
Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

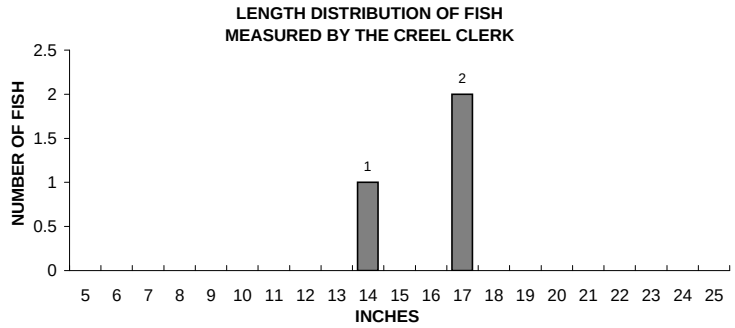
SMALLMOUTH BASS











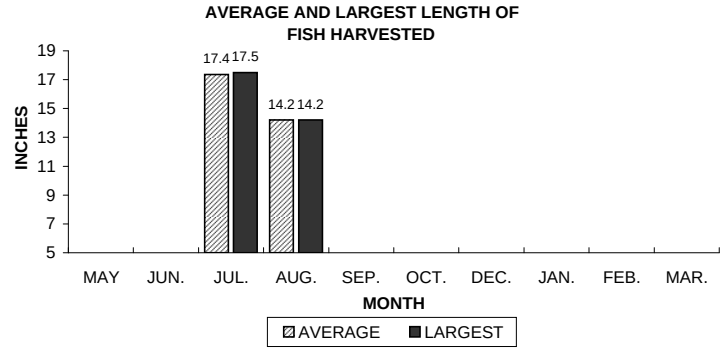
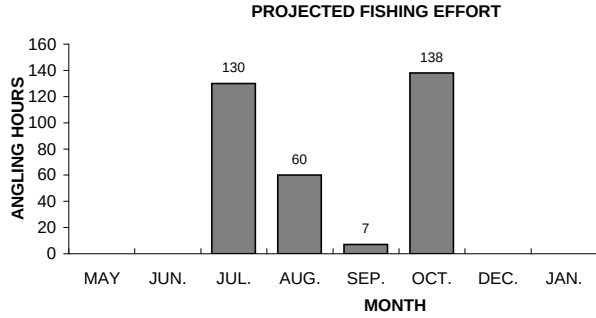
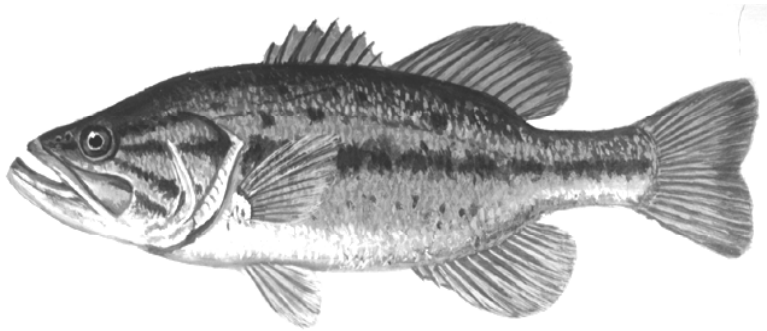
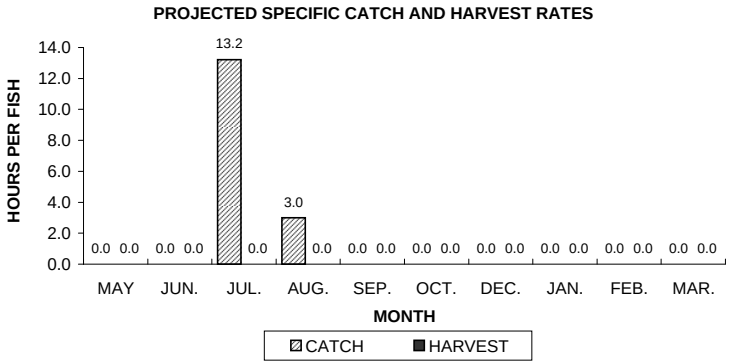


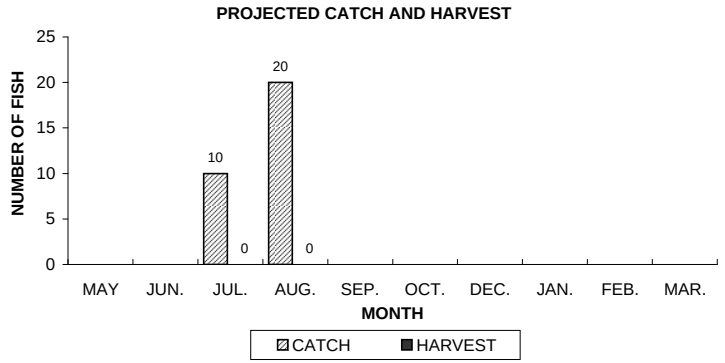
Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

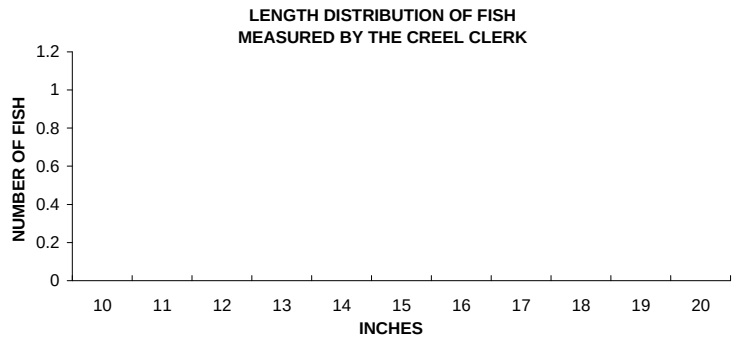
LARGEMOUTH BASS











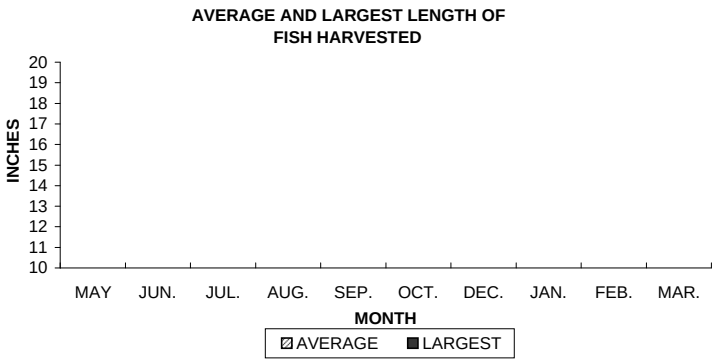
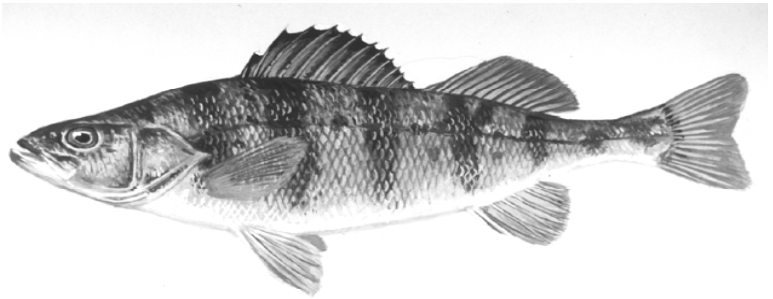
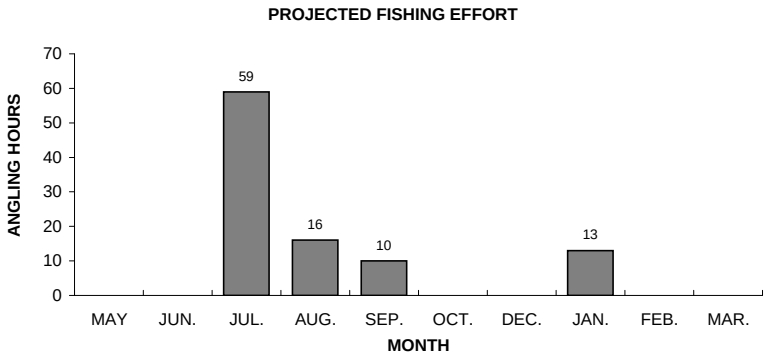
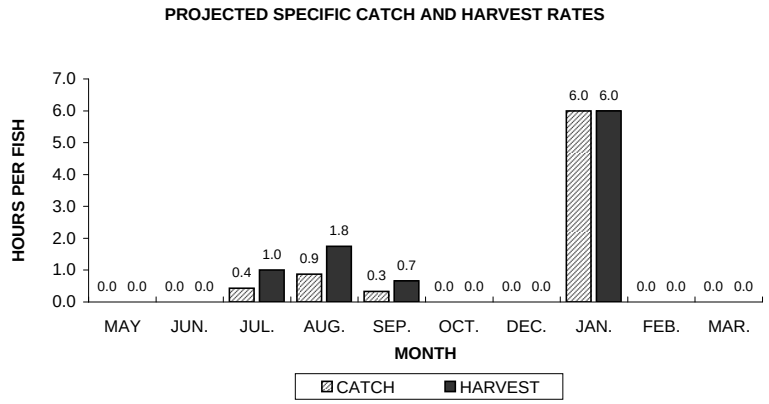


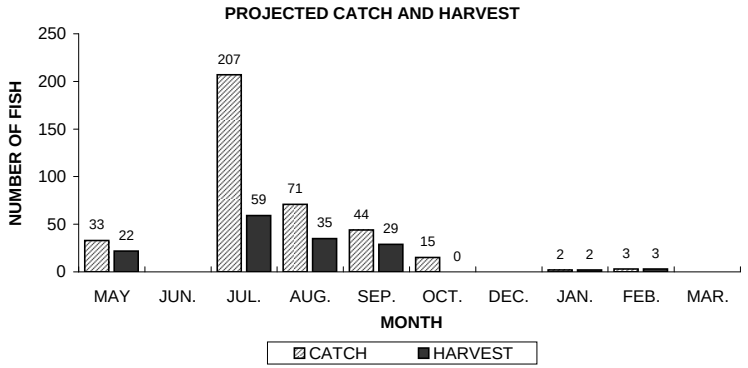
Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

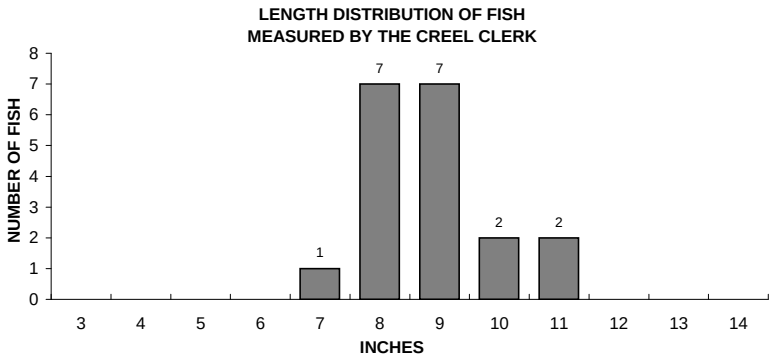
YELLOW PERCH











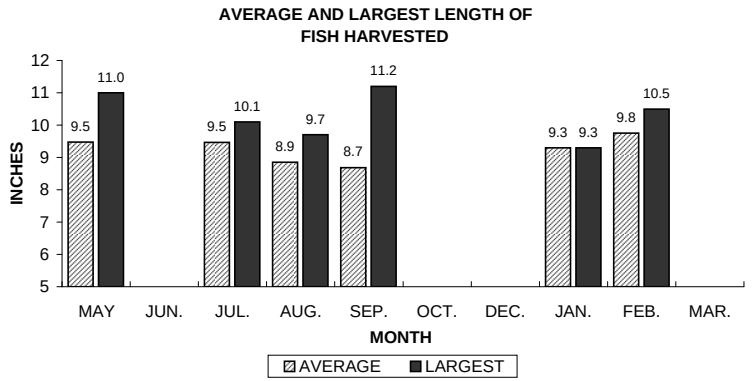
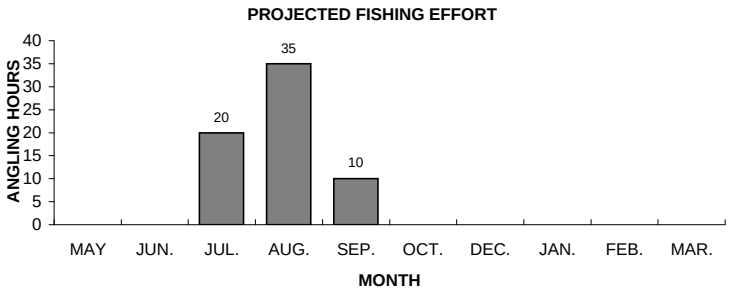
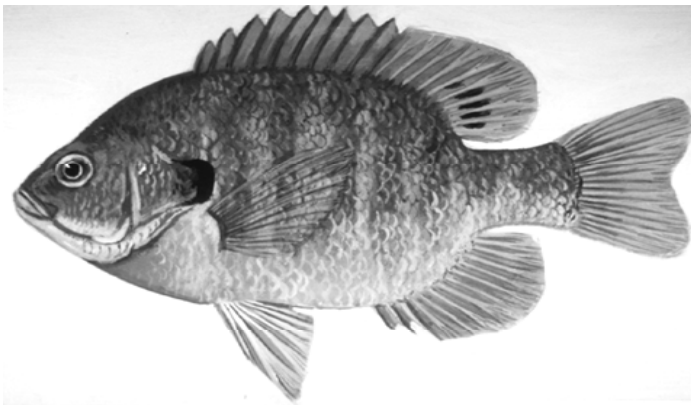
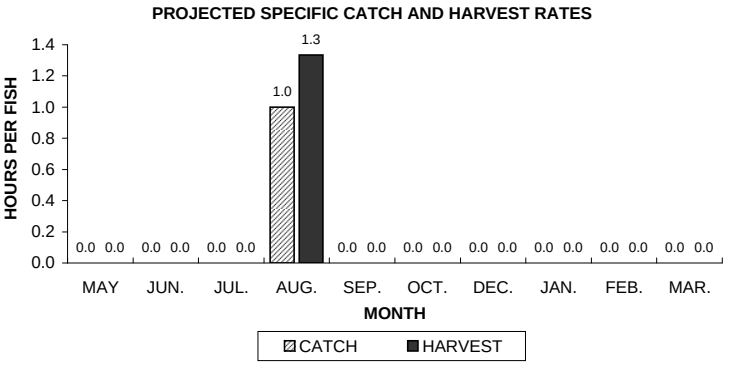


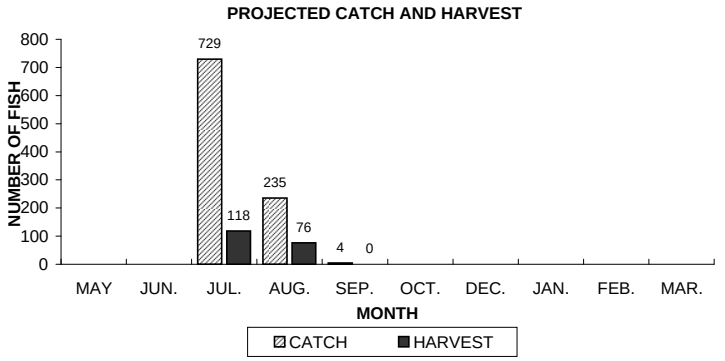
Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

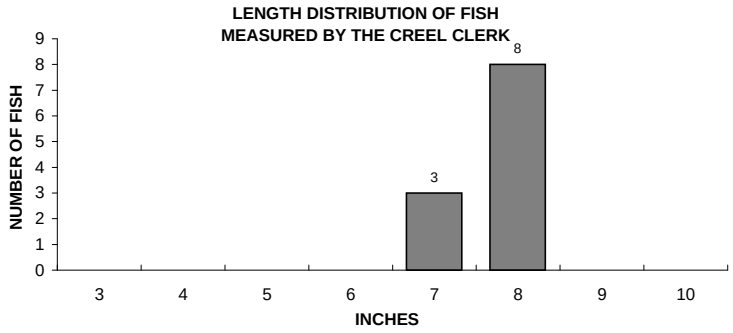
BLUEGILL











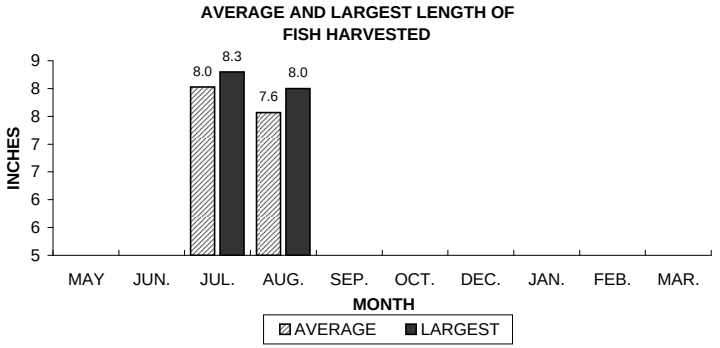
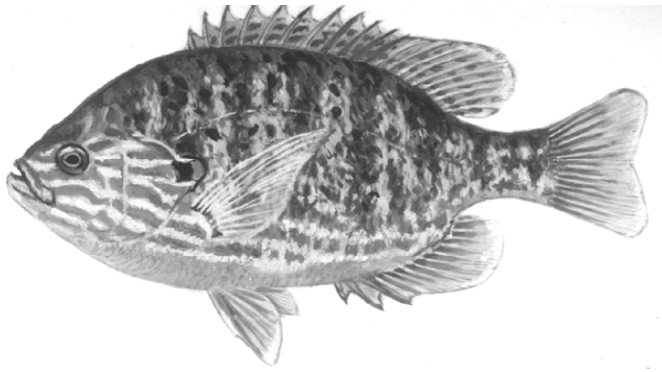
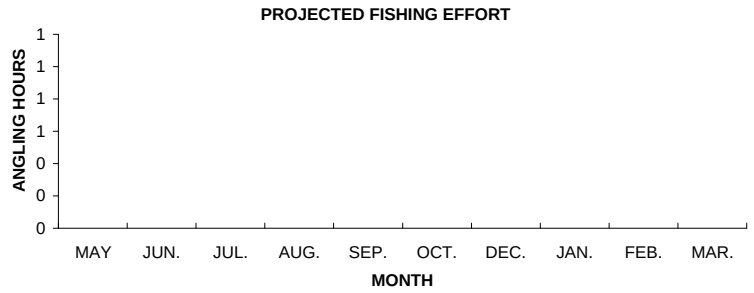
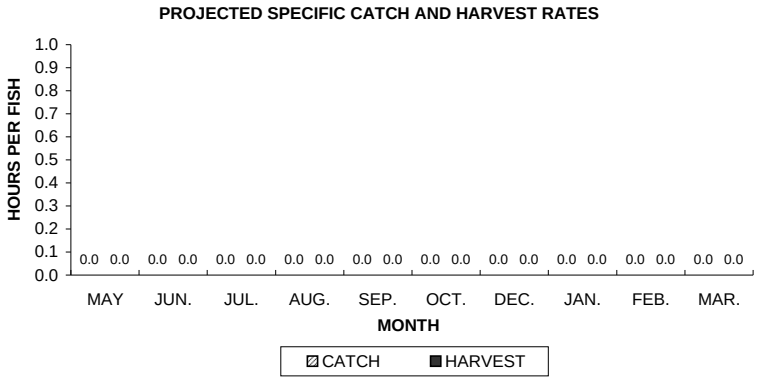


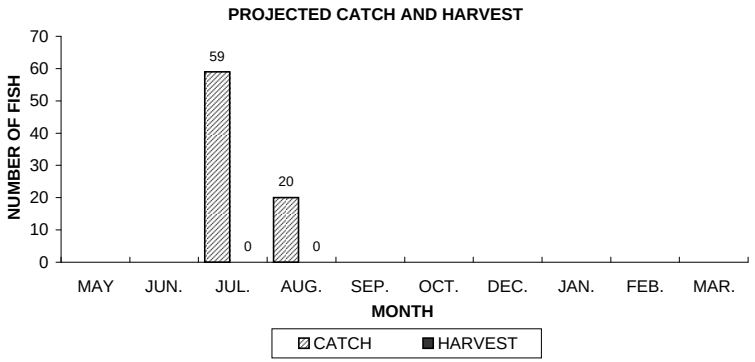
Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

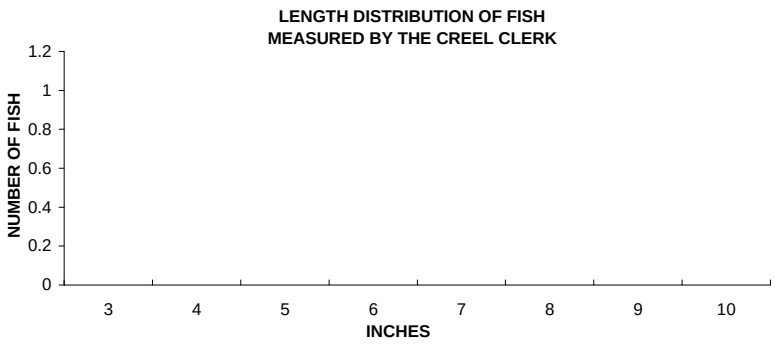
PUMPKINSEED











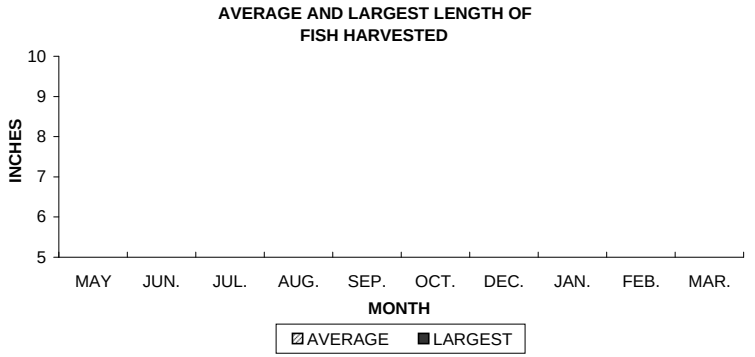
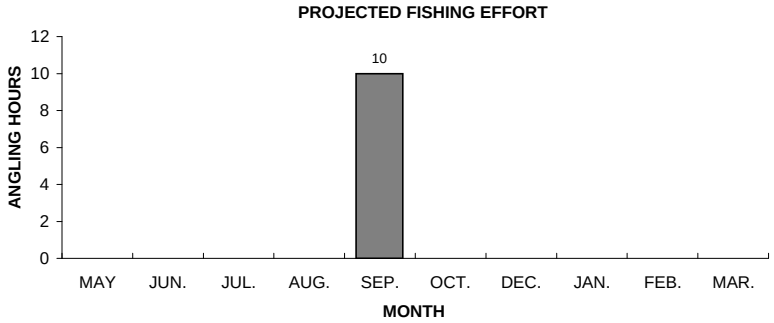
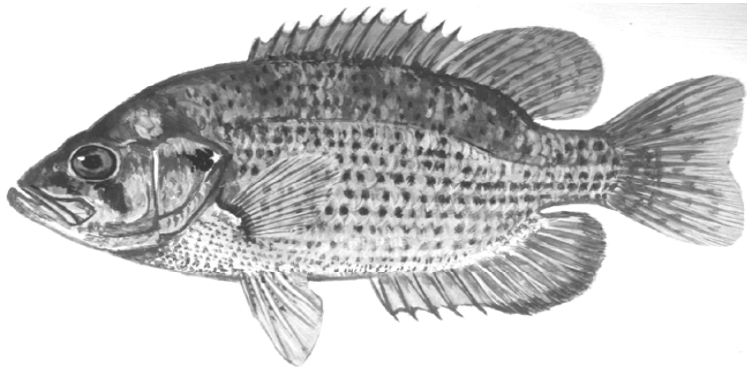
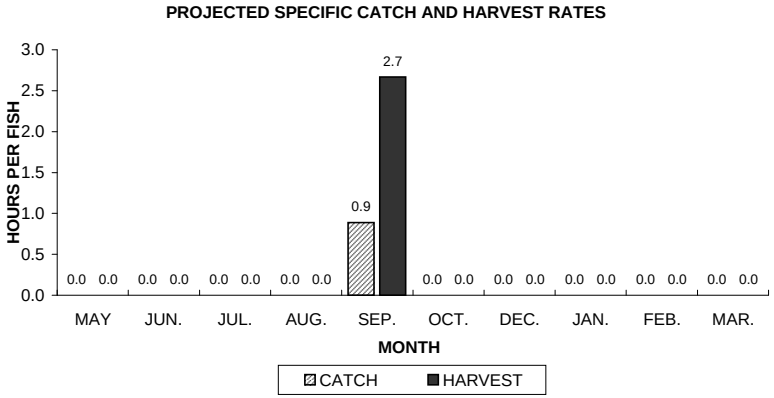


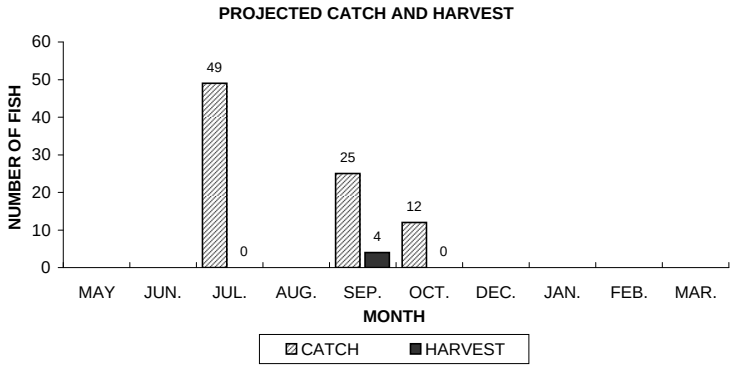
Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

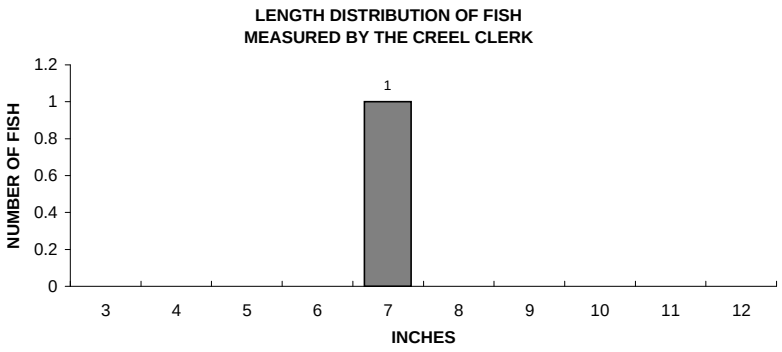
ROCK BASS











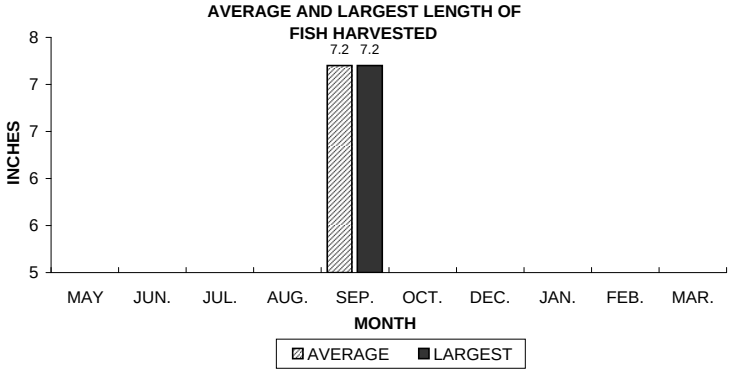
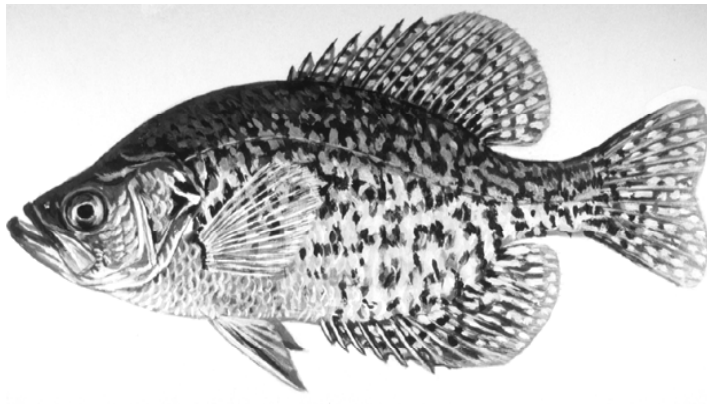
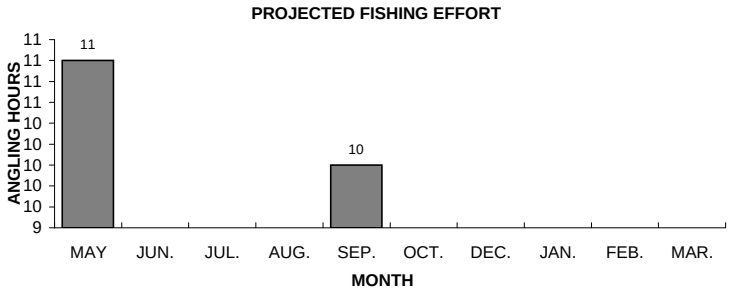
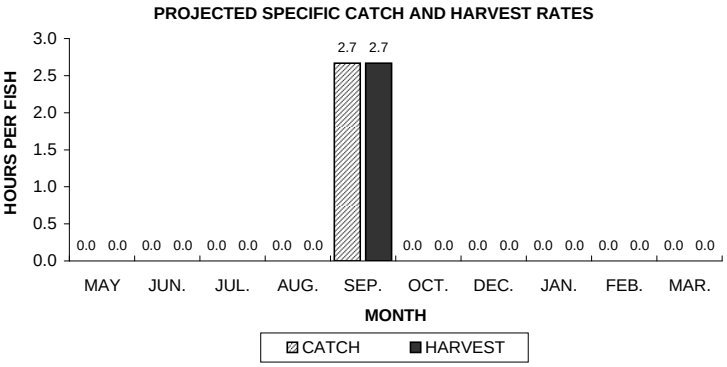


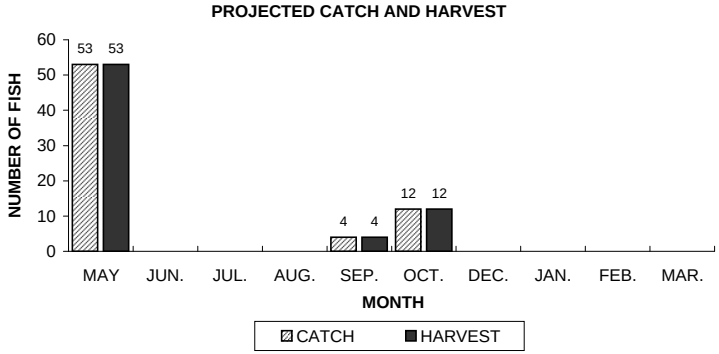
Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.

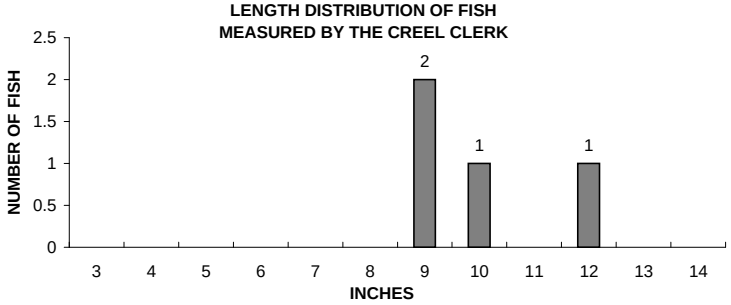
BLACK CRAPPIE











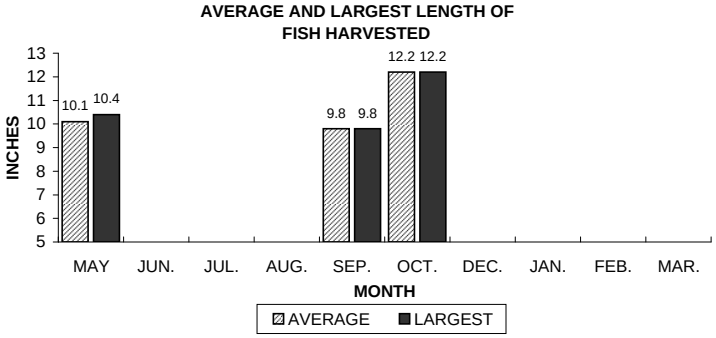


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, North Turtle Lake, during 2010-11.