

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

TENDERFOOT LAKE

VILAS COUNTY

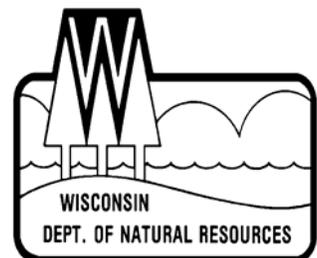
2009-10



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.

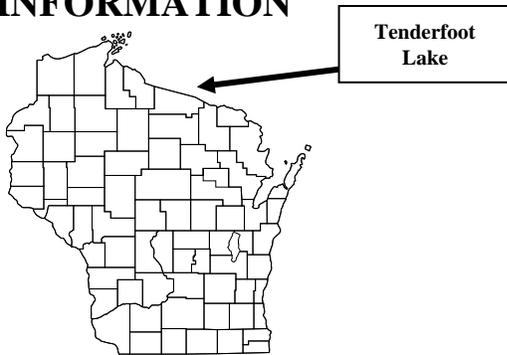
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Location

Tenderfoot Lake is located in Vilas County west of the Town of Land O' Lakes. **Open water public access is through a navigable river (Ontonagon) via Palmer Lake. Winter access is difficult and exists only through private land.**

Physical Characteristics

Tenderfoot Lake is a 437-acre drainage lake with a maximum depth of 33 feet. Littoral substrate consists primarily of sand, gravel, rock and muck. Tenderfoot Lake is a very fertile drainage lake with 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 Tenderfoot Lake was around April 24, 2009. Fishable-ice formed on Tenderfoot Lake in mid December.

Sportfishing Regulations

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

		Catch&Release	
Largemouth Bass& Smallmouth Bass	5/02-6/19	5	14"
Musky	5/23-11/30	1	40"
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 Tenderfoot 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. This was the second time the department conducted a creel survey on Tenderfoot Lake. The last creel survey took place in 1992.

General Angler Information

Anglers spent 11,851 hours or 26.9 hours per acre fishing Tenderfoot Lake during the 2009 season (Table 1). That was less than

the Vilas County average of 34.8 hours per acre. May was the most heavily fished month (6.7 hours per acre).

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Anglers spent 4,727 hours targeting walleye during the 2009 season. Walleye fishing effort was greatest in May (1,654 hours).

Total catch was 1,982 walleye with a harvest of 237 fish. Highest catch (692 fish) occurred in June while highest harvest was in May (149 fish). Anglers fished 2.4 hours to catch and 20.7 hours to harvest a walleye during 2009.

The mean length of harvested walleye was 18.3 inches and the largest walleye measured was a 26.0-inch fish.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was only 91 hours during the 2009 season.

Total catch was 773 northern pike with a harvest of 92 fish.

The mean length of harvested northern pike was 22.1 inches and the largest northern pike measured was a 25.2-inch fish.

Muskellunge (Table 2, Figure 3)

Anglers spent 5,017 hours targeting muskellunge during the 2009 season. Muskellunge fishing effort was greatest in August (1,060 hours).

Total catch was 412 fish with no harvest. Highest catch (103 fish) occurred in July. Anglers fished 14.6 hours to catch a muskellunge during 2009.

Smallmouth Bass (Table 2, Figure 4)

Anglers spent 502 hours targeting

smallmouth bass during the 2009 season.

Total catch was 1,329 smallmouth bass with a harvest of 67 fish. Anglers fished 1.7 hours to catch a smallmouth bass during the 2009 season.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 503 hours during the 2009 season. Largemouth bass fishing effort was greatest in June (191 hours).

Total catch was 322 largemouth bass with a harvest of 33 fish. Highest catch (85 fish) occurred in June. Anglers fished 3.3 hours to catch a largemouth bass during 2009.

Panfish (Table 2, Figures 6-10)

Black crappies were the most sought after panfish species during the 2009 survey with 13.59% of the total directed effort or 2,029 hours.

Anglers caught 3,990 black crappie and harvested 2,357 fish. The mean length of black crappie harvested was 9.8 inches.

Bluegills were the second most sought after panfish species during the 2009 survey. Fishing effort directed at bluegill was 1,034 hours.

Total catch of bluegill was 2,425 fish with 474 harvested. The mean length of bluegill harvested was 7.8 inches.

Yellow perch were also an important part of the angler harvest during the 2009 survey. Fishing effort directed at yellow perch was 951 hours.

Total catch of yellow perch was 2,202 fish with 412 harvested. The mean length of yellow perch harvested was 8.3 inches.

Pumpkinseeds and rock bass were also caught by anglers 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 and Wes Jahns. Marty Kiepkke was the creel clerk on Palmer/Tenderfoot 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 cooperator, Phil Smith, who generously allowed the department to keep a boat and snowmobile on his property during this survey.

This creel 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, Tenderfoot Lake, 2009-10 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	2927	6.7	5.4	5.8
June	2570	5.9	6.9	6.1
July	2059	4.7	7.5	6.4
August	1897	4.3	6.5	5.4
September	1629	3.7	4.2	3.8
October	568	1.3	2.0	1.6
December	20	0.0	0.5	1.7
January	25	0.1	0.8	1.5
February	55	0.1	1.0	1.3
March	0	0.0	0.2	--
*Summer Total	11750	26.7	32.5	29.1
*Winter Total	100	0.2	2.4	4.5
Grand Total	11851	26.9	34.8	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 Tenderfoot 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 Tenderfoot 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 Tenderfoot Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, Tenderfoot Lake, 1992 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	4727	31.67%	1982	2.4	237	20.7	18.3
Northern Pike	91	0.61%	773	1.6	92		22.1
Muskellunge	5017	33.61%	412	14.6	0		
Smallmouth Bass	502	3.36%	1329	1.7	67	15.1	16.1
Largemouth Bass	503	3.37%	322	3.3	33	34.4	16.0
Yellow Perch	951	6.37%	2202	0.9	412	3.4	8.3
Bluegill	1034	6.93%	2425	0.6	474	3.4	7.8
Pumpkinseed	0	0.00%	320		44		7.5
Rock Bass	72	0.48%	1466	1.8	53		7.8
Black Crappie	2029	13.59%	3990	0.5	2357	0.9	9.8

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

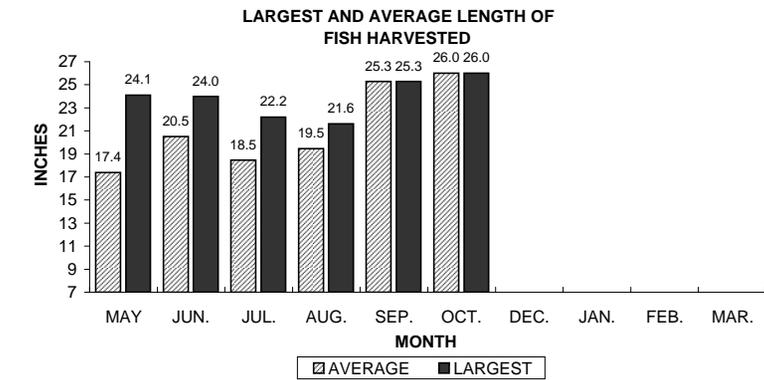
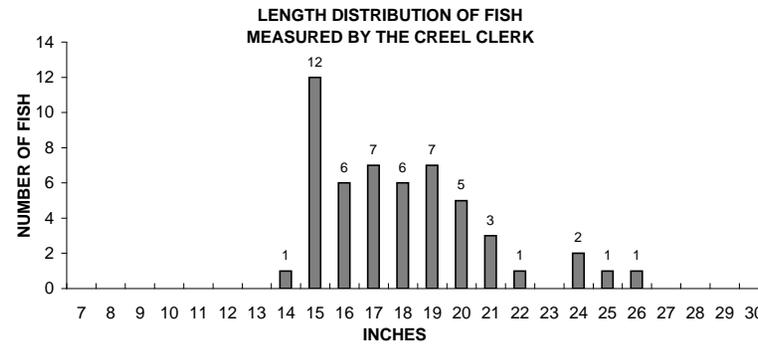
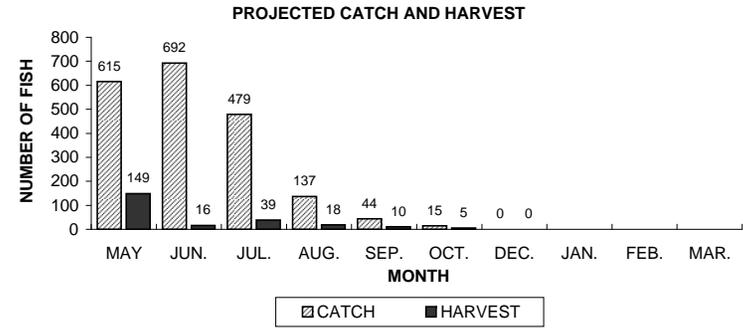
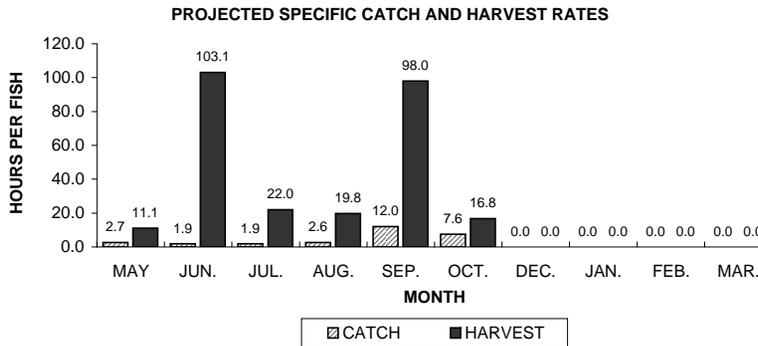
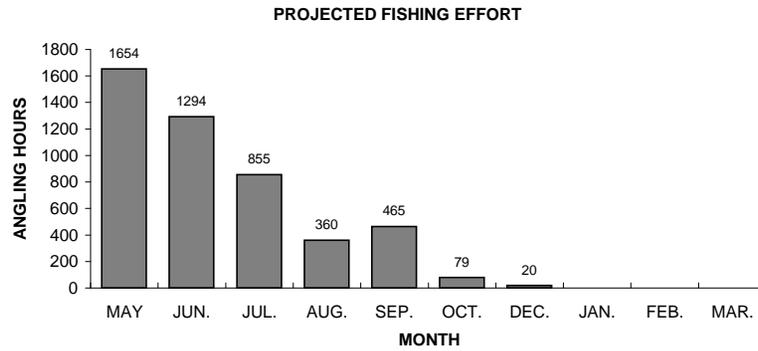
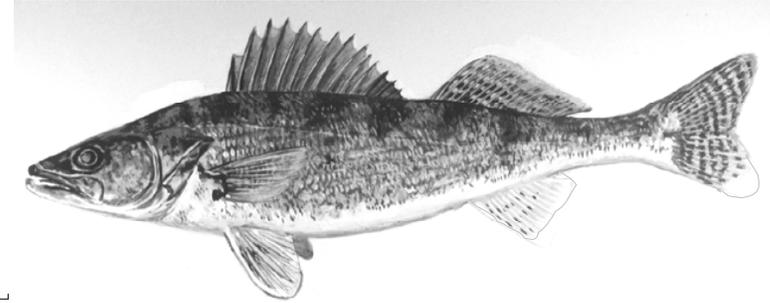
** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 1992-93*

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	12685	43.27%	6337	2.1	735	17.2	17.2
Northern Pike	838	2.86%	961	3.9	365	5.3	23.9
Muskellunge	11774	40.16%	714	18.8	77	163.9	35.4
Smallmouth Bass	744	2.54%	1056	2.2	48	39.2	14.4
Largemouth Bass	3	0.01%	9	0.0	9	0.0	17.2
Yellow Perch	435	1.48%	4287	0.9	699	2.3	7.9
Bluegill	208	0.71%	261	11.2	121	0.0	7.0
Pumpkinseed	49	0.17%	157	0.0	62	0.0	6.9
Rock Bass	0	0.00%	1605	0.0	0	0.0	
Black Crappie	2582	8.81%	1157	2.7	768	3.7	10.5

* The 1992-93 creel was only conducted in the summer

WALLEYE



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

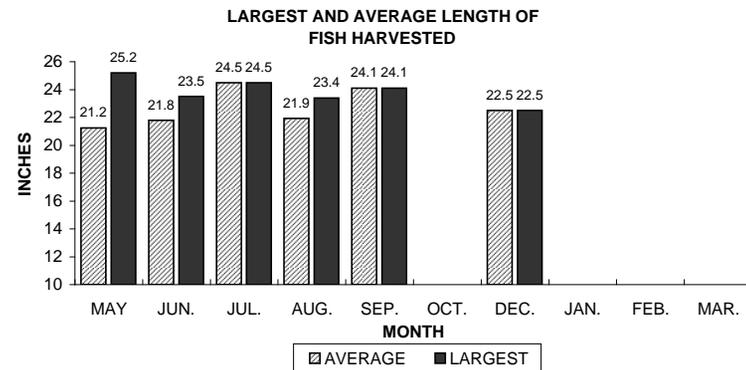
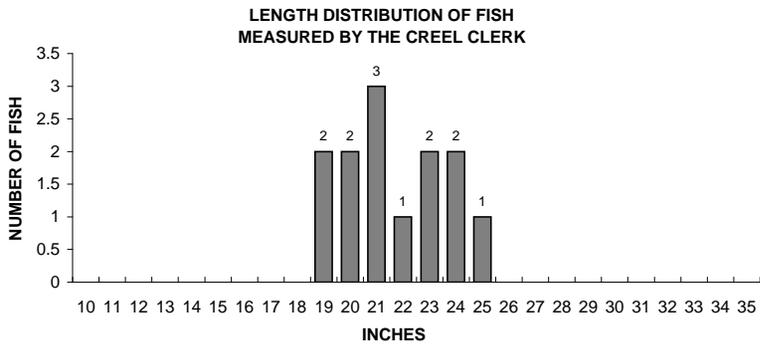
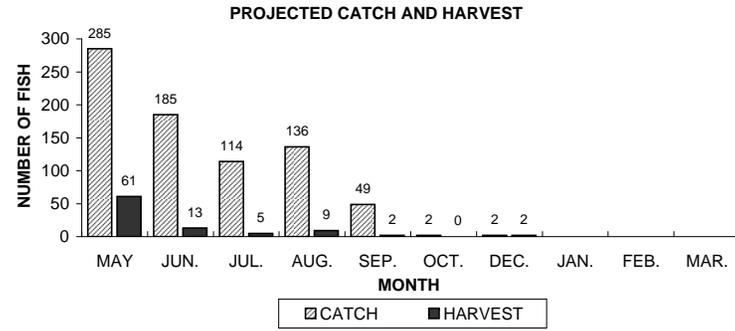
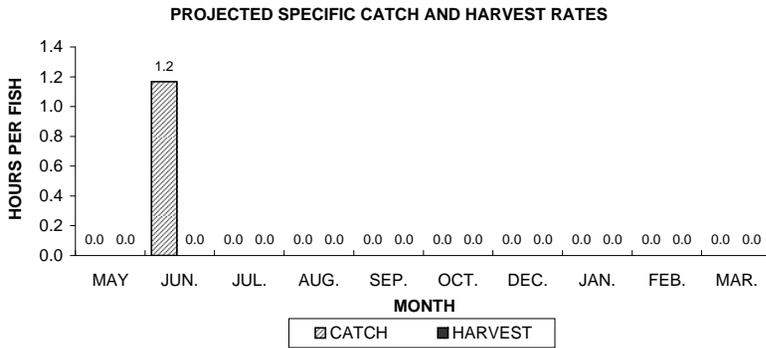
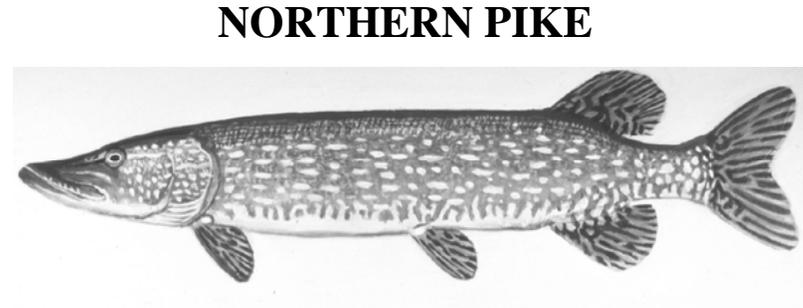
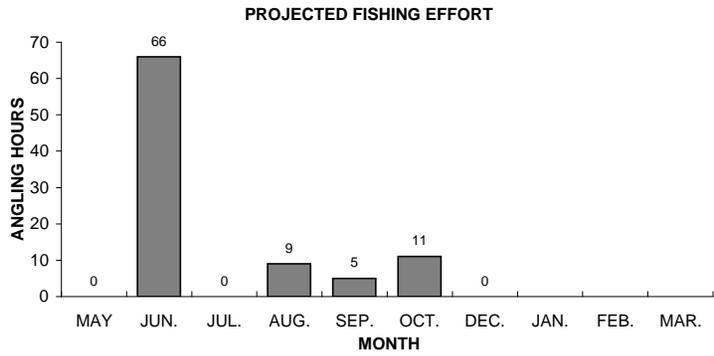


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

MUSKELLUNGE

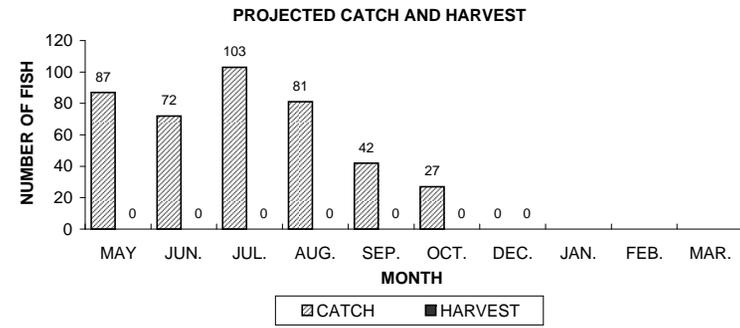
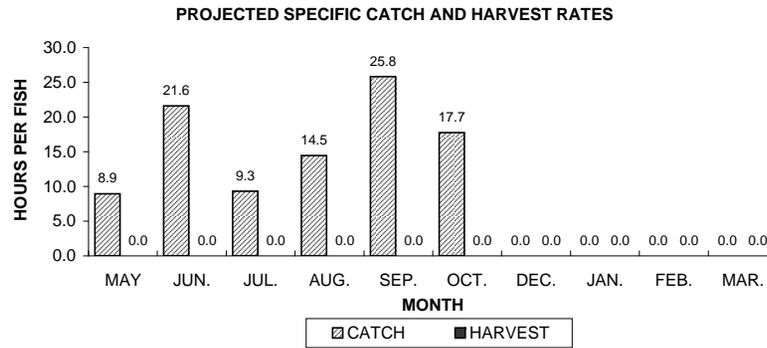
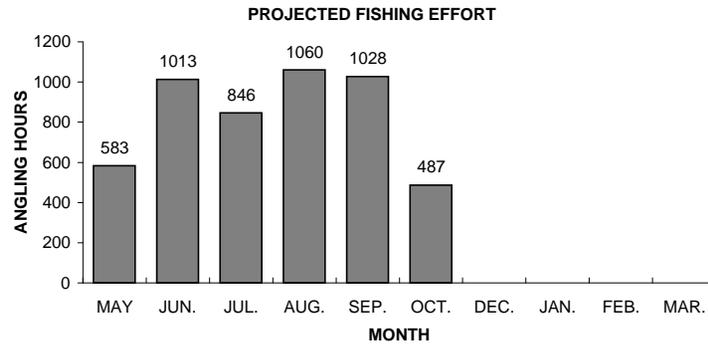
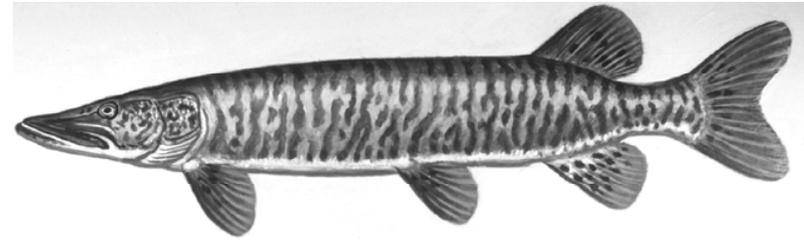


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

SMALLMOUTH BASS

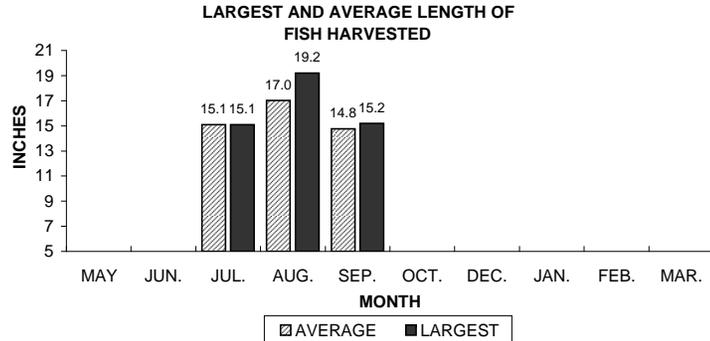
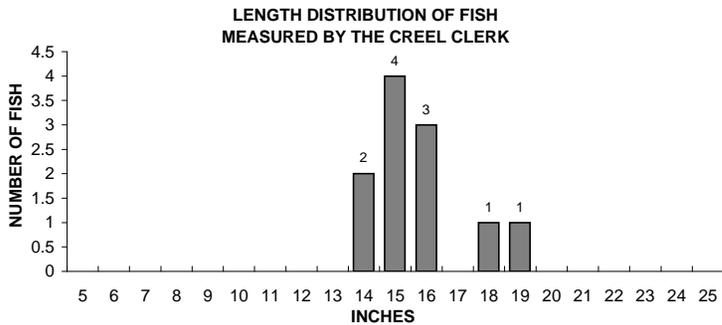
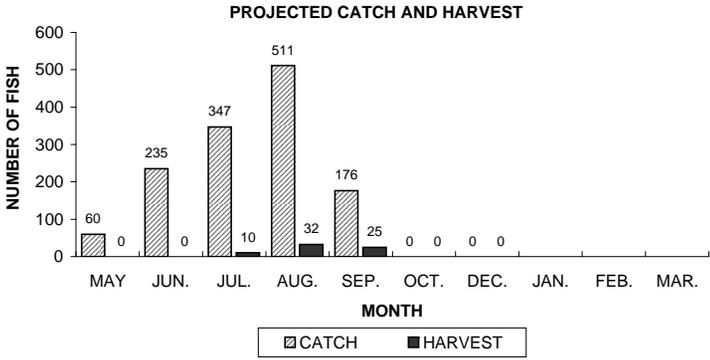
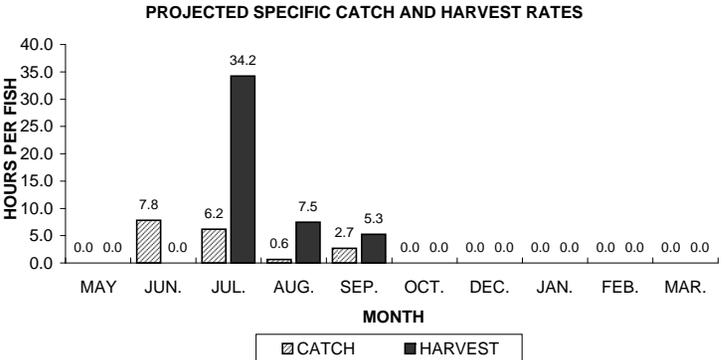
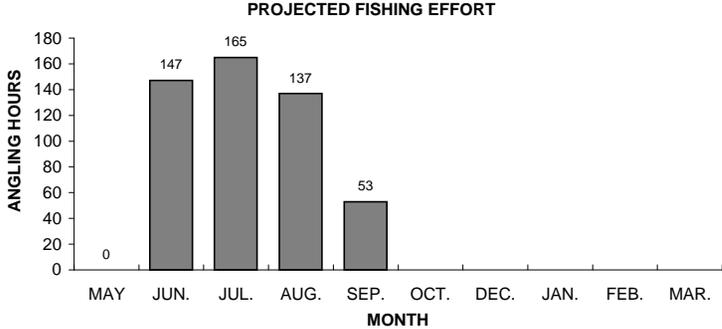
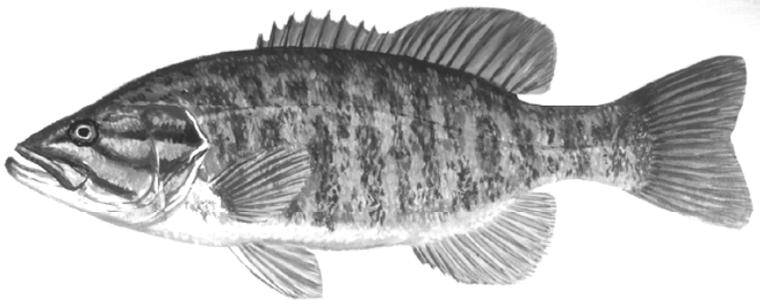


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

LARGEMOUTH BASS

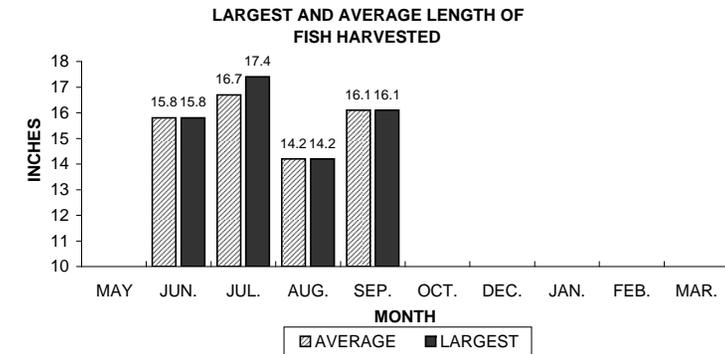
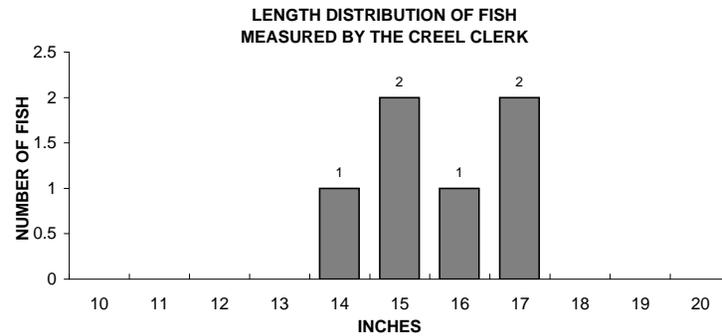
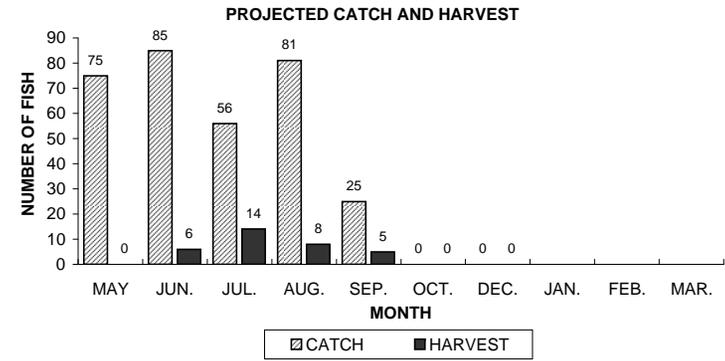
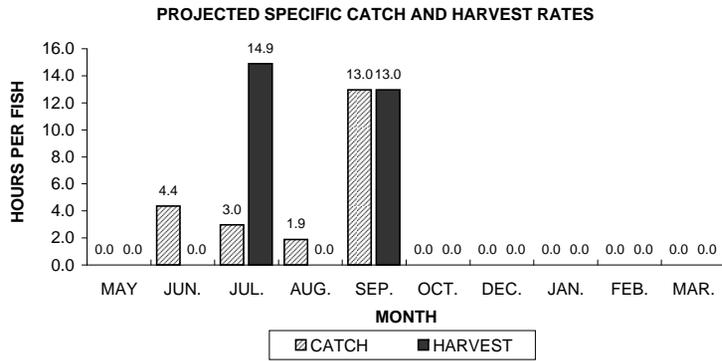
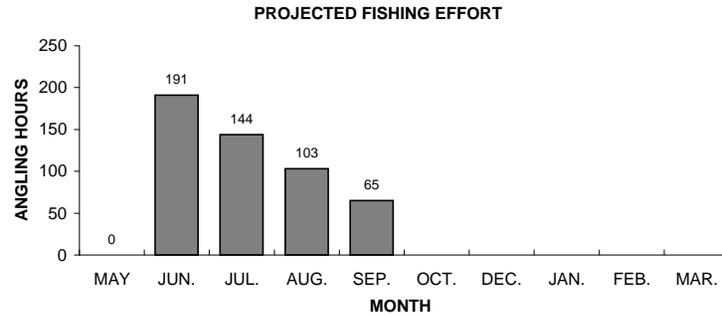
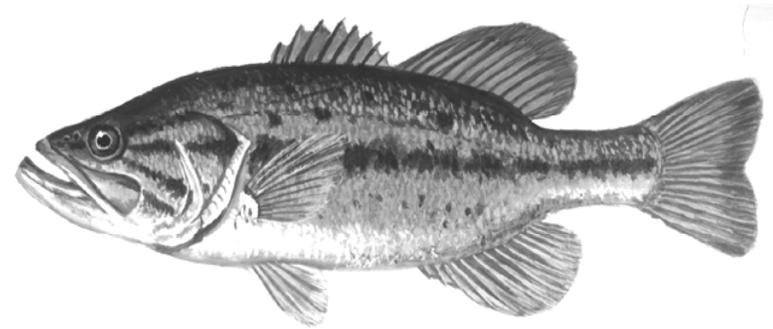


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

YELLOW PERCH

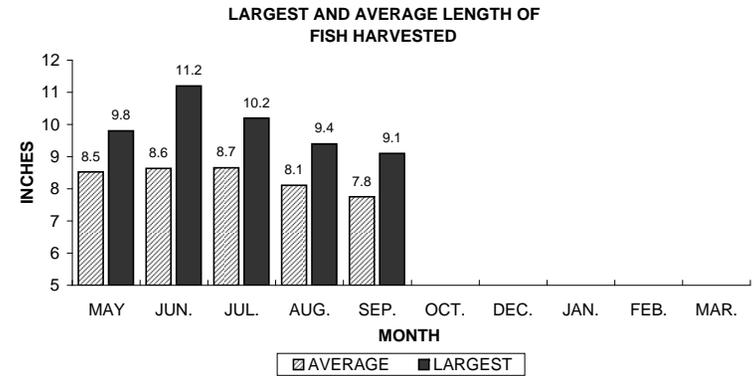
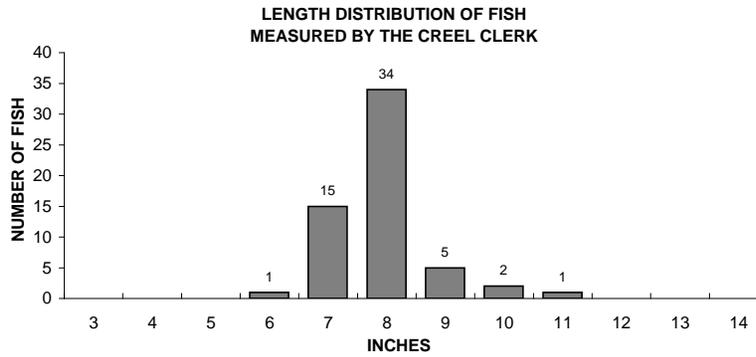
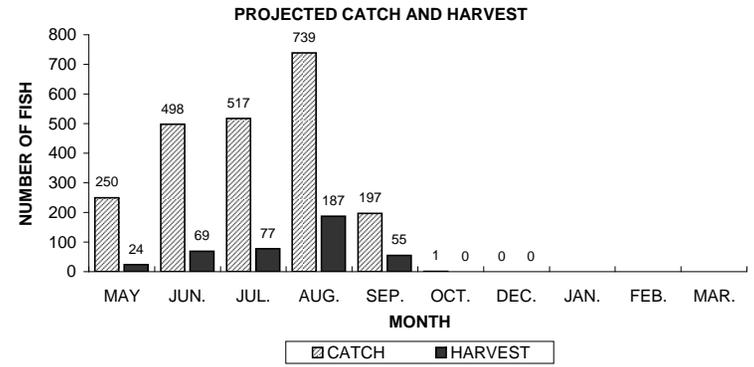
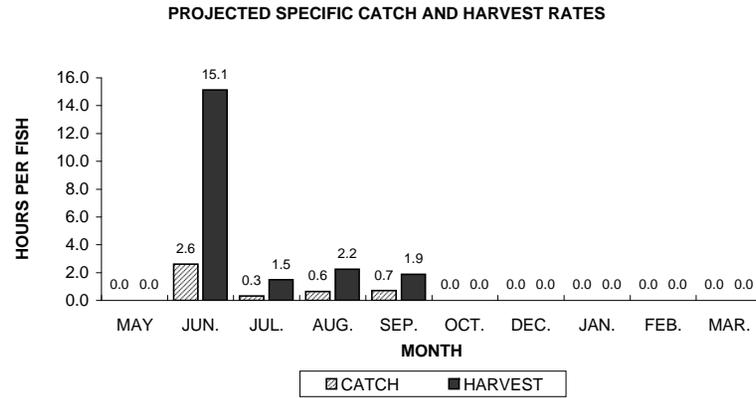
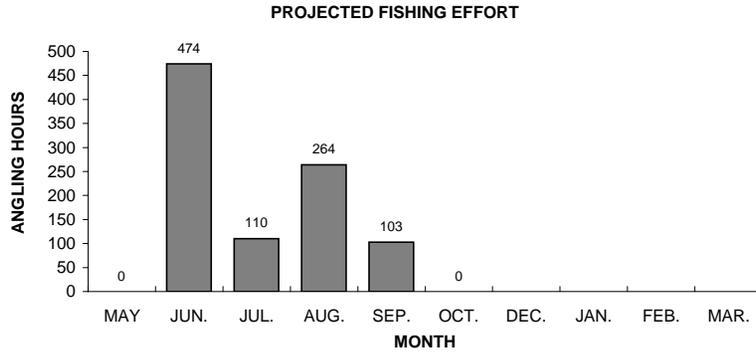
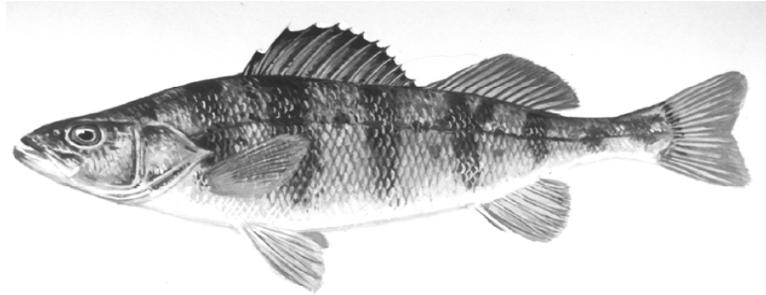


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

BLUEGILL

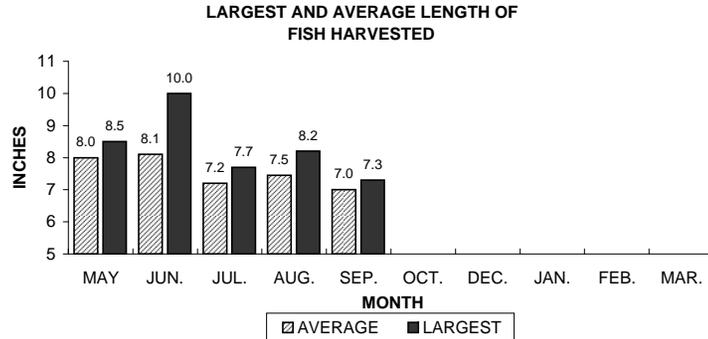
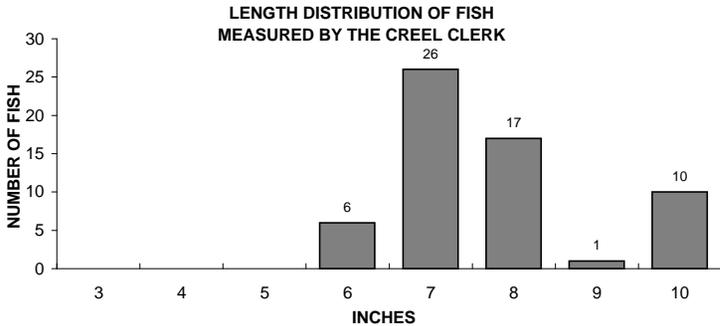
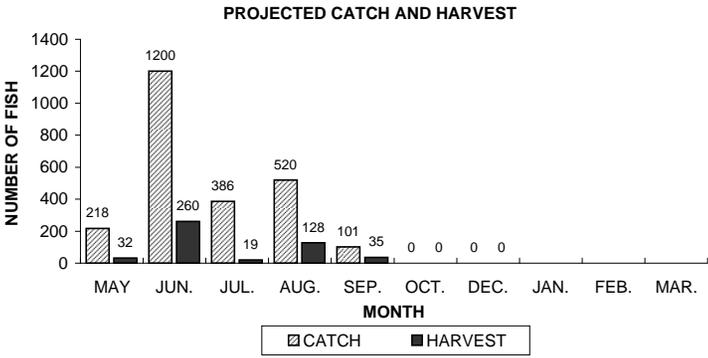
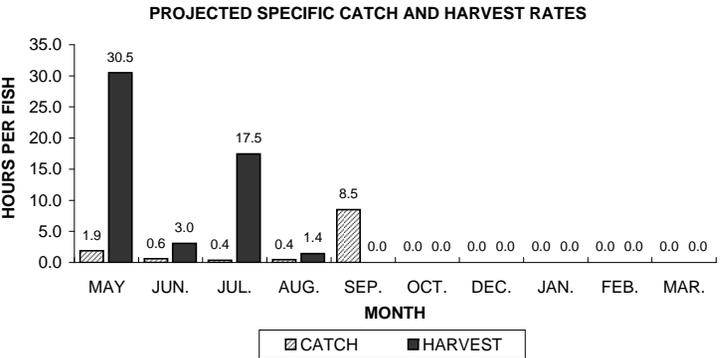
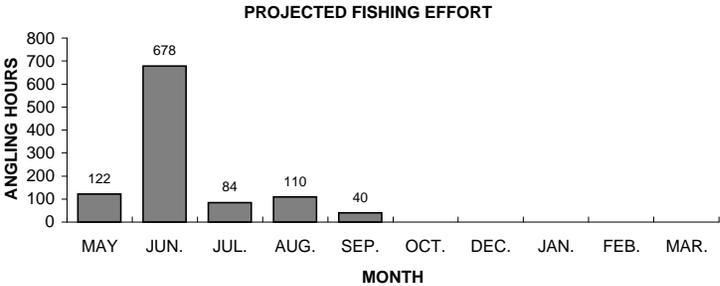
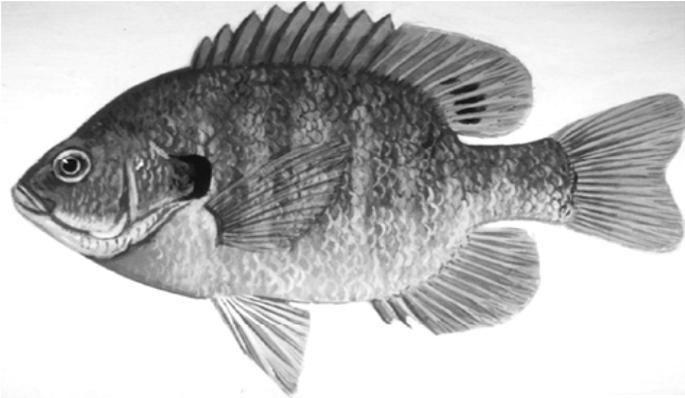
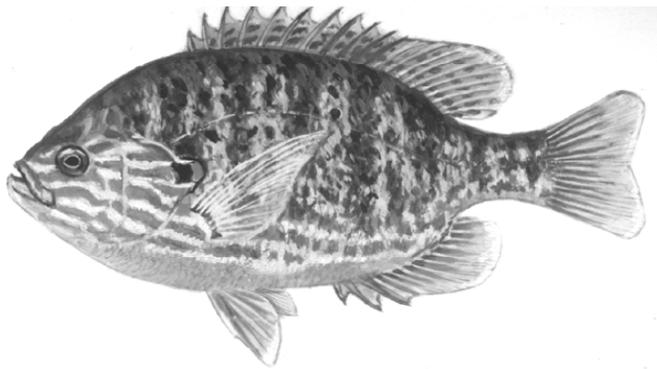


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

PUMPKINSEED



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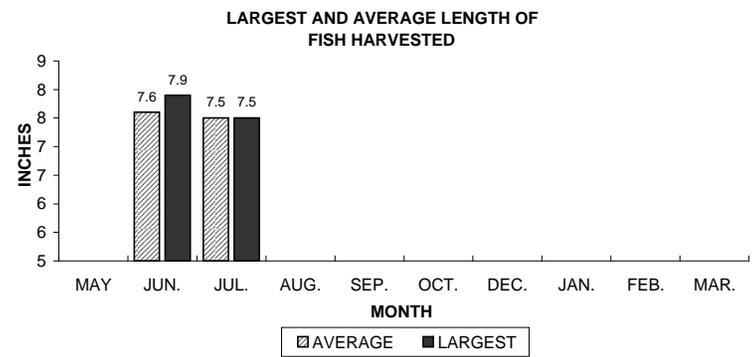
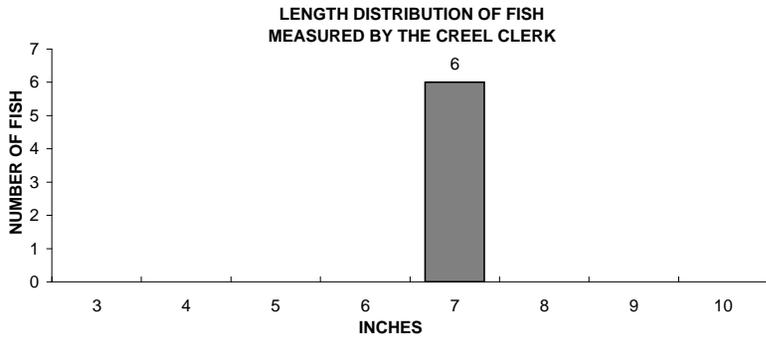
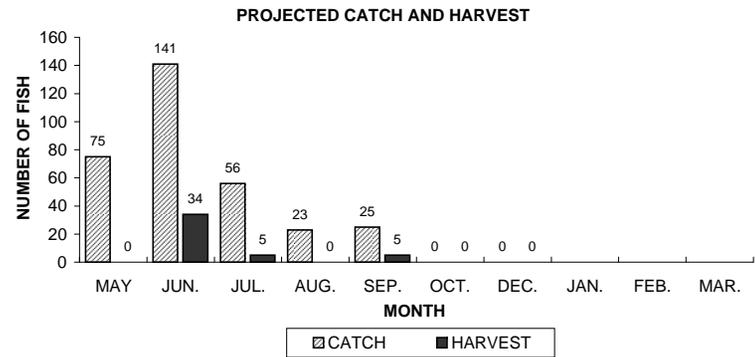


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

ROCK BASS

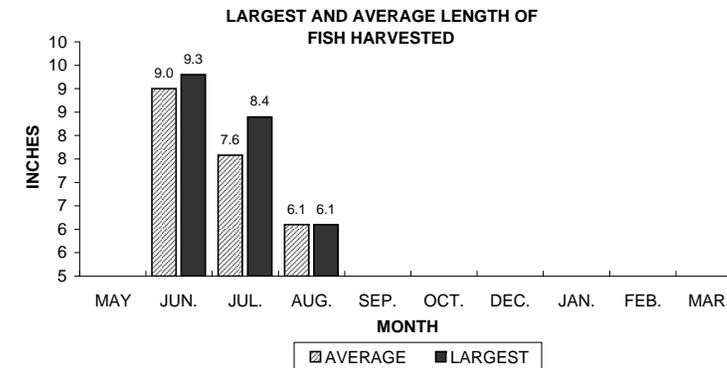
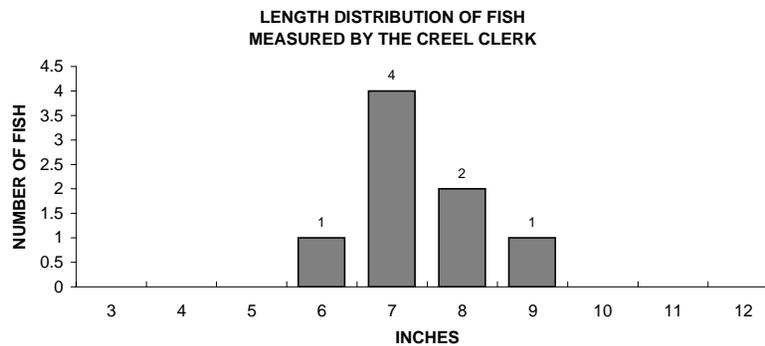
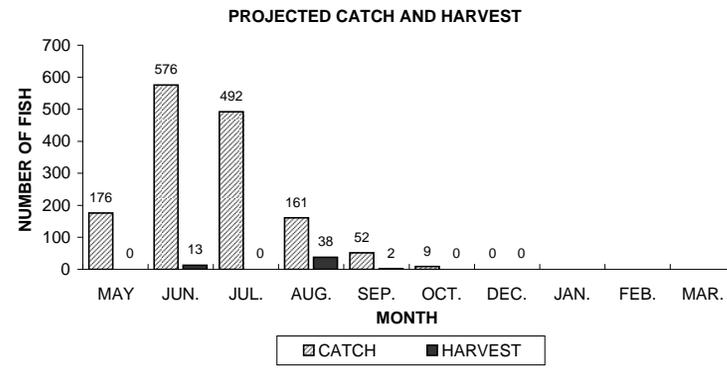
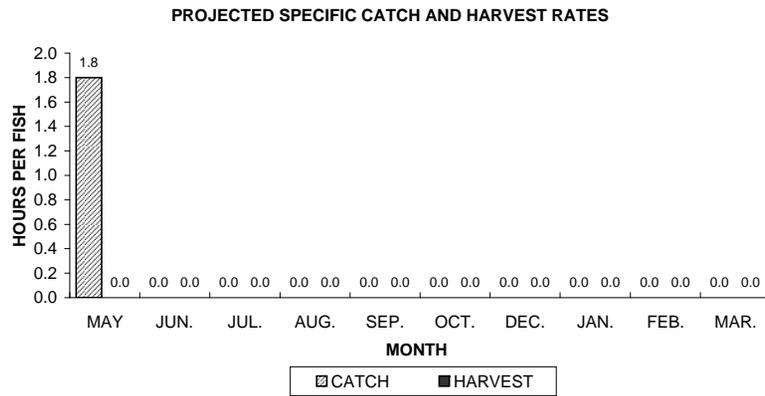
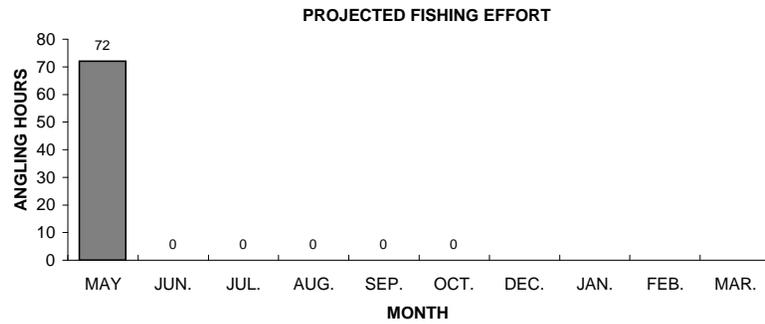
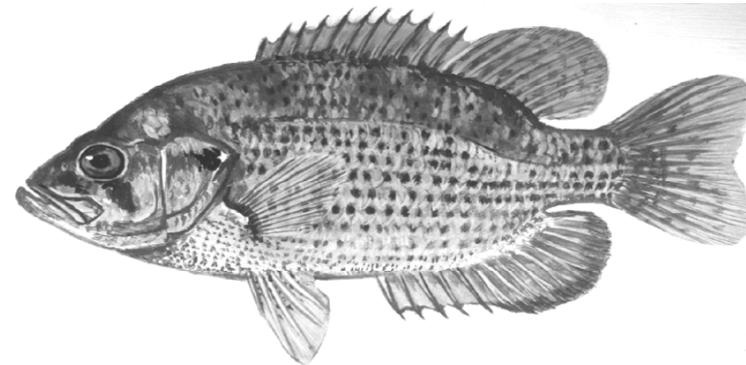


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.

BLACK CRAPPIE

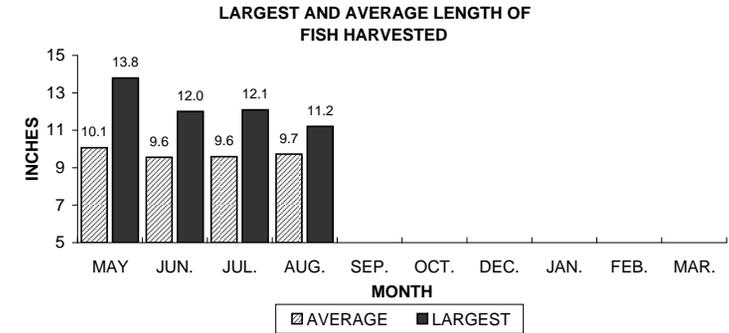
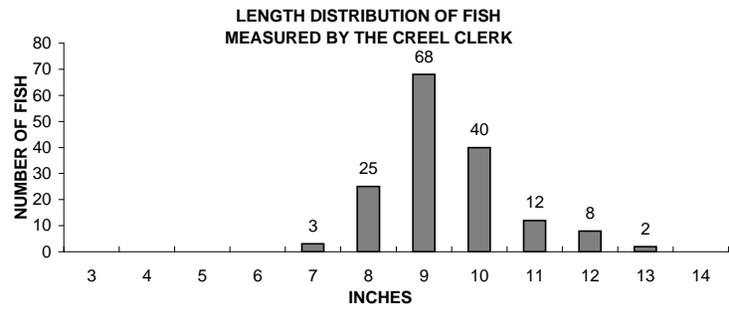
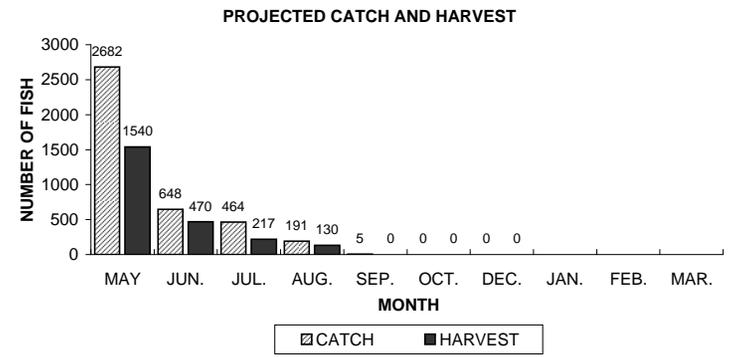
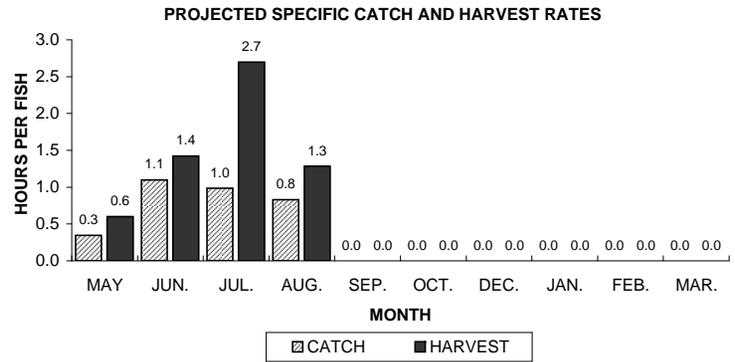
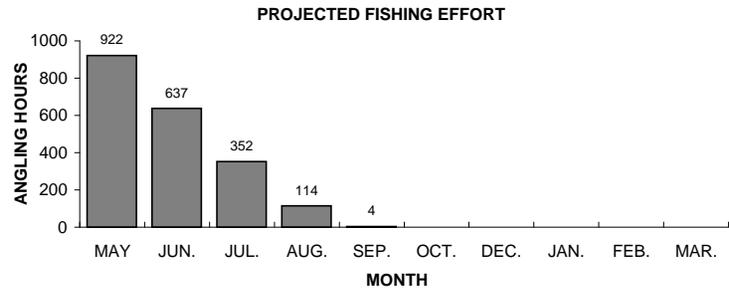
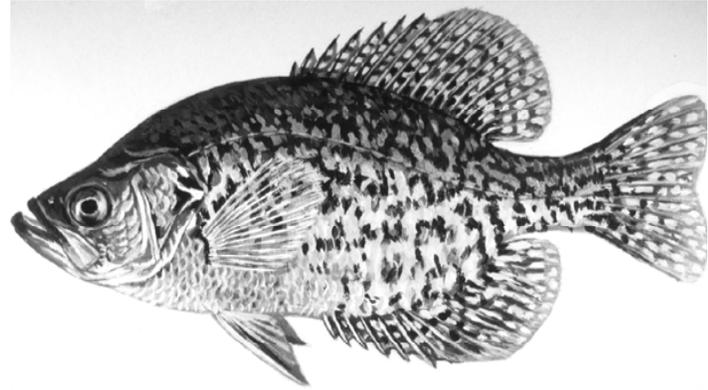


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Tenderfoot Lake, during 2009-10.