

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

TROUT LAKE

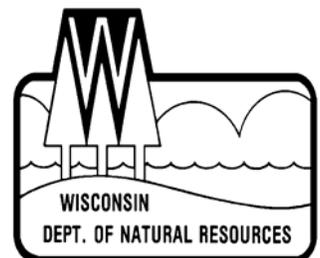
VILAS COUNTY

2010-11



Treaty Fisheries Publication

**Compiled by Tim Tobias
Treaty Fisheries Technician**



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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.

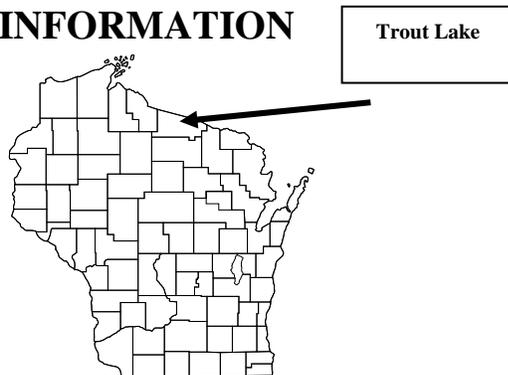
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

GENERAL LAKE INFORMATION



Location

Trout Lake is located in Vilas County south of the town of Boulder Junction.

Physical Characteristics

Trout Lake is a 3,816-acre drainage lake with a maximum depth of 117 feet and a mean depth of 49 feet making it the largest and deepest lake in Vilas County. Littoral substrate consists primarily of sand, gravel, and rubble, with lesser amounts of boulder and muck. Trout Lake is moderately fertile, with slightly alkaline water of high clarity. Relative density of aquatic plants in Trout Lake is low.

Seasons Surveyed

The period referred to in this report as the 2010 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 Trout Lake was around April 8, 2010, which is considered early for northern Wisconsin. Fishable-ice formed on Trout Lake around late December.

Sportfishing Regulations

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

Species	Season	Bag Limit	Min. Size
Largemouth & Smallmouth Bass	5/01-6/18	Catch&Release	
	6/19-3/06	1	18"
Musky	5/29-11/30	1	45"
Northern Pike	5/01-3/06	5	none
Walleye	5/01-3/06	3	15"
Panfish	all year	25	none
Lake Trout	5/01-09/30	1	30"
Lake Whitefish	all year	10	none
Rock Bass	all year	none	none

SPECIES CATCH AND HARVEST INFORMATION

Angling effort, catch, and harvest information is summarized for each species in Table 2 and Figures 1-10. 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 this 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 sixth time the Department conducted a creel survey of Trout Lake. The two previous surveys took place in 2004 and 2007.

General Angler Information

Anglers spent 25,151 hours or 6.6 hours per acre fishing Trout Lake during the 2010 season (Table 1). That was much lower than the statewide average of 33.6 hours per acre and the Vilas County average of 34.5 hours per acre. May was the most heavily fished month (1.6 hours per acre).

SPECIES INFORMATION

Walleye (Table 2; Figure 1)

Walleyes received the most fishing effort in Trout Lake during the 2010 season. Anglers spent 16,777 hours in 2010 targeting walleyes compared to 20,505 in 2007.

Walleye fishing effort was greatest in May (5,588 hours). December (334 hours)

received the least walleye effort.

Highest catch (1,231 fish) and harvest (782 fish) occurred in May. Anglers fished 4.9 hours to catch and 10.6 hours to harvest a walleye during 2010.

The mean length of harvested walleyes was 17.5 inches and the largest walleye measured was a 26.0-inch fish harvested in May.

Northern Pike (Table 2; Figure 2) Northern pike currently are a minor part of the Trout Lake fishery with only an estimated nine northern pike caught during this survey

Muskellunge (Table 2; Figure 3)

Muskellunge anglers spent 1,903 hours fishing Trout Lake during the 2010 season. Muskellunge fishing effort was greatest in September (601 hours).

Total catch of muskellunge was 20 with no fish harvested. Anglers fished 96.2 hours to catch a muskellunge during 2010.

Smallmouth Bass (Table 2; Figure 4)

Fishing effort targeted at smallmouth bass was 1,495 hours during the 2010 season. Smallmouth bass fishing effort was greatest in June (781 hours).

Catch was 923 fish and harvest was 2 fish. Highest catch (481 fish) occurred in June. Anglers fished 2.3 hours to catch a smallmouth bass during 2010.

Largemouth Bass (Table 2; Figure 5)

Only 49 hours of fishing effort was directed at largemouth bass during 2010. No largemouth bass were reported as caught by anglers.

Lake Trout (Table 2; Figure 6)

There were 1,570 hours of lake trout fishing

effort during 2010, which was more than the 2007 directed effort at 1,322 hours. 2010 lake trout fishing effort was greatest in July (724 hours).

The 2010 catch of lake trout was 638 fish with a projected harvest of 7 fish. The 638 lake trout caught was 38% higher than the 2007 catch of 461 fish. Anglers fished 7.3 hours to catch a lake trout in 2010. In 2010 it was estimated it would take 238.1 hours to harvest a lake trout.

Panfish (Table 2; Figures 7-9)

Yellow perch was the most sought after panfish during the 2010 survey. Yellow perch received the most directed effort of the panfish species (595 hours). The mean length of harvested yellow perch was 8.6 inches and the largest yellow perch measured was an 11.6-inch fish caught in June. Anglers fished 54 minutes to catch and 4.1 hours to harvest a yellow perch during 2010.

Other panfish caught during the survey, all in relatively low numbers, included bluegills, pumpkinseeds and rock bass.

Cisco (Lake Herring) (Table 2; Figure 10)

Fishing effort directed at ciscoes was 268 hours. Total catch of ciscoes was 267 fish with 69 harvested. The mean length of ciscoes harvested was 9.5 inches.

Lake Whitefish (Table 2; Figure 11)

Anglers fished 4,958 hours for lake whitefish during the 2010 season, which was more than 2007 season (3,280 hours). Lake whitefish fishing effort was greatest in February (1,733 hours).

Total catch was 2,152 whitefish with a harvest of 1,934 fish during the 2010 season, about 29% and 24% higher respectively than the 2007 season. Highest catch (702 fish) and harvest (656 fish) occurred in January.

Anglers fished 2.3 hours to catch and 2.6 hours to harvest a lake whitefish during 2010-11 season.

The mean length of harvested lake whitefish was 16.4 inches and the largest lake whitefish measured was a 20.0-inch fish harvested in October.

There is a fall recreational seining fishery for both whitefish and ciscoes on Trout Lake. This fishery was not monitored as part of the creel survey and harvest data is not projected in this publication.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the technical staff of the fisheries management and Treaty Fisheries Unit. Treaty staff responsible for ensuring completion of this survey included Jeff Blonski, Steve Kramer, Joelle Underwood, Marty Kiepkke, Jason Halverson, and Tim Tobias. Fisheries management staff included Steve Gilbert, Wes Jahns and Mike Vogelsang. Dean Johnson, Mike Rynski and Jeff Blonski were the creel clerks on Trout 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, Jim & Kim Wallner Trout Lake residents and Dan Jacoby of the Wisconsin DNR Trout Lake Station who generously allowed the Department to keep a boat and snowmobile on their property.

This creel report was reviewed by Steve Gilbert and Dennis Scholl of the Wisconsin Department of Natural Resources, Woodruff, Wisconsin.

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

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	5928	1.6	5.3	5.8
June	4732	1.2	6.8	6.1
July	3153	0.8	7.4	6.4
August	2623	0.7	6.4	5.4
September	1563	0.4	4.1	3.8
October	1468	0.4	2.0	1.6
December	802	0.2	0.5	1.7
January	1908	0.5	0.8	1.5
February	2158	0.6	1.0	1.3
March	817	0.2	0.2	**
*Summer Total	19467	5.1	32.1	29.1
*Winter Total	5684	1.5	2.4	4.5
Grand Total	25151	6.6	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 Trout 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 Trout 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 Trout Lake to other lakes statewide.

Table 2. Comparison of creel survey synopses, Trout Lake, 2010-11 and 2007-08 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	16777	60.27%	3445	4.9	1591	10.6	17.5
Northern Pike	60	0.22%	9	25.5	9	25.5	20.0
Muskellunge	1903	6.84%	20	96.2	0		
Smallmouth Bass	1495	5.37%	923	2.3	2	625.0	19.0
Largemouth Bass	49	0.18%	0		0		
Yellow Perch	595	5.38%	791	0.9	173	4.1	8.6
Bluegill	103	0.37%	7		0		
Lake Trout	1570	14.27%	638	7.3	7	238.1	30.2
Rock Bass	59	0.21%	237	1.3	40		
Cisco	268	0.96%	267	8.6	69	9.1	9.5
Whitefish	4958	17.81%	2152	2.3	1934	2.6	16.4

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

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

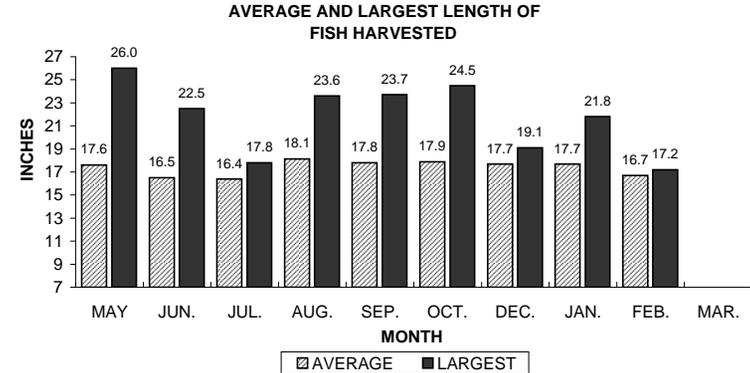
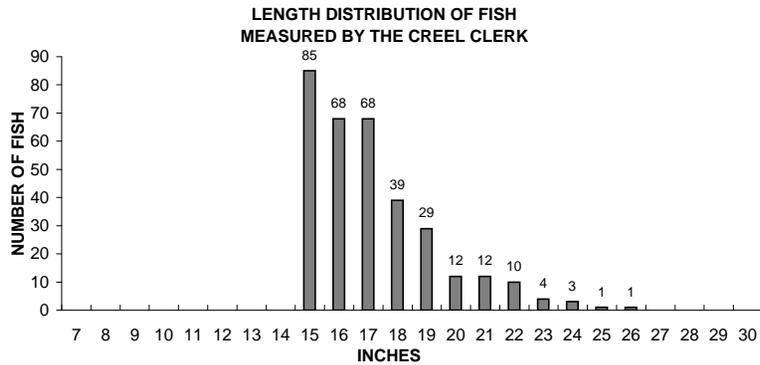
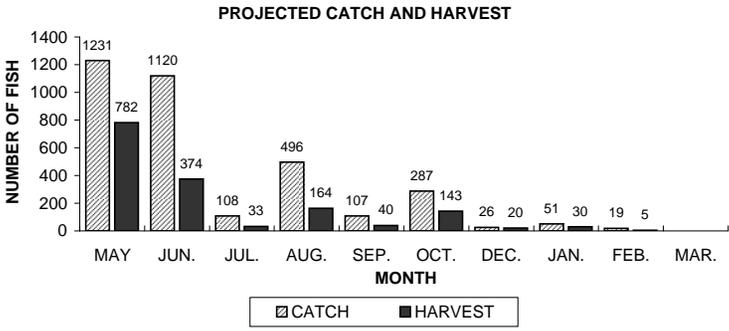
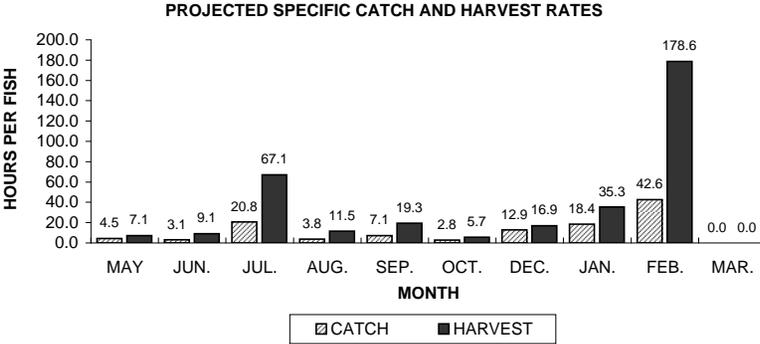
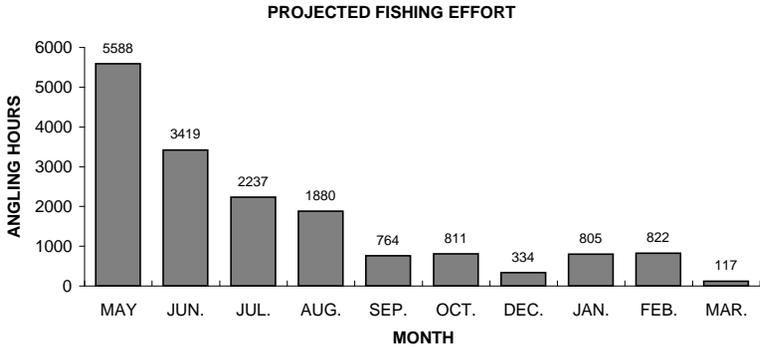
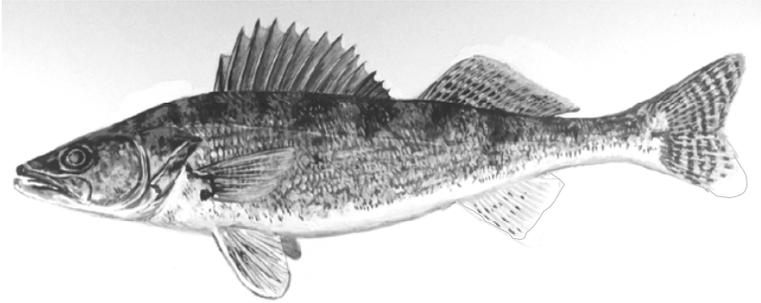
CREEL YEAR: 2007-08

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	20505	60.98%	6694	3.1	3011	6.8	17.8
Northern Pike	119	0.35%	41		4		24.7
Muskellunge	3638	10.82%	93	48.1	0		
Smallmouth Bass	3697	10.99%	2156	2.4	16	232.6	17.2
Largemouth Bass	113	0.34%	61	3.8	4		19.0
Yellow Perch	841	2.50%	1465	0.9	371	2.5	9.4
Bluegill	53	0.16%	31	15.2	9	15.2	10.0
Lake Trout	1322	3.93%	461	7.0	25	79.4	31.6
Rock Bass	37	0.11%	159	0.5	40	1.0	9.0
Cisco	23	0.07%	43	3.9	6	3.9	9.6
Whitefish	3280	9.75%	1669	2.0	1558	2.2	15.8

* 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.

WALLEYE



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

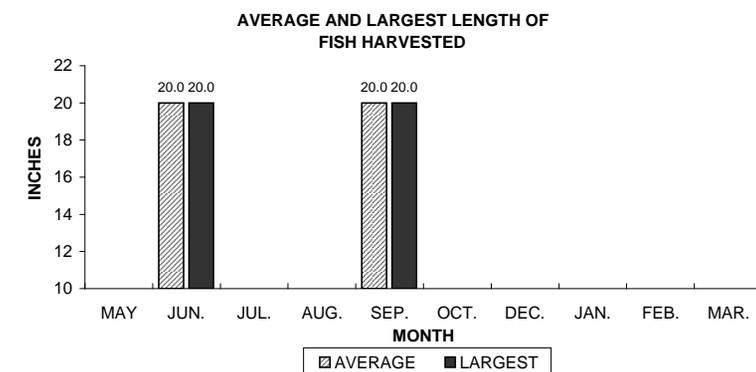
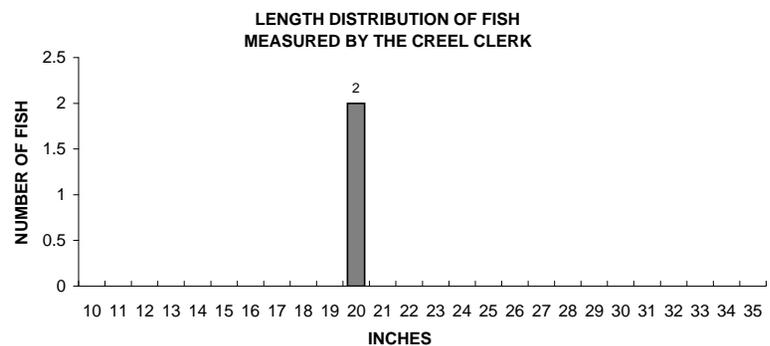
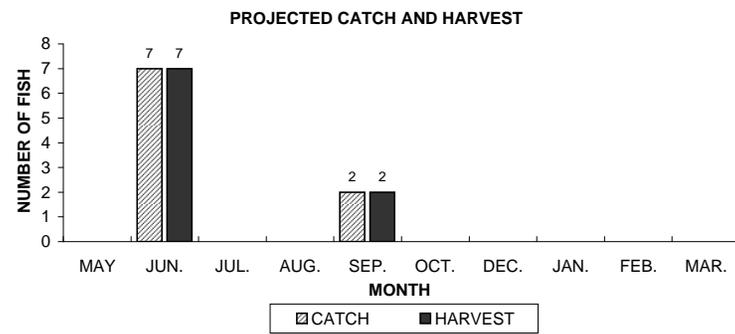
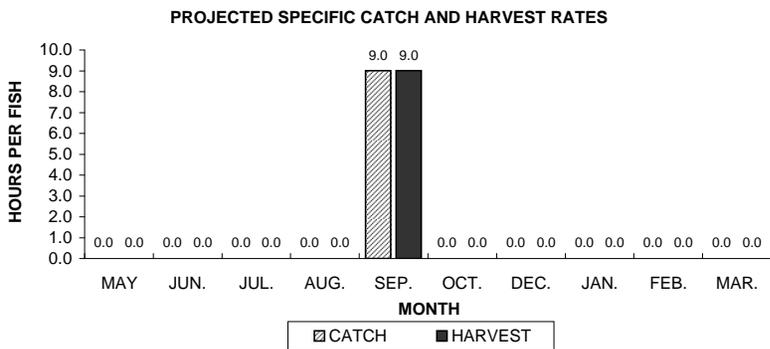
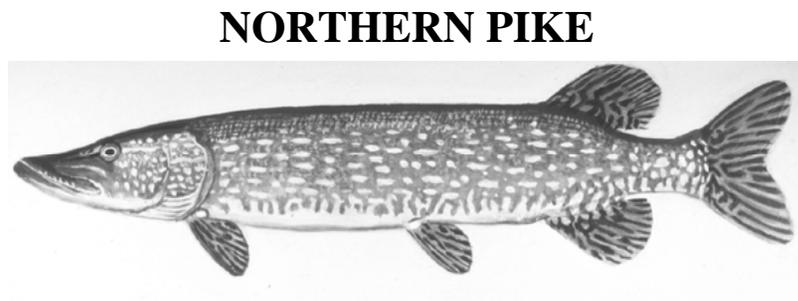
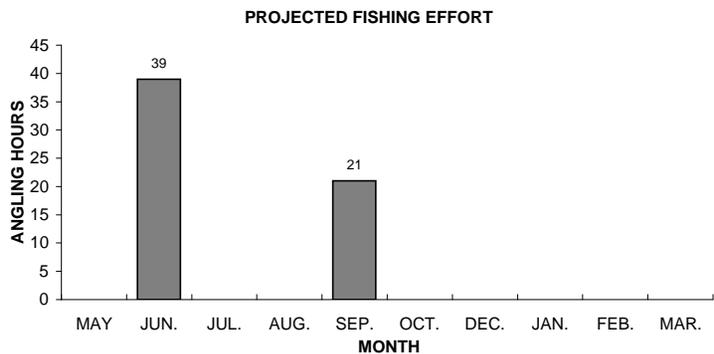
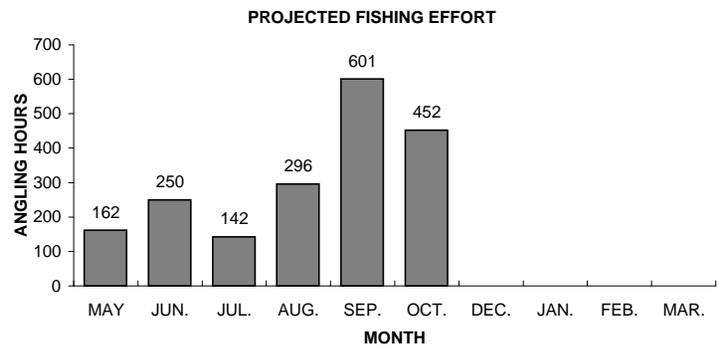


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.



MUSKELLUNGE

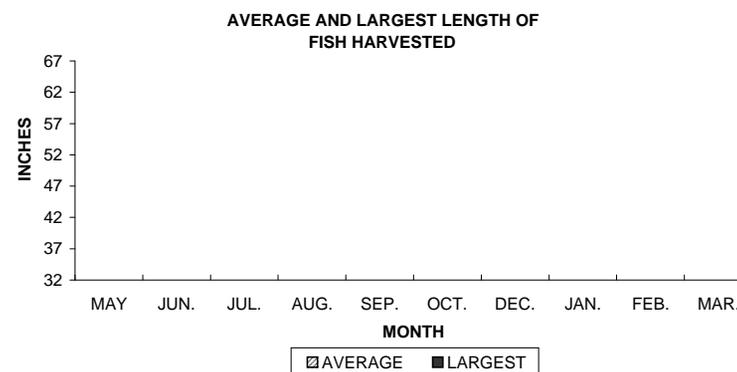
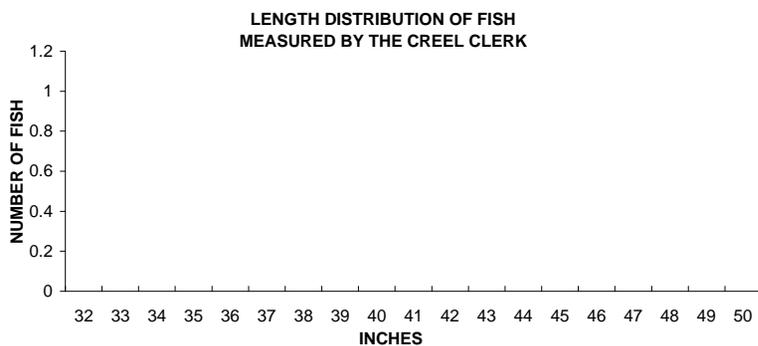
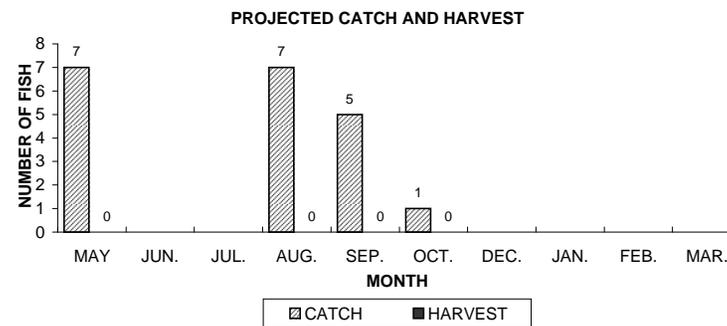
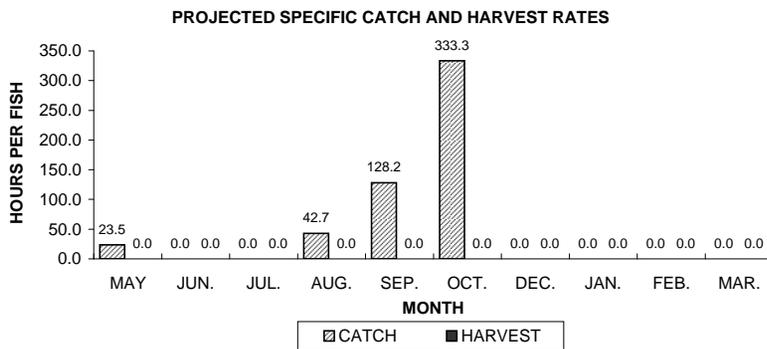
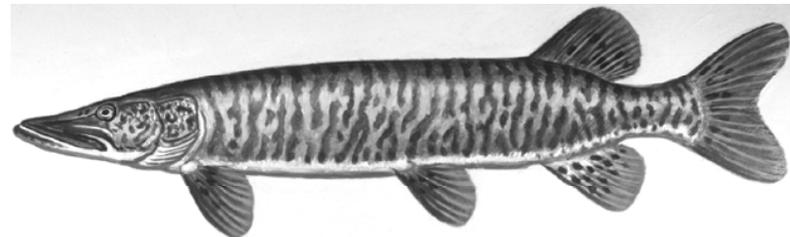


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

SMALLMOUTH BASS

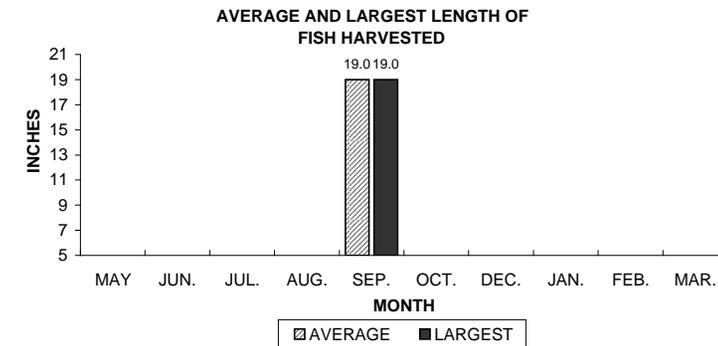
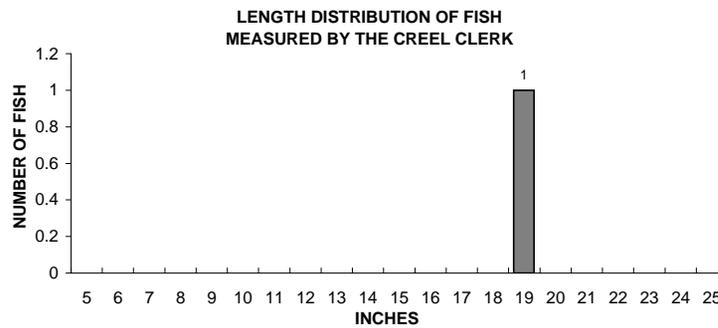
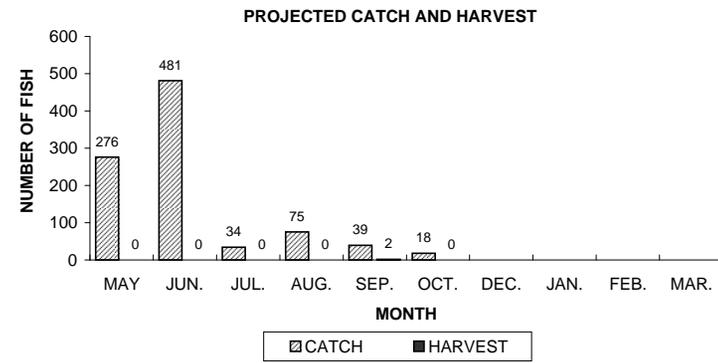
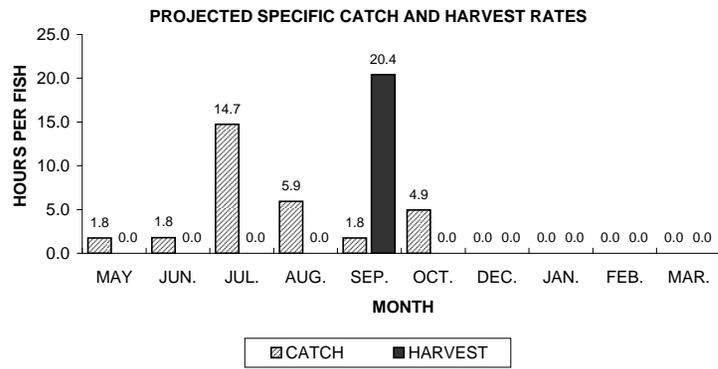
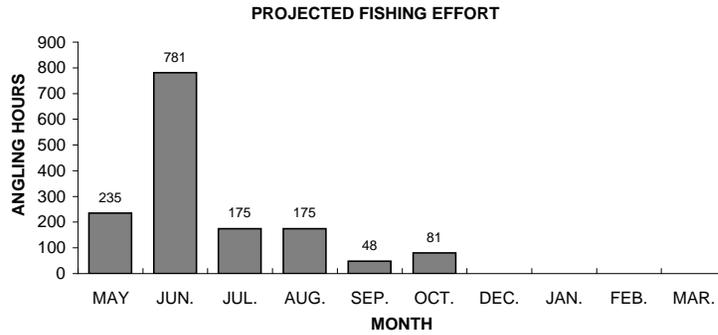
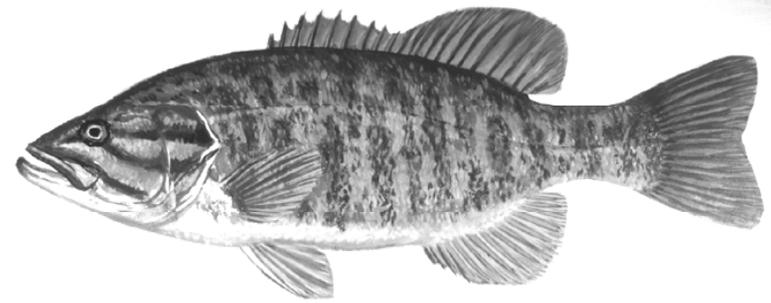


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

LARGEMOUTH BASS

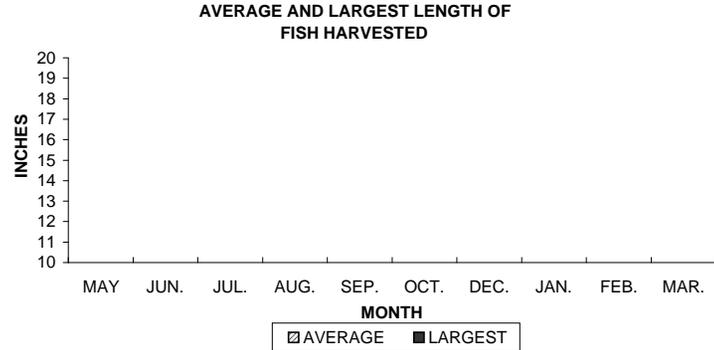
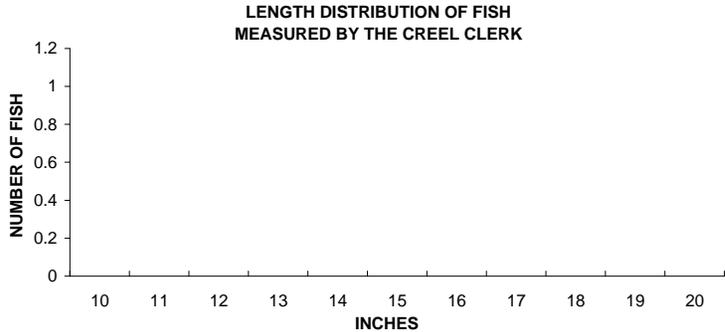
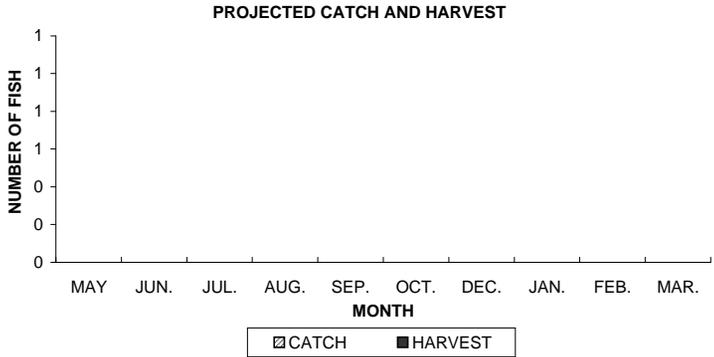
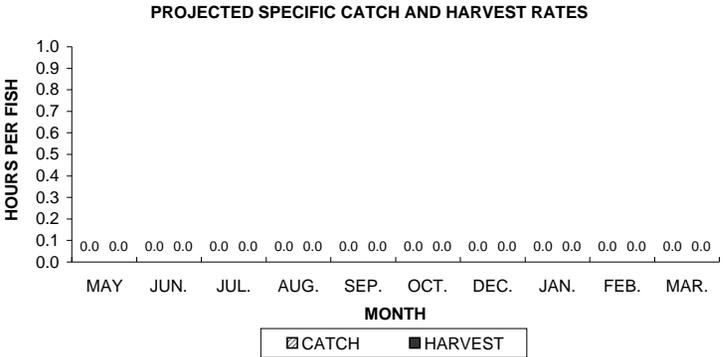
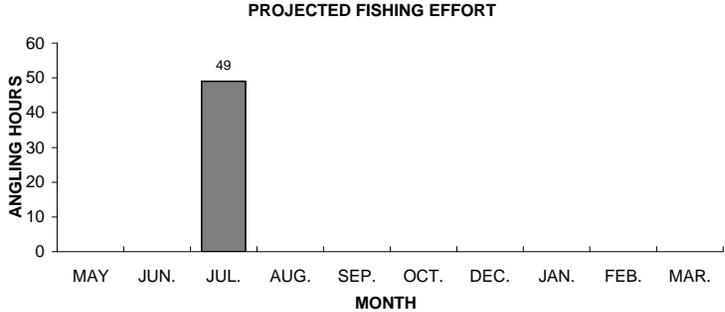
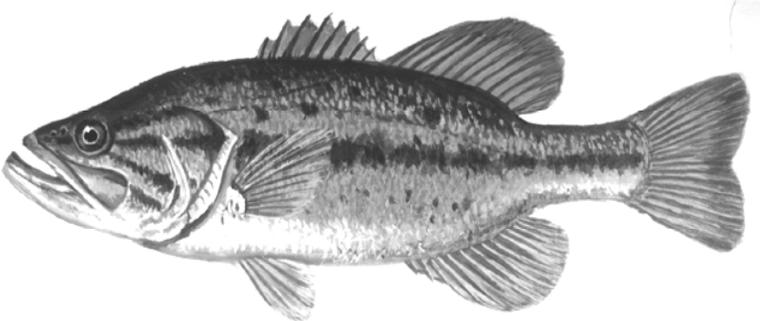


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

LAKE TROUT

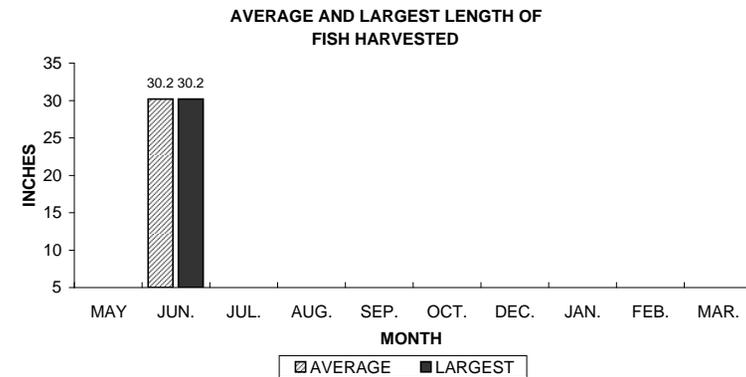
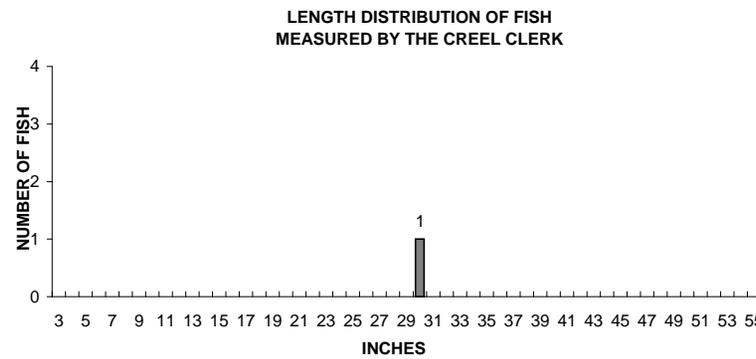
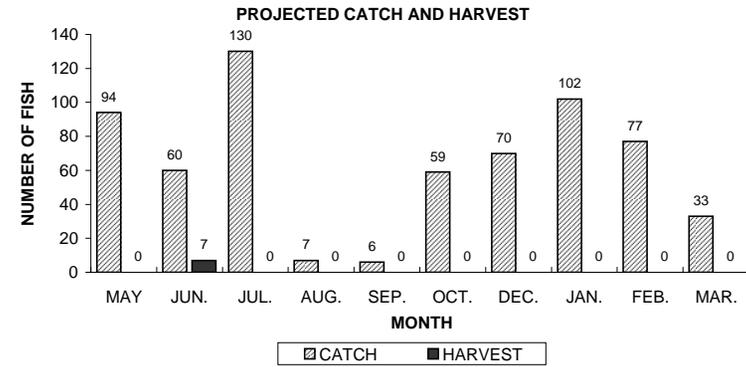
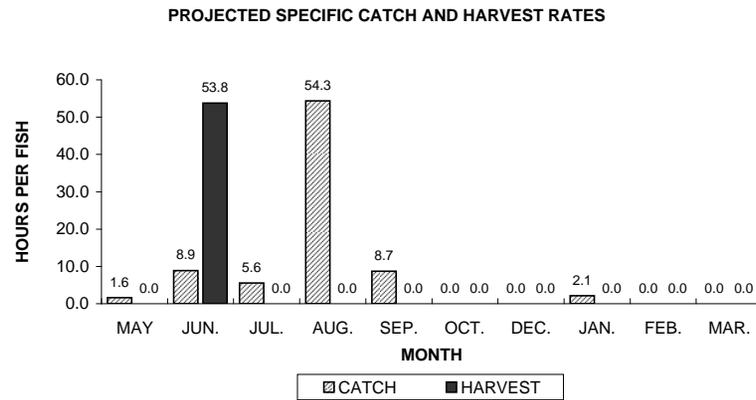
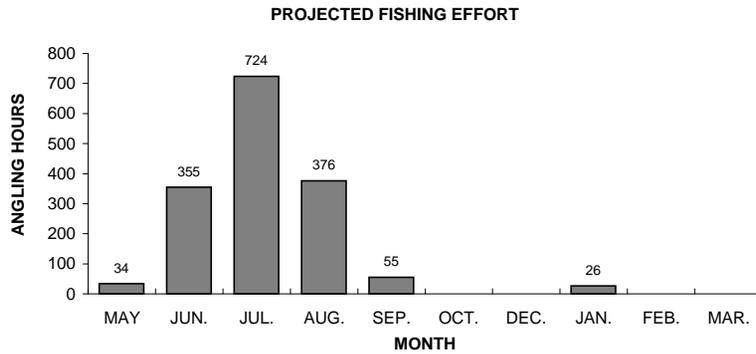


Figure 6. Lake Trout sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

YELLOW PERCH

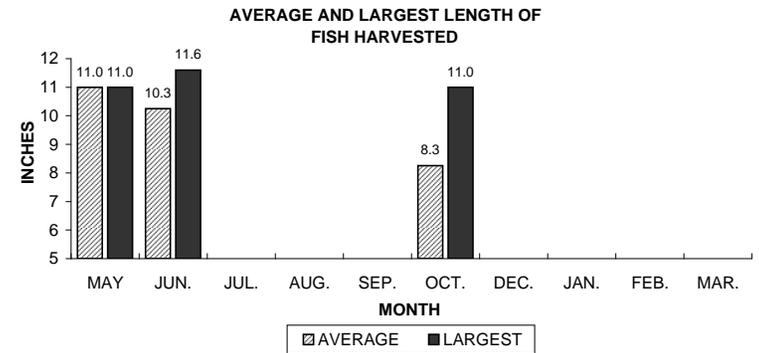
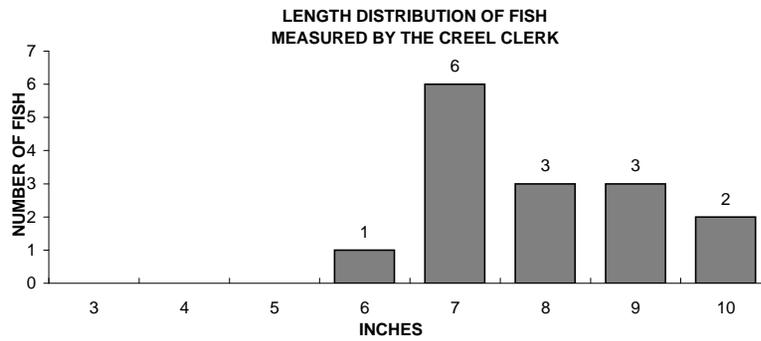
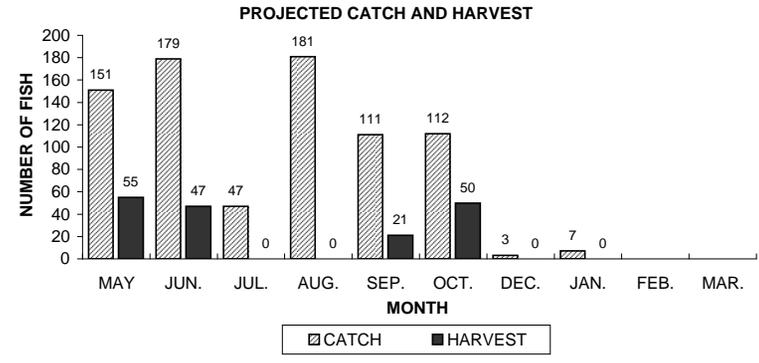
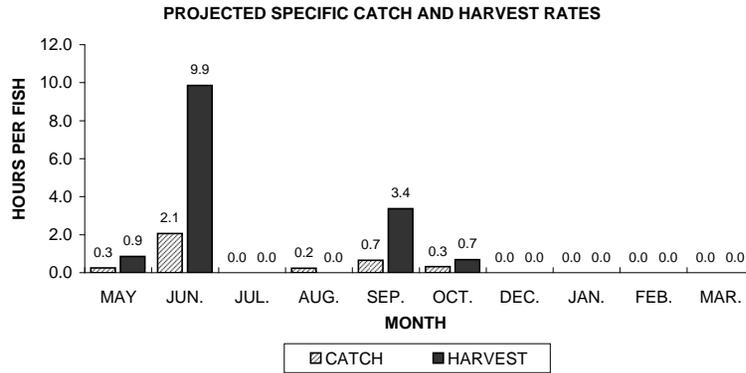
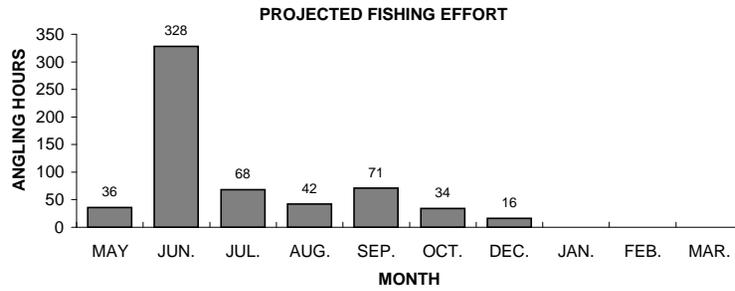
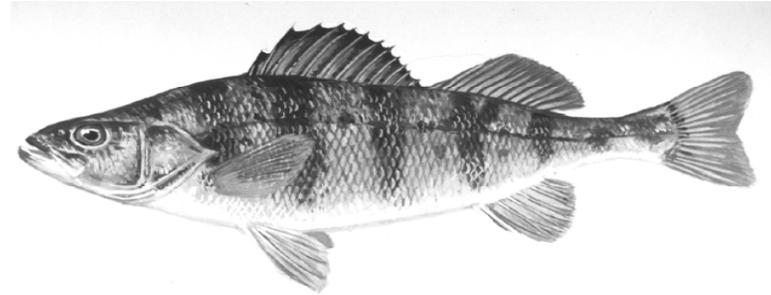


Figure 7. Yellow Perch sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

BLUEGILL

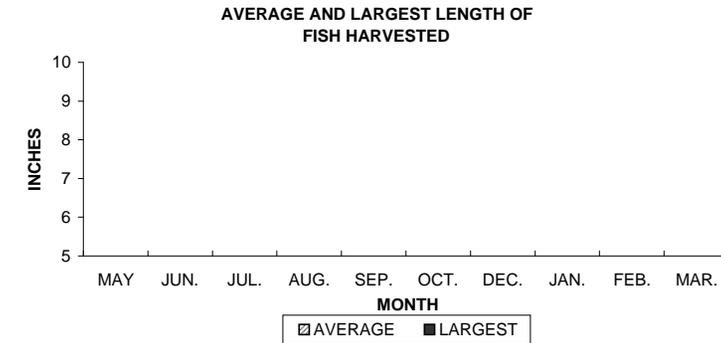
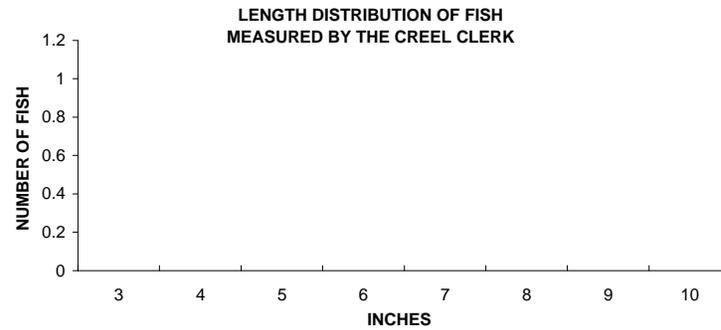
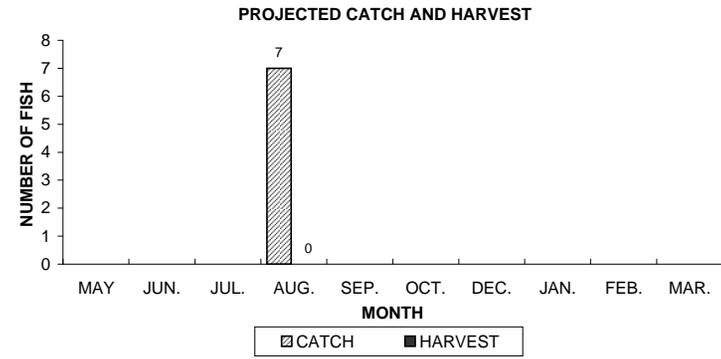
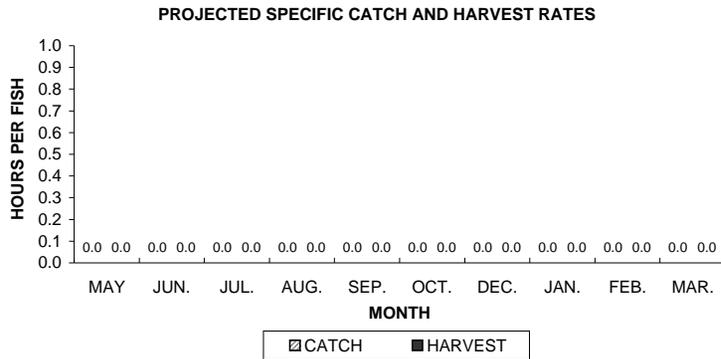
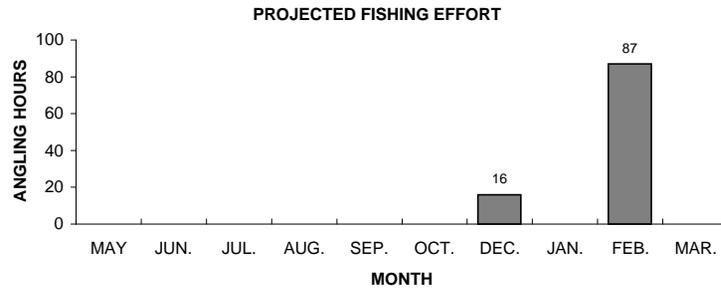
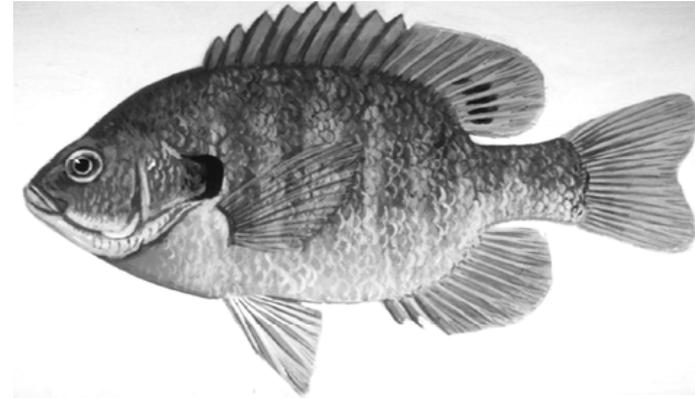


Figure 8. Bluegill sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

ROCK BASS

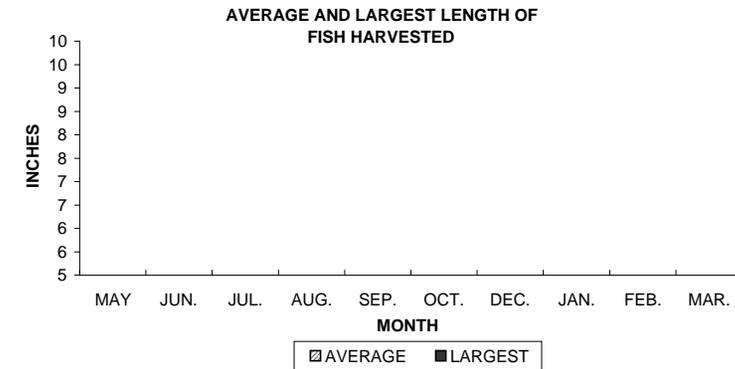
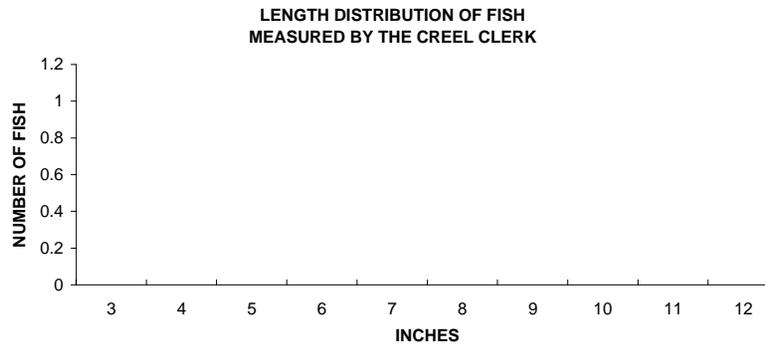
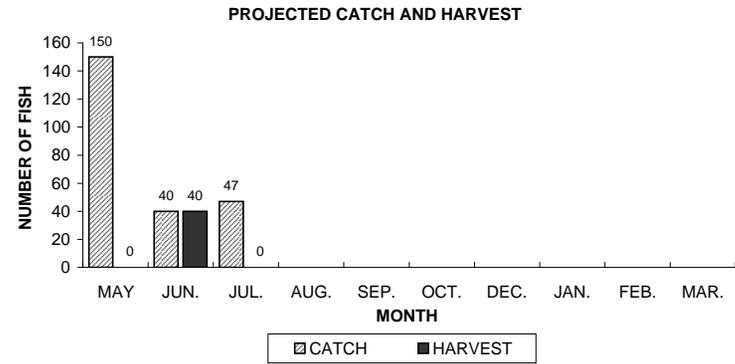
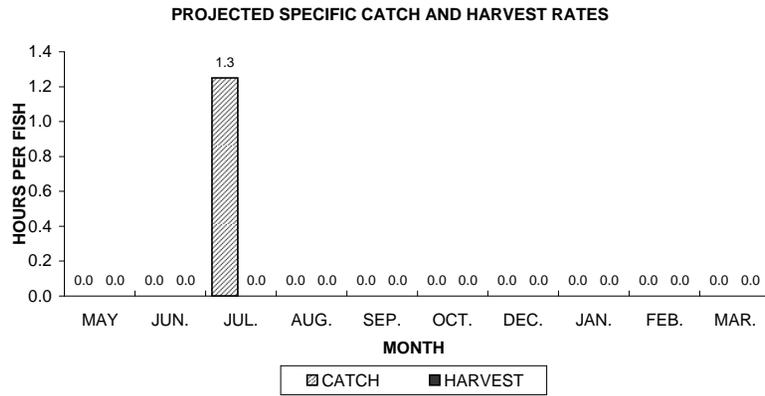
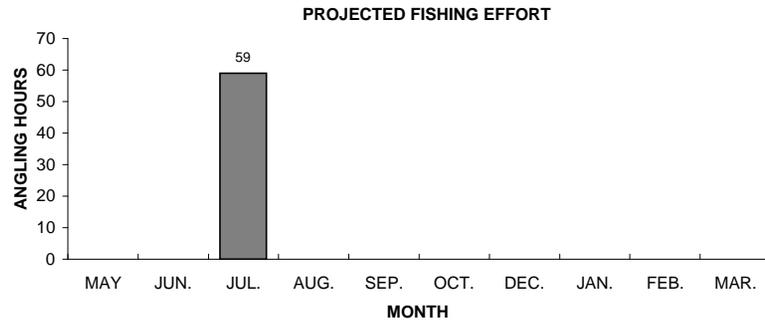
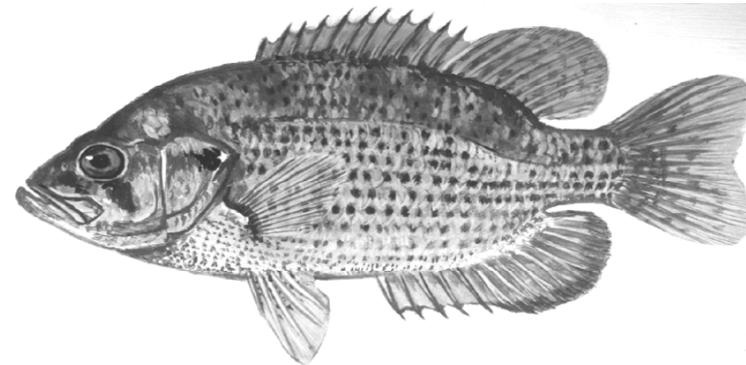


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

CISCO OR LAKE HERRING

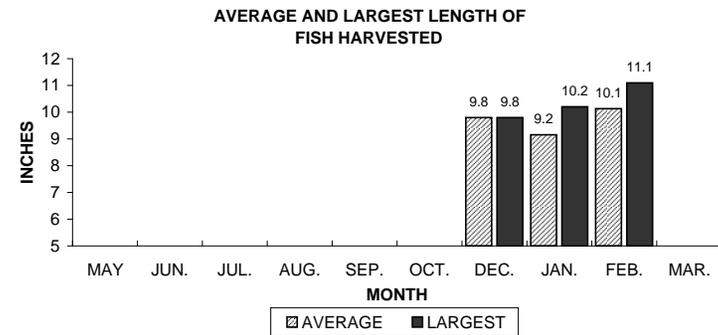
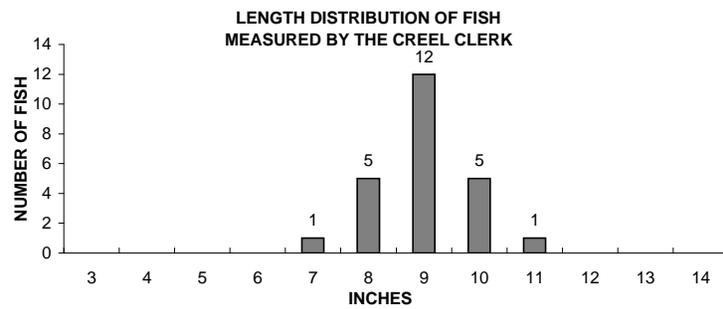
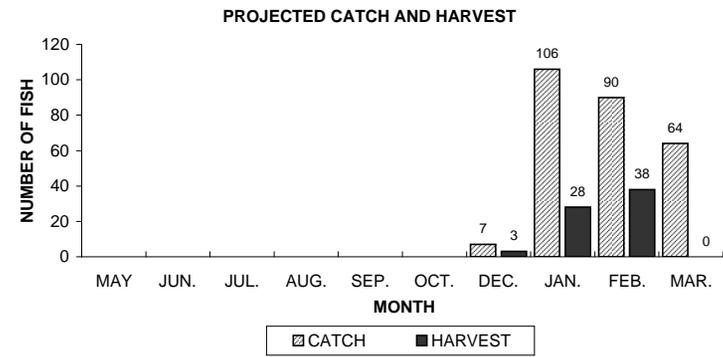
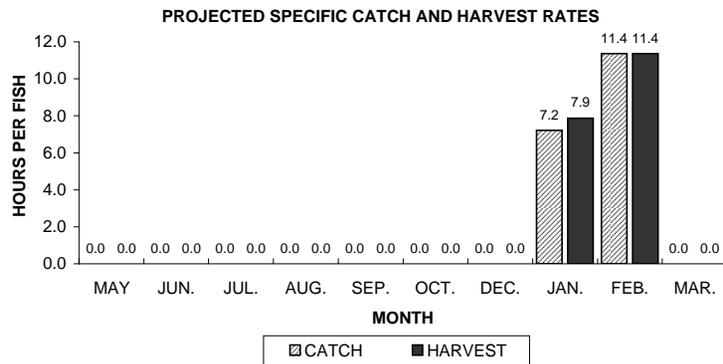
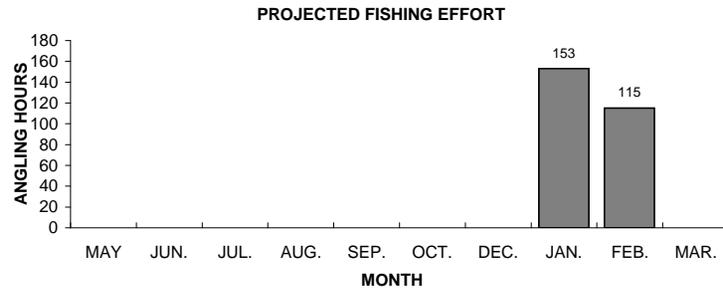


Figure 10. Cisco or Lake Herring sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.

LAKE WHITEFISH

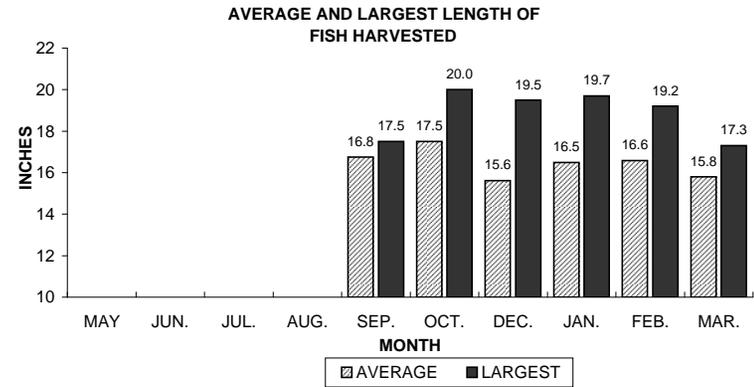
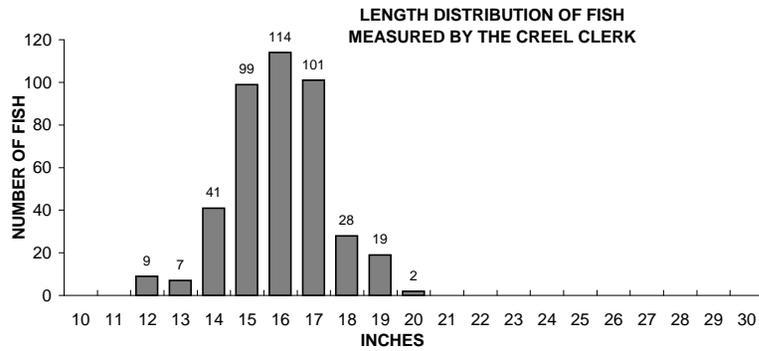
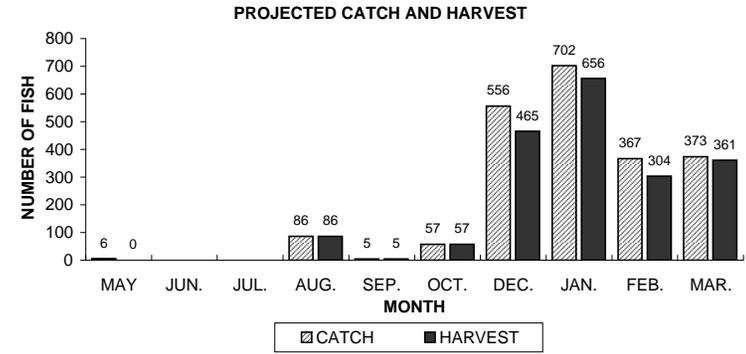
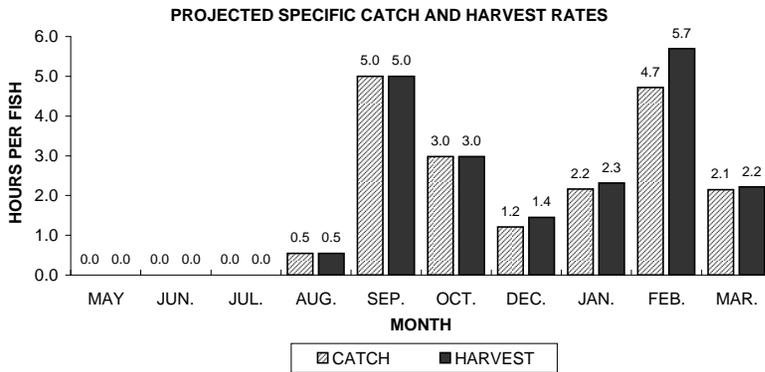
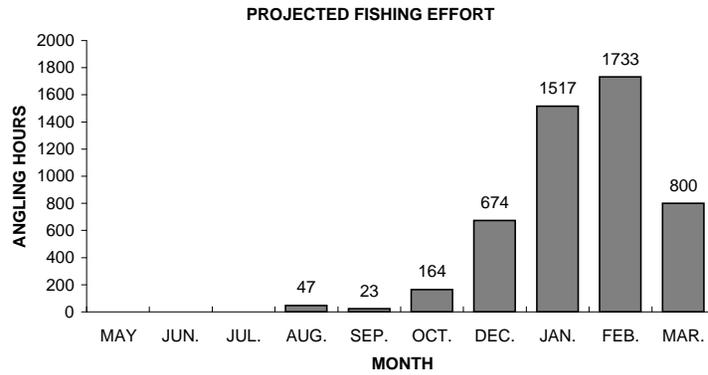


Figure 11. Lake Whitefish sportfishing effort, catch, harvest, and length distribution, Trout Lake, during 2010-11.