

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

RAINBOW FLOWAGE

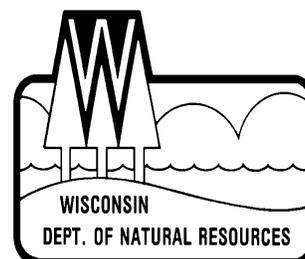
ONEIDA COUNTY

2012-13



Treaty Fisheries Publication

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Jeffrey Blonski
Treaty Fisheries Technician**



CONTENTS

INTRODUCTION.....	1
GENERAL LAKE INFORMATION.....	2
Location	2
Physical Characteristics	2
Seasons Surveyed.....	2
Weather	2
Sportfishing Regulations.....	2
SPECIES CATCH AND HARVEST INFORMATION.....	2
CREEL SURVEY RESULTS AND DISCUSSION.....	3
Survey Logistics.....	3
General Angler Information.....	3
SPECIES INFORMATION	3
ACKNOWLEDGMENTS	4

SUMMARY TABLES

Table 1. Sportfishing effort summary.....	5
Table 2. Creel survey synopsis.....	6
SPECIES CATCH AND HARVEST INFORMATION	
Gamefish	
Figure 1. Walleye.....	7
Figure 2. Northern Pike.....	8
Figure 3. Muskellunge	9
Figure 4. Smallmouth Bass	10
Figure 5. Largemouth Bass	11
Panfish	
Figure 6. Yellow Perch	12
Figure 7. Bluegill	13
Figure 8. Pumpkinseed.....	14
Figure 9. Rock Bass	15
Figure 10. Black Crappie	16

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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.

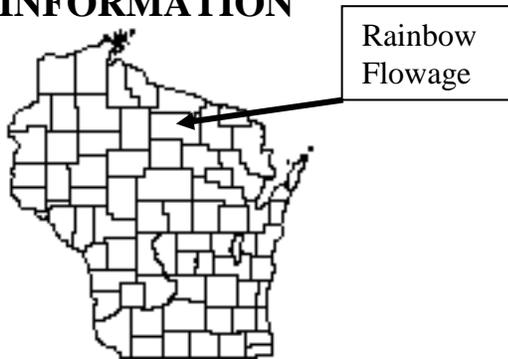
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

This report provides projections of:

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

GENERAL LAKE INFORMATION



Location

Rainbow Flowage is located in Oneida County in the Town of Newbold.

Physical Characteristics

Rainbow Flowage is a 2,035 acre impoundment of the Wisconsin Rivers with a maximum depth of 28 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck, and gravel. Rainbow Flowage is a soft water drainage lake with neutral, clear water of low transparency.

Seasons Surveyed

The period referred to in this report as the 2012-13 fishing season ran from May 5, 2012 through March 3, 2013. The open water creel survey ran from May 5 through October 31, 2012 and the ice fishing creel survey ran from December 1, 2012 through March 3, 2013.

Weather

Ice-out on Rainbow Flowage was around March 21, 2012. Fishable-ice formed on Rainbow Flowage in mid-December.

Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Rainbow Flowage during the 2012-13 fishing season:

Species	Season	Catch	Release
Largemouth Bass & Smallmouth Bass	5/5-6/15	5	14"
Musky	5/26-11/30	1	40"
Northern Pike	5/5-3/3	5	none
Walleye	5/5-3/3	2*	15"
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 Rainbow Flowage.

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 3 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 third time the department conducted a creel survey on Rainbow Flowage. The last creel survey took place in 1998-99.

General Angler Information

Anglers spent 66,576 hours or 26.5 hours per acre fishing the Rainbow Flowage during the 2012-13 fishing season (Table 1). That was less than the Oneida County average of 37.2 hours per acre. May was the most heavily fished month (6.6 hours per acre). Fishing effort was lightest in October (0.8 hours per acre) for those months when the entire month was creeled.

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)

Walleyes received the most fishing effort during the 2012-13 fishing season. Anglers spent 46,501 hours targeting walleyes. The greatest fishing effort for walleyes was in May (11,947 hours). October had the least amount of walleye fishing effort (1,109 hours) for a full month creeled.

Total catch of walleyes was 10,546 fish with a harvest of 4,221 fish. Highest catch (3,651 fish) and harvest (1,803 fish) occurred in May. Anglers fished 3.6 hours to catch and 9.2 hours to harvest a walleye during the open water season. Ice anglers fished 15.1 hours to catch and 32.1 hours to harvest a walleye during the winter.

The largest walleye measured was a 28.1 inch fish caught in December.

Northern Pike (Table 2, Figure 2)

Fishing effort directed at northern pike was 18,384 hours during the 2012-13 fishing season. Northern pike fishing effort was greatest in January (4,915 hours).

Total catch of northern pike was 7,858 fish with a harvest of 2,106 fish.

The largest northern pike measured was a 37.2 inch fish caught in May.

Muskellunge (Table 2, Figure 3)

Anglers spent 1,156 hours targeting muskellunge during the 2012-13 fishing season. Muskellunge fishing effort was greatest in August (410 hours).

Total catch of muskellunge was 54 fish. Highest catch (41 fish) occurred in July. Anglers fished 44.2 hours to catch a muskellunge.

Smallmouth Bass (Table 2, Figure 4)

Fishing effort targeted at smallmouth bass was 7,268 hours during the 2012-13 fishing season. Smallmouth bass fishing effort was greatest in August (1,656 hours).

Total catch of smallmouth bass was 4,542 fish with 807 harvested. Highest catch (1,020 fish) occurred in August. The largest smallmouth bass measured was a 20.7 inch fish.

Largemouth Bass (Table 2, Figure 5)

Fishing effort directed at largemouth bass was 2,295 hours during the 2012-13 fishing season. Largemouth bass fishing effort was greatest in February (1,094 hours).

Total catch of largemouth bass was 260 fish with a harvest of 23 fish. Highest catch (115 fish) occurred in June. The largest largemouth bass measured was a 16.2 inch fish.

Panfish (Table 2, Figures 6-10)

Yellow perch were the most sought after panfish species during the survey. Fishing effort directed at yellow perch was 22,629 hours.

Total catch of yellow perch was 12,343 fish with 5,677 harvested. The mean length of yellow perch harvested was 9 inches.

Black crappies were the second most sought after panfish species during the survey. Fishing effort directed at black crappies was 10,978 hours.

Anglers caught 4,326 black crappies and harvested 2,705 fish. The mean length of black crappies harvested was 10.2 inches.

Bluegills were the third most sought after panfish species during the survey. Fishing

effort directed at bluegills was 7,872 hours.

Total catch of bluegills was 4,187 fish with 1,832 harvested. The mean length of bluegills harvested was 7.2 inches.

Pumpkinseeds and rock bass were also caught during the 2012-13 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 Jonathan Pyatskowitz, Jeff Blonski, Joelle Underwood, Marty Kiepkke, Jason Halverson, and Tim Tobias. Dean Johnson and Keith Worrall were the creel clerks on Rainbow Flowage 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, Wisconsin Valley Improvement Company, who generously allowed the department to keep a snowmobile on their property during this survey.

This creel report was reviewed by John Kubisiak (DNR, Rhinelander) and Dennis Scholl (DNR, Woodruff) 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, Rainbow Flowage, 2012-13 season.

Month	Total Angler Hours	Total Angler Hours/Acre	Oneida County Average Hours/Acre	Statewide Average Hours/Acre
May	13426	6.6	5.4	5.8
June	9023	4.4	7.3	6.1
July	5911	2.9	8.3	6.4
August	6322	3.1	6.3	5.4
September	4833	2.4	3.7	3.8
October	1646	0.8	1.7	1.6
December	3610	1.8	1.2	1.7
January	5210	2.6	1.5	1.5
February	3289	1.6	1.5	1.3
March	598	0.3	0.2	**
*Summer Total	53869	20.2	32.8	29.1
*Winter Total	12707	6.2	4.4	4.5
Grand Total	66576	26.5	37.2	33.6

**"Summer" is May-October; "Winter" is December-March

**Too few lakes have been surveyed in March to give a meaningful statewide average.

Total Angler Hours is the estimated total number of hours that anglers spent fishing on Rainbow Flowage 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 Rainbow Flowage 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 Rainbow Flowage to other lakes statewide.

Table 2. Creel survey synopses, Rainbow Flowage, 2012-13 fishing seasons.

CREEL YEAR: 2012-13

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SUMMER SPECIFIC CATCH RATE (Hrs/Fish) *	WINTER SPECIFIC CATCH RATE (Hrs/Fish) *	TOTAL HARVEST	SUMMER SPECIFIC HARVEST RATE (Hrs/Fish) **	WINTER SPECIFIC HARVEST RATE (Hrs/Fish) **	MEAN LENGTH OF HARVESTED FISH
Walleye	46501	39.67%	10546	3.6	15.1	4221	9.2	32.1	17.0
Northern Pike	18384	15.68%	7858	2.3	11.0	2106	6.7	17.5	23.6
Muskellunge	1156	0.99%	54	44.2		0			
Smallmouth Bass	7268	6.20%	4542	2.3	18.4	807	8.4	19.4	17.3
Largemouth Bass	2295	1.96%	260	8.9		23	52.6		14.9
Yellow Perch	22629	19.30%	12343	1.8	3.2	5677	3.6	7.0	9.0
Bluegill	7872	6.72%	4187	1.1	4.3	1832	2.1	11.0	7.2
Pumpkinseed	138	0.12%	148	1.3	4.1	84	2.1	4.1	6.7
Rock Bass	0	0.00%	475			104			8.3
Black Crappie	10978	9.37%	4326	2.2	3.2	2705	4.2	4.6	10.2

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

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

WALLEYE

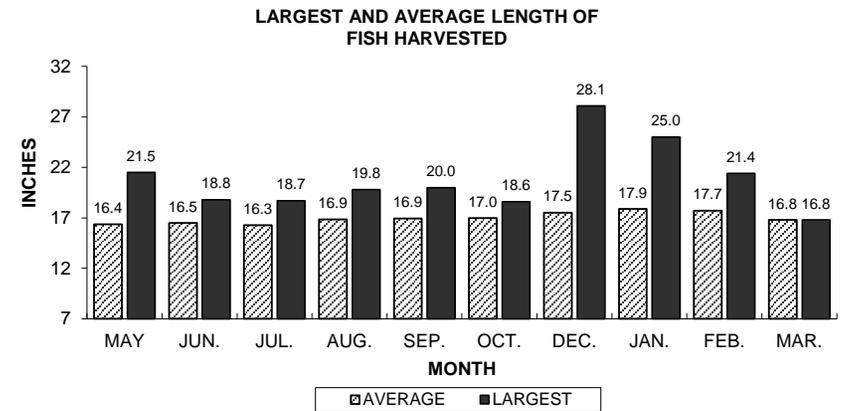
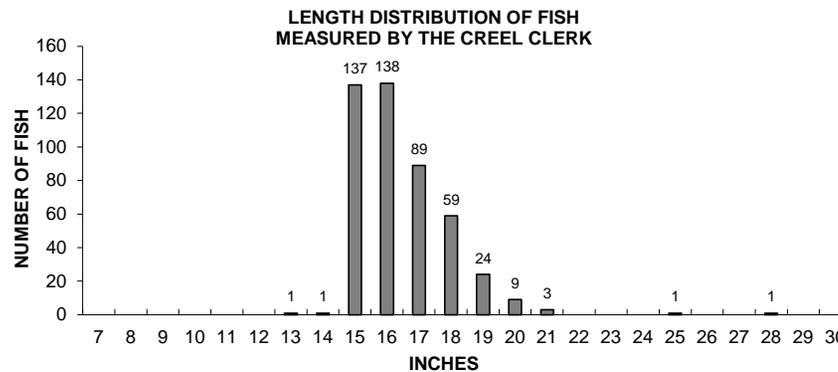
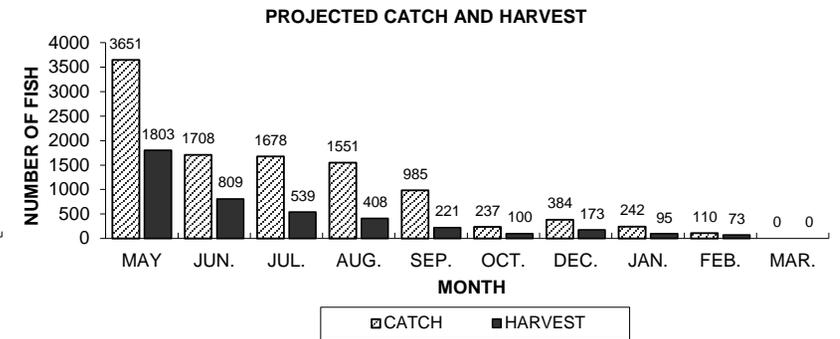
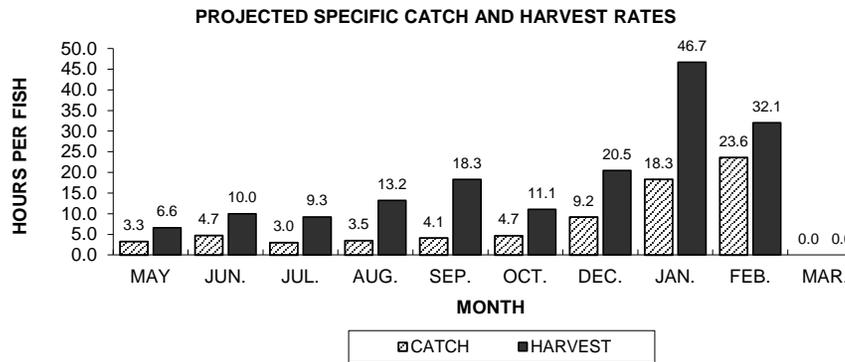
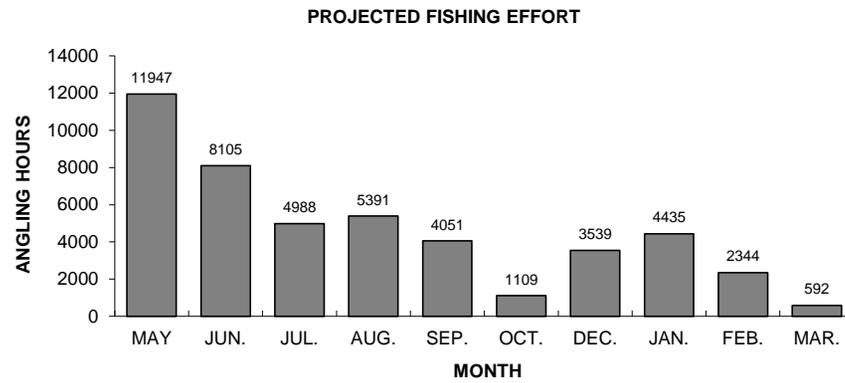
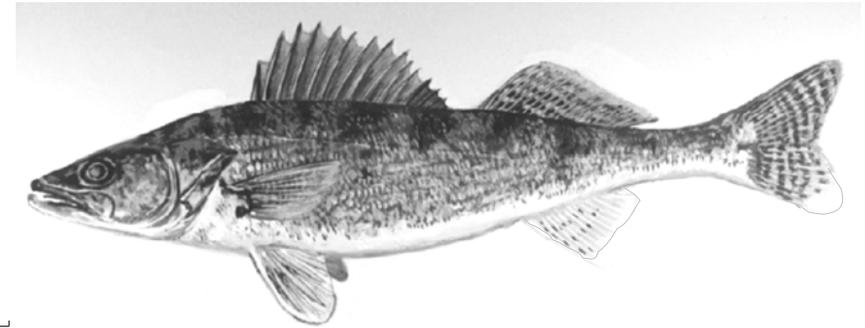


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

NORTHERN PIKE

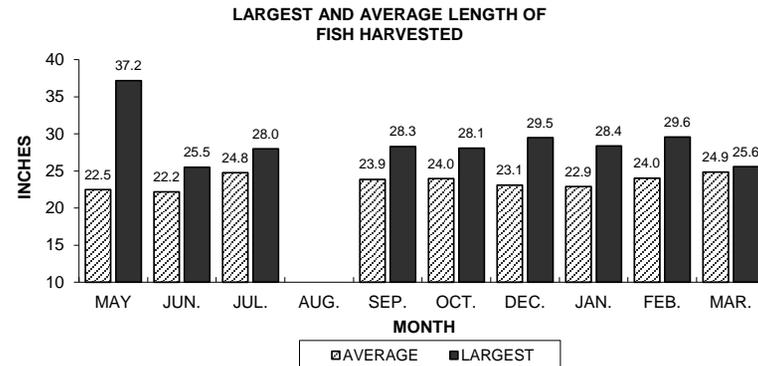
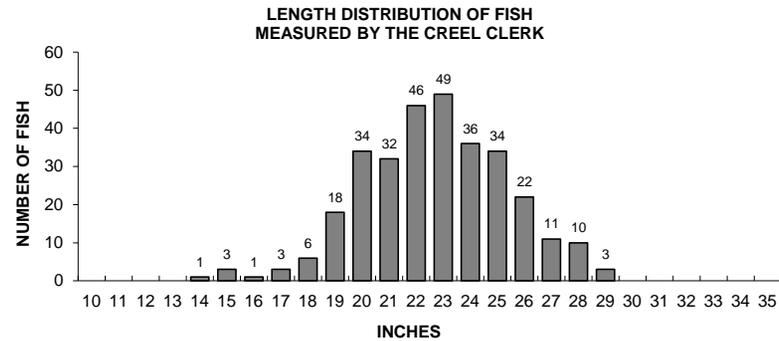
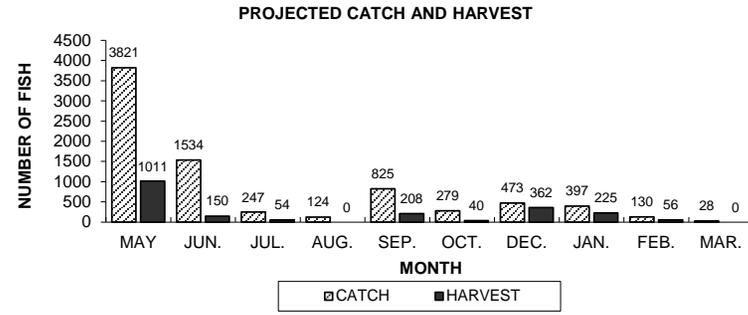
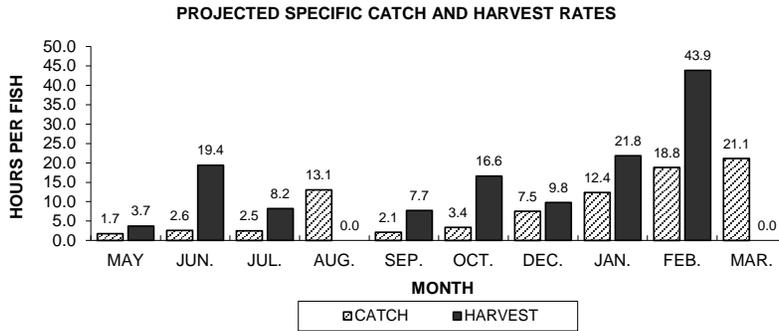
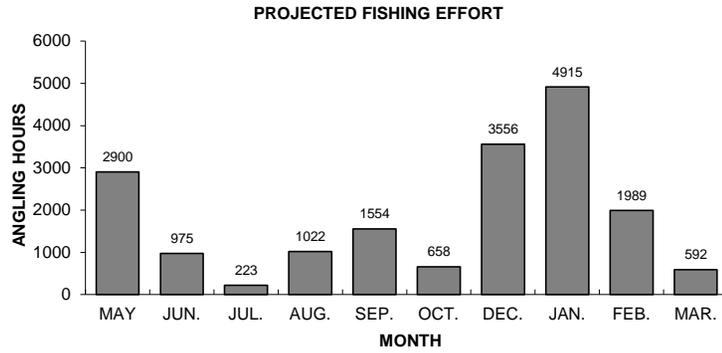
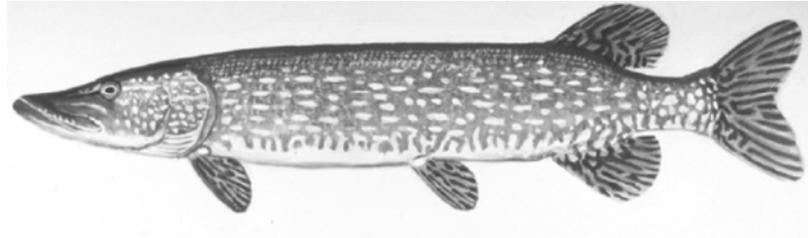
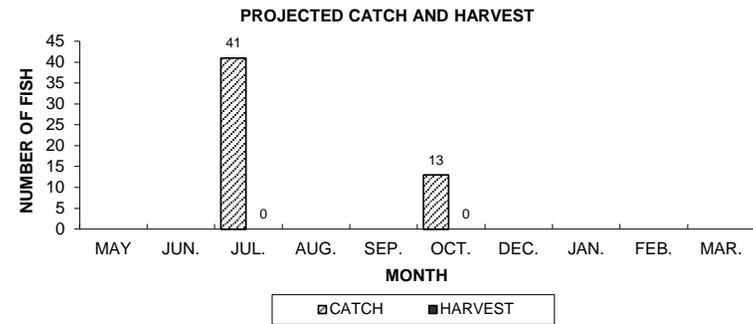
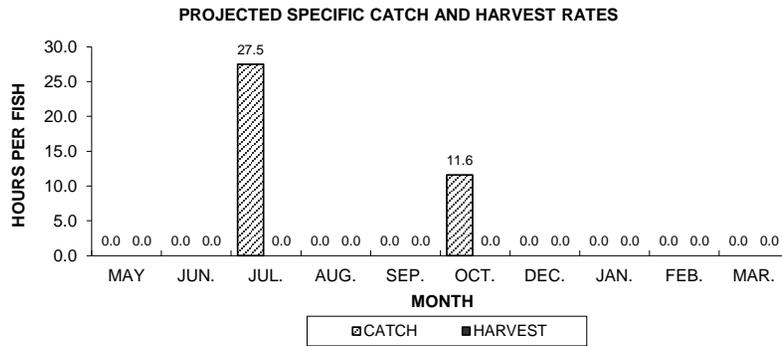
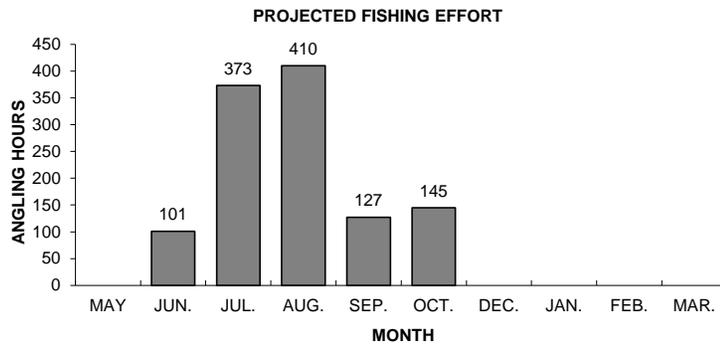
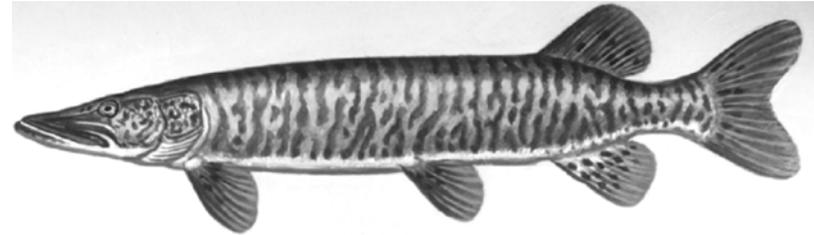


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

MUSKELLUNGE



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Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

SMALLMOUTH BASS

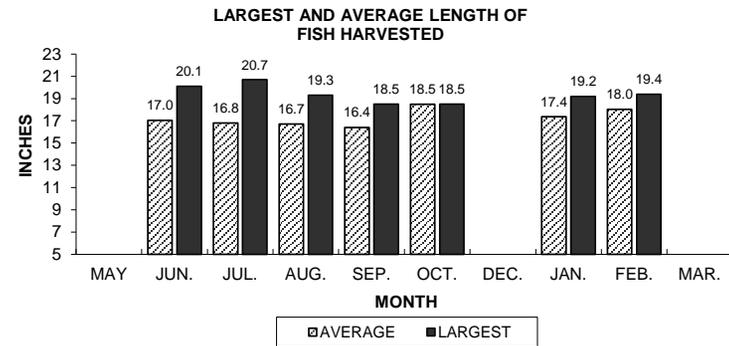
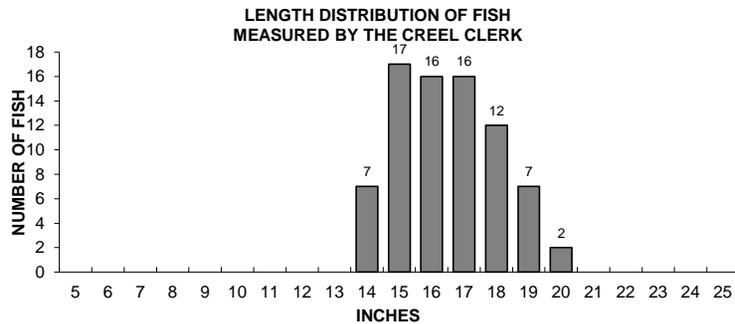
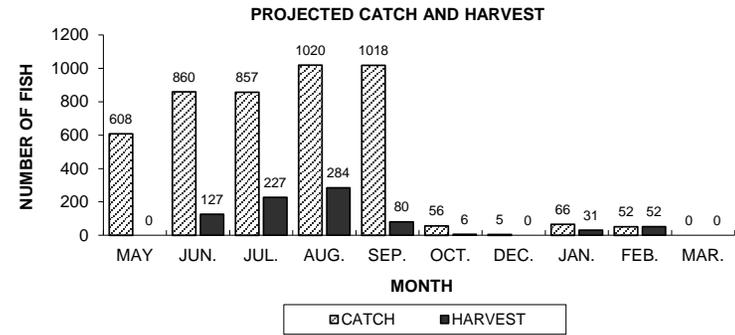
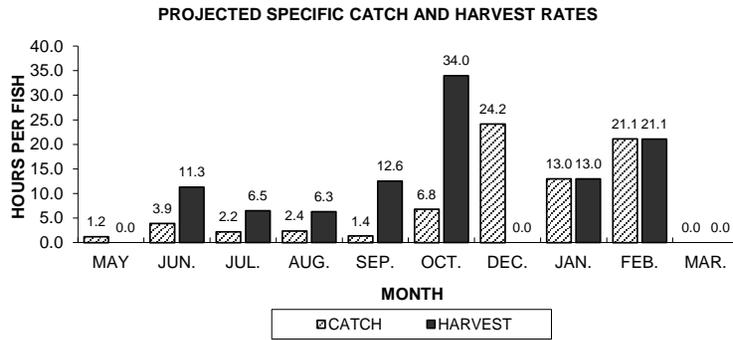
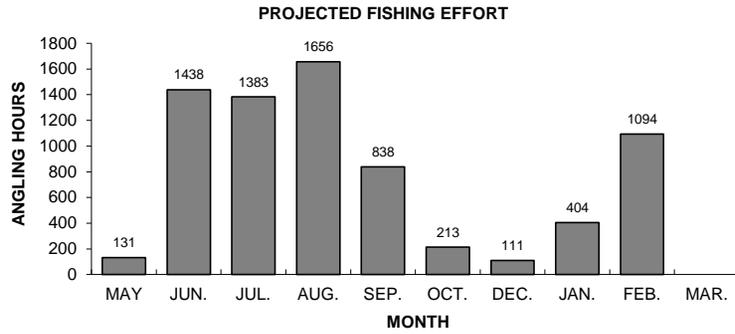
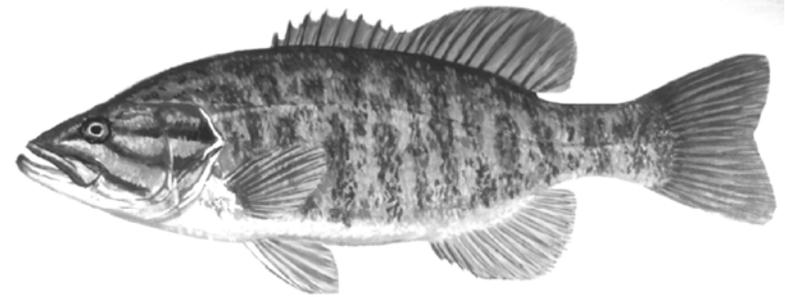
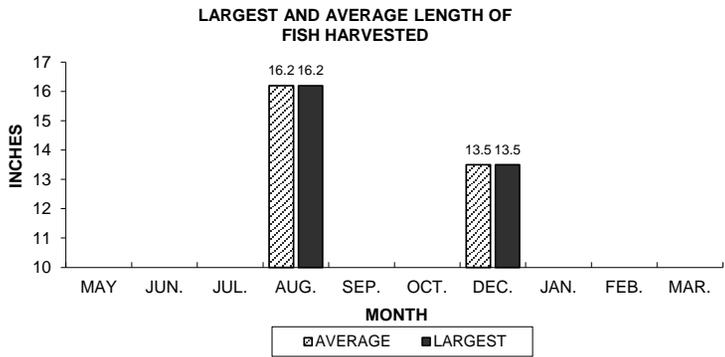
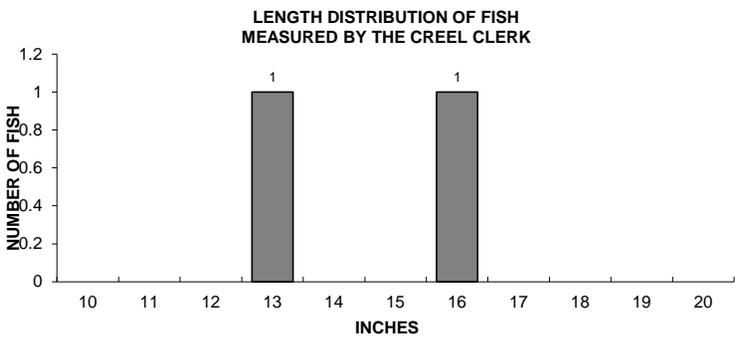
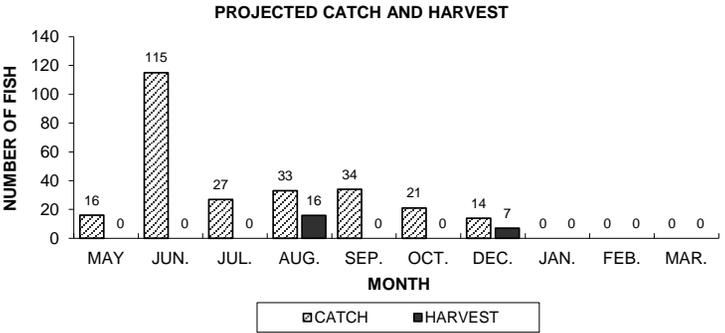
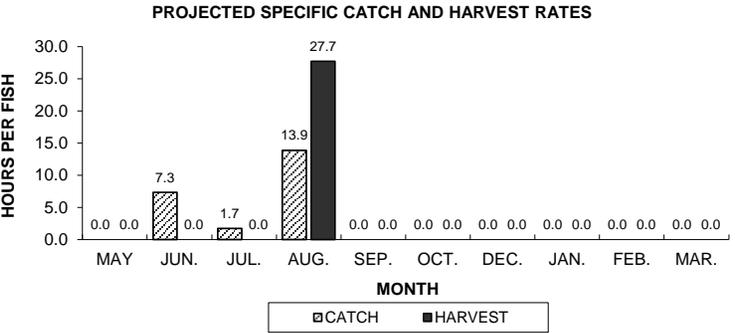
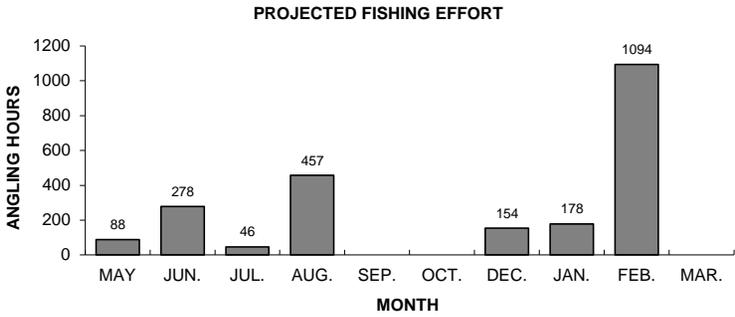
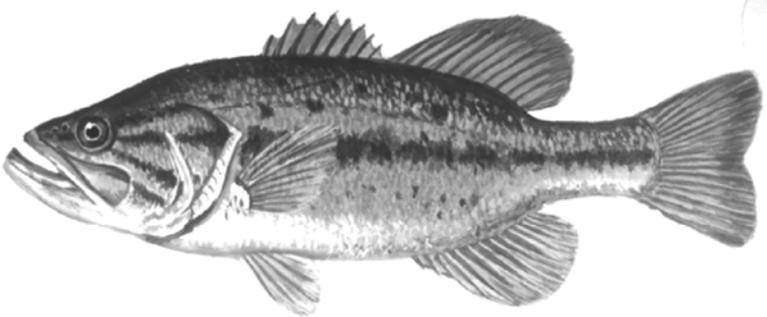


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

LARGEMOUTH BASS



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Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

YELLOW PERCH

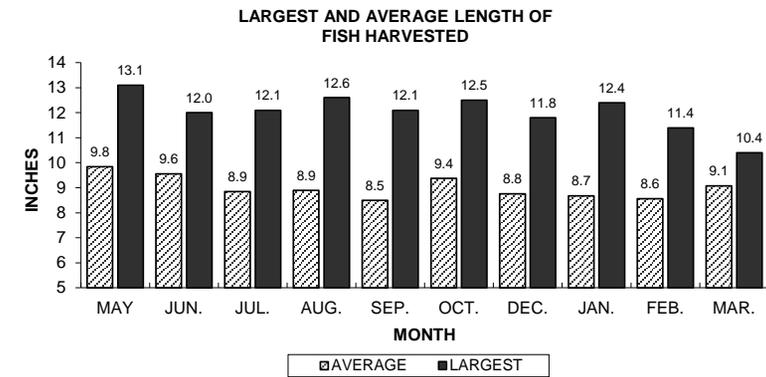
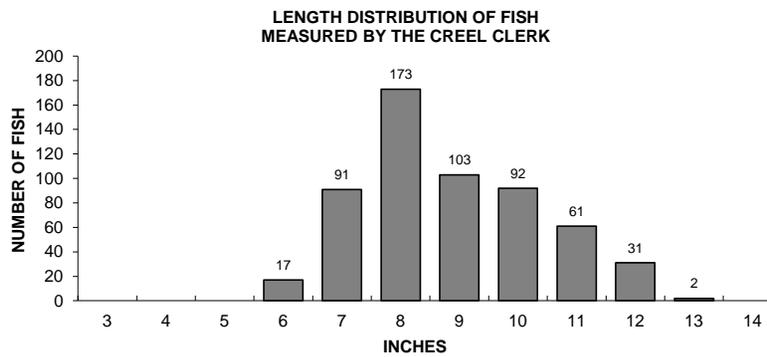
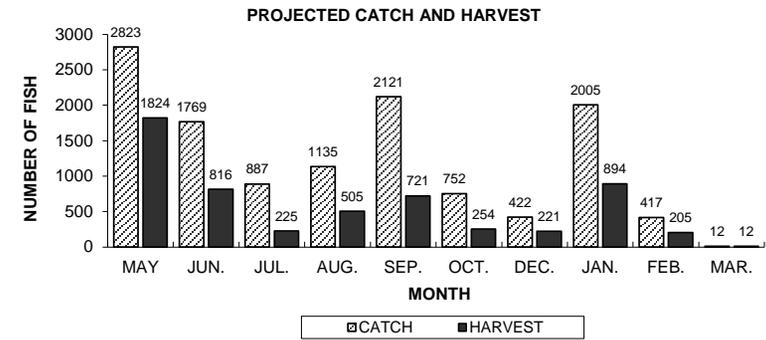
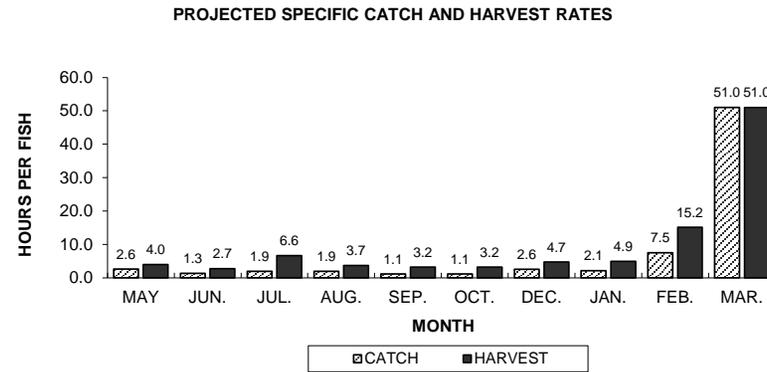
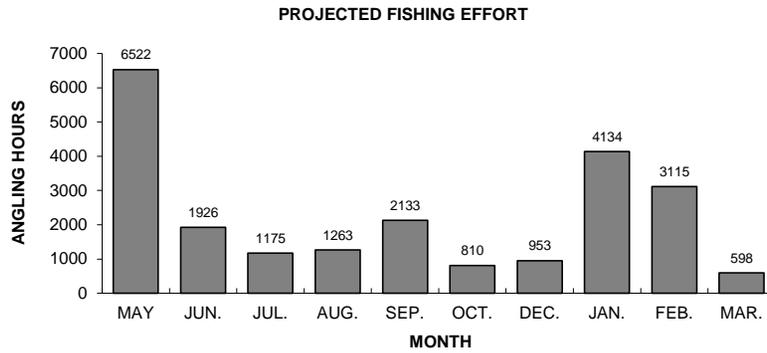


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

BLUEGILL

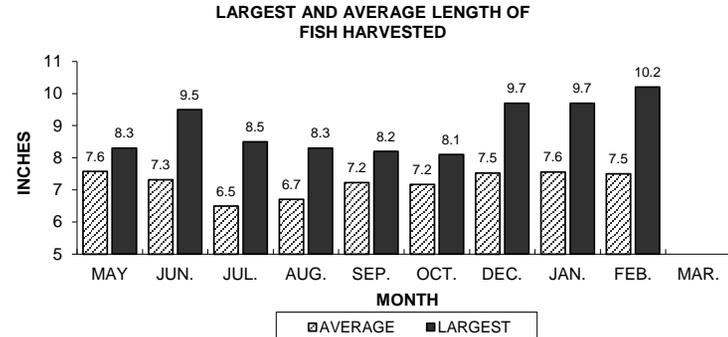
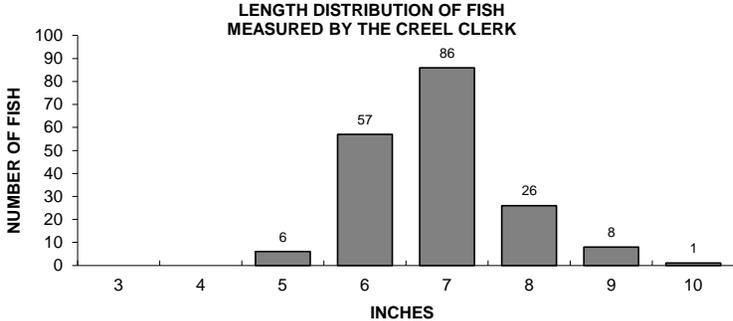
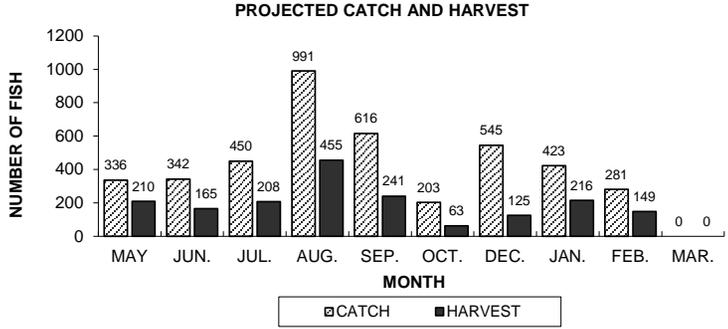
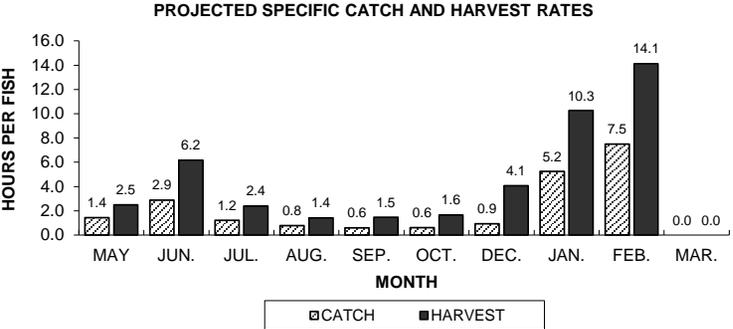
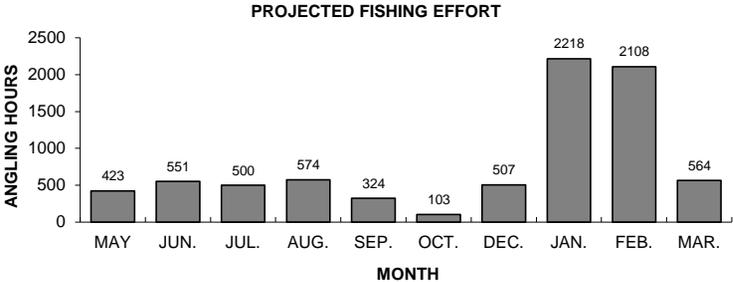
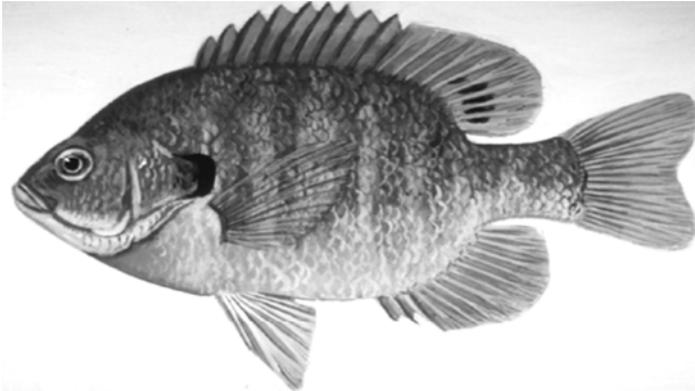


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

PUMPKINSEED

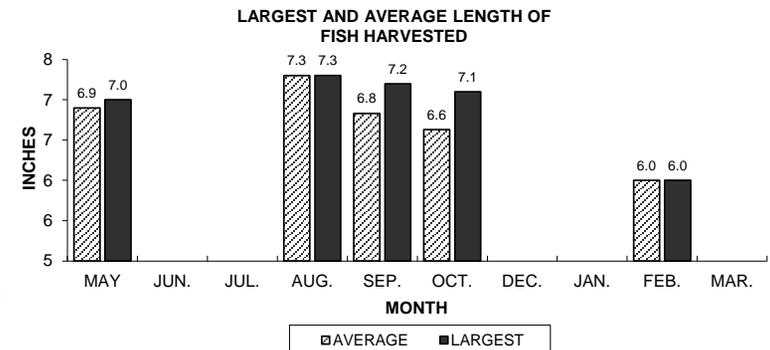
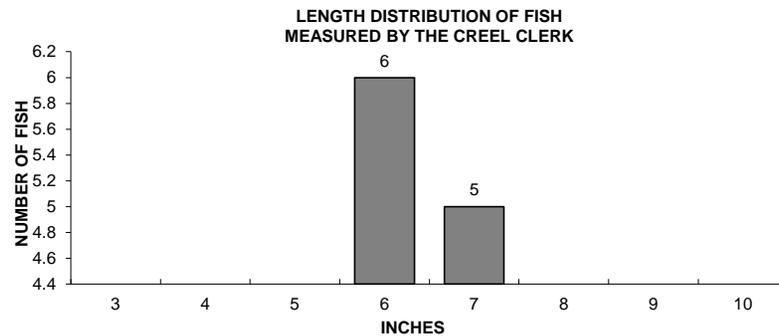
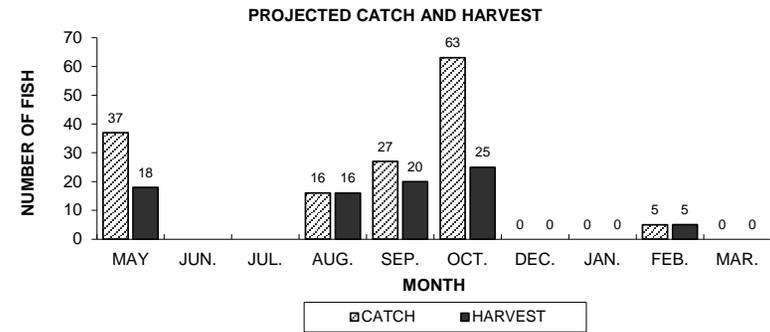
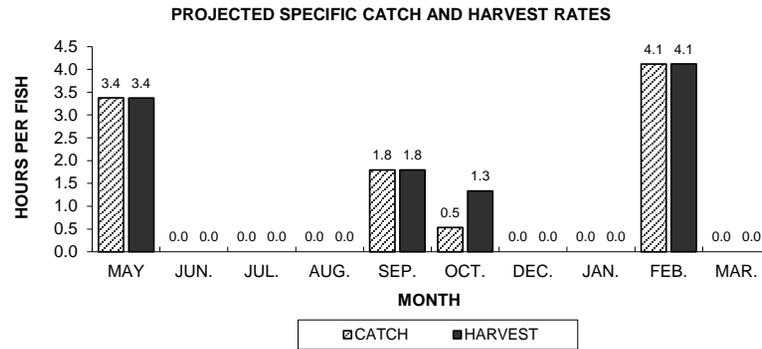
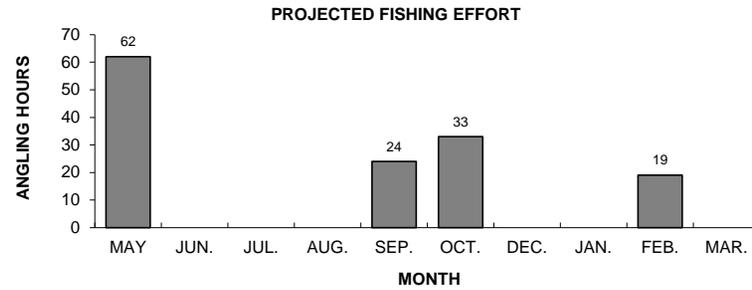
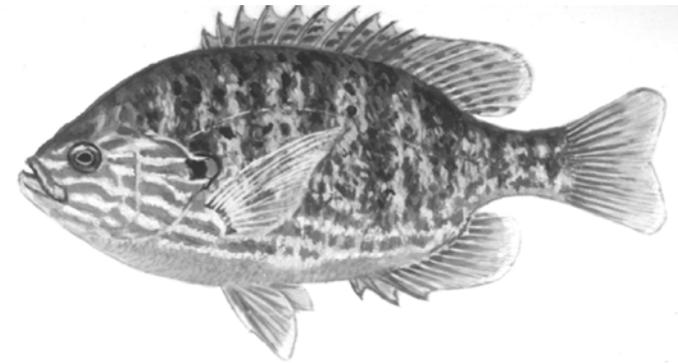


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

ROCK BASS

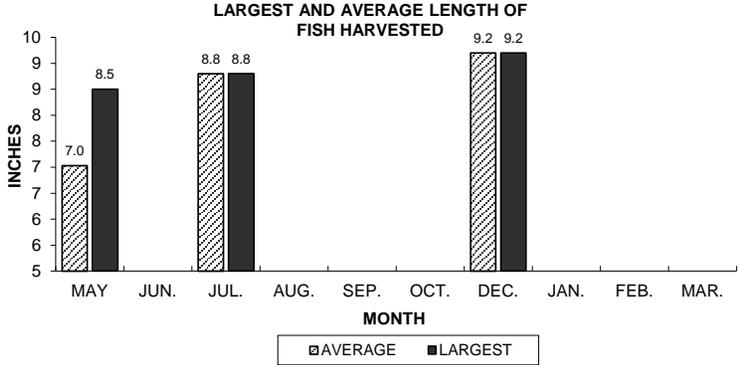
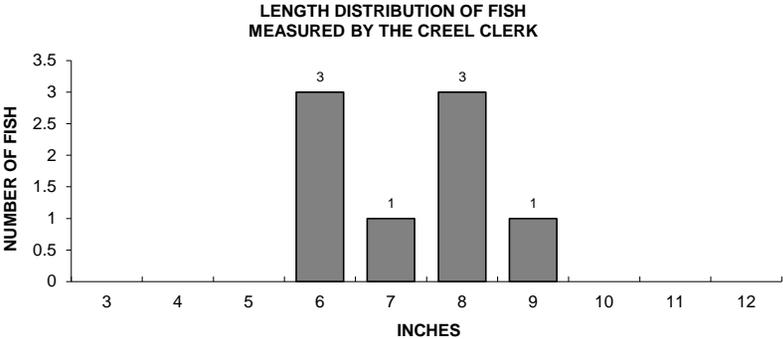
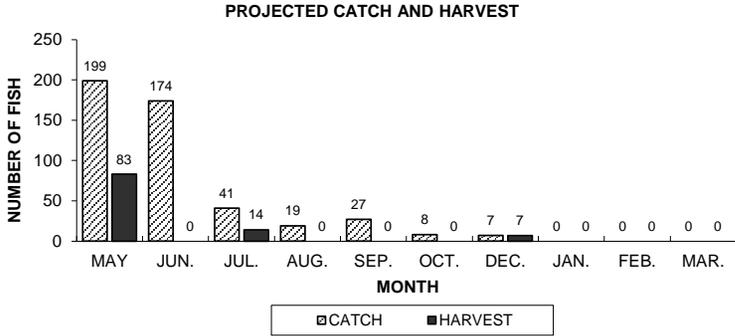
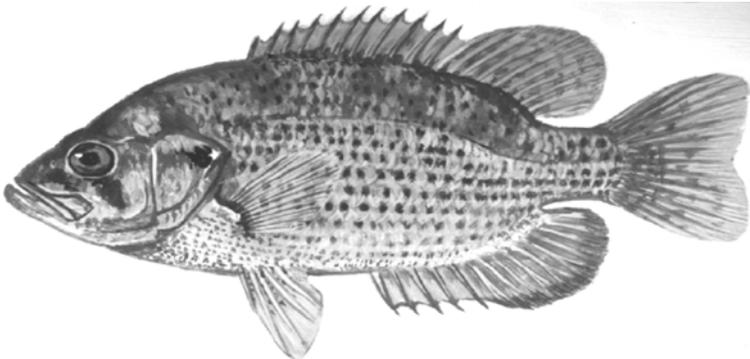


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.

BLACK CRAPPIE

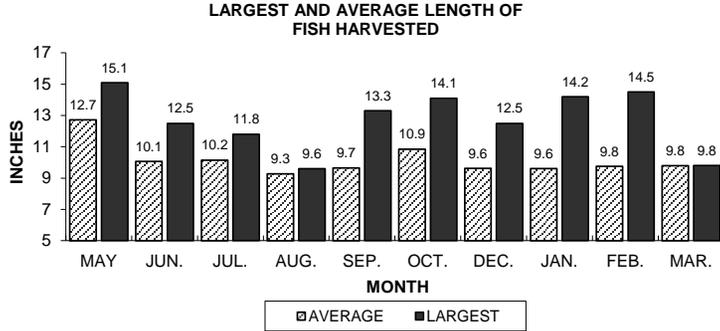
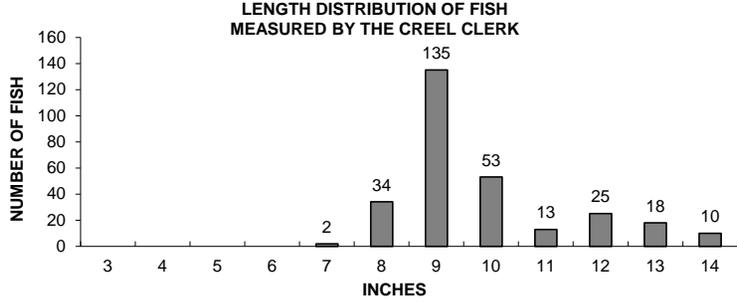
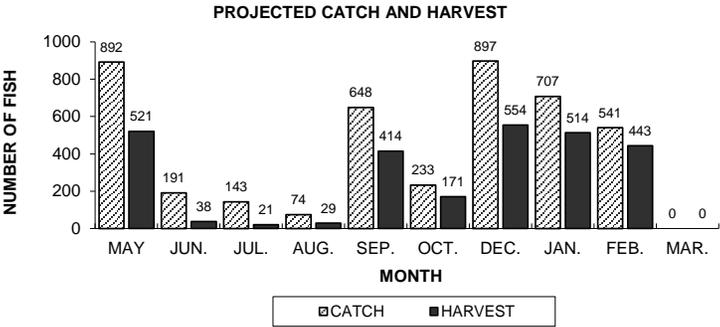
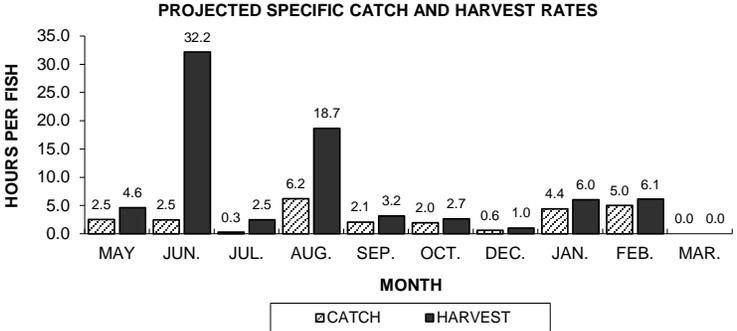
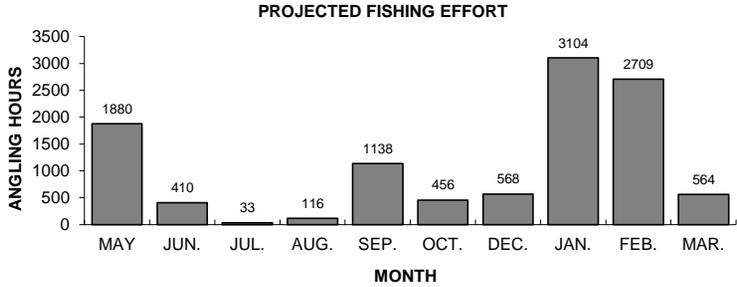
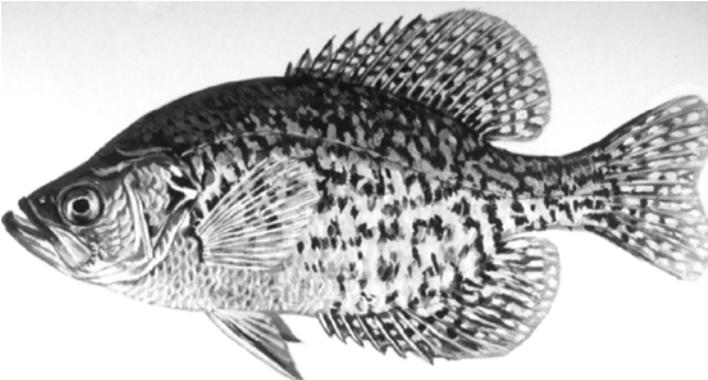


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Rainbow Flowage, during 2012-13.