

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

**PALMER LAKE**

**VILAS COUNTY**

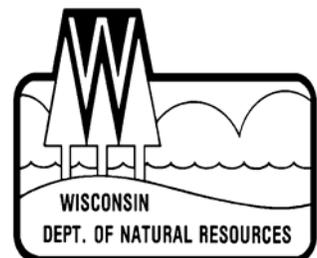
**2009-10**



**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.

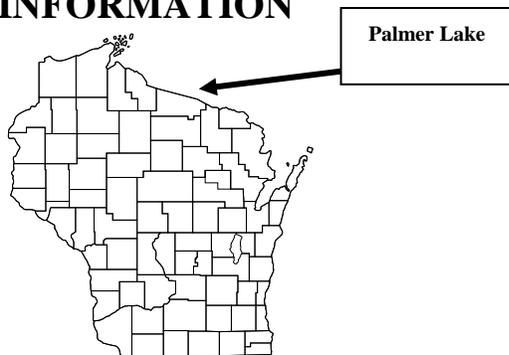
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

Palmer Lake is located in Vilas County east of the Town of Land O' Lakes.

### Physical Characteristics

Palmer Lake is a 635-acre drainage lake with a maximum depth of 13 feet. Littoral substrate consists primarily of sand, muck, and gravel. Palmer Lake is a very fertile drainage lake with light brown 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 Palmer Lake was around April 24, 2009. Fishable-ice formed on Palmer Lake in mid December.

### Sportfishing Regulations

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

		Catch&Release	
Largemouth Bass&	5/02-6/19		
Smallmouth Bass	6/20-3/07	5	14"
Musky	5/23-11/30	1	34"
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 Palmer 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 Palmer Lake. The last creel survey took place in 1992.

### **General Angler Information**

Anglers spent 25,272 hours or 32.1 hours per acre fishing Palmer 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 (6.4 hours per acre). Fishing effort was lightest in December (0.1 hours per acre).

## **RESULTS BY SPECIES**

### **Walleye** (Table 2, Figure 1)

Anglers spent 3,872 hours targeting walleye during the 2009 season. Walleye fishing effort was greatest in May (1,855 hours). October had the least amount of walleye fishing effort (14 hours).

Catch was 868 walleye with a harvest of 343 fish. Highest catch (546 fish) and harvest (199 fish) occurred in May. Anglers fished 4.9 hours to catch and 13.0 hours to harvest a walleye during 2009.

The mean length of harvested walleye was 18.7 inches and the largest walleye measured was a 27.5-inch fish.

### **Northern Pike** (Table 2, Figure 2)

Fishing effort directed at northern pike was 2,533 hours during the 2009 season. Northern pike fishing effort was greatest in February (1,146 hours).

Total catch was 2,748 northern pike with a harvest of 369 fish.

The mean length of harvested northern pike was 22.1 inches and the largest northern pike measured was a 31.0-inch fish.

### **Muskellunge** (Table 2, Figure 3)

Anglers spent 6,943 hours targeting muskellunge during the 2009 season. Muskellunge fishing effort was greatest in July (1,826 hours).

Total catch was 637 fish with a harvest of 4 muskellunge. Highest catch (197 fish) occurred in June. Anglers fished 11.4 hours to catch a muskellunge during 2009.

### **Smallmouth Bass** (Table 2, Figure 4)

Our survey indicated that only 84 hours of

fishing effort was directed at smallmouth bass. Total catch was 118 smallmouth bass and only 4 harvested. Smallmouth bass are currently a minor part of the Palmer Lake fishery.

**Largemouth Bass** (Table 2, Figure 5)  
Fishing effort directed at largemouth bass was 507 hours during the 2009 season. Largemouth bass fishing effort was greatest in July (175 hours).

Total catch was 466 largemouth bass with a harvest of 6 fish. Highest catch (142 fish) occurred in July. 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. Fishing effort directed at black crappie was 7,920 hours.

Anglers caught 11,023 black crappie and harvested 5,347 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 7,249 hours.

Total catch of bluegill was 27,281 fish with 8,271 harvested. The mean length of bluegill harvested was 7.4 inches.

**Yellow perch** were also a major part of the angler harvest. Fishing effort directed at yellow perch was 3,363 hours.

Total catch of yellow perch was 10,827 fish with 963 harvested. The mean length of yellow perch harvested was 8.2 inches.

Pumpkinseeds (4,862 caught), rock bass (1,813 caught) and black bullhead (6 caught)

were also reported 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 Kiepke, Jason Halverson, and Tim Tobias. Fisheries management staff included Steve Gilbert and Wes Jahns. Marty Kiepke was the creel clerk on Palmer 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, Palmer Lake, 2009-10 season.**

<b>Month</b>	<b>Total Angler Hours</b>	<b>Total Angler Hours/Acre</b>	<b>Vilas County Average Hours/Acre</b>	<b>Statewide Average Hours/Acre</b>
May	4081	6.4	5.4	5.8
June	3678	5.8	6.9	6.1
July	2791	4.4	7.5	6.4
August	2274	3.6	6.5	5.4
September	2095	3.3	4.2	3.8
October	615	1.0	2.0	1.6
December	70	0.1	0.5	1.7
January	1060	1.7	0.8	1.5
February	2728	4.3	1.0	1.3
March	1010	1.6	0.2	--
*Summer Total	20404	24.5	32.5	29.1
*Winter Total	4868	7.7	2.4	4.5
Grand Total	25272	32.1	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 Palmer 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 Palmer 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 Palmer Lake to other lakes statewide.

**Table 2. Comparison of creel survey synopses, Palmer 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	3872	11.38%	868	4.9	343	13.0	18.7
Northern Pike	2533	7.45%	2748	4.5	369	10.8	22.1
Muskellunge	6943	20.41%	637	11.4	4	1666.7	43.2
Smallmouth Bass	84	0.25%	118	1.5	4		14.6
Largemouth Bass	507	1.49%	466	3.3	6		16.7
Yellow Perch	3363	9.89%	10827	0.6	963	5.1	8.2
Bluegill	7249	21.31%	27281	0.3	8271	0.9	7.4
Pumpkinseed	1513	4.45%	4862	0.8	1040	2.8	7.0
Rock Bass	35	0.10%	1813	0.6	205	1.0	7.2
Black Crappie	7920	23.28%	11023	0.7	5347	1.5	9.8

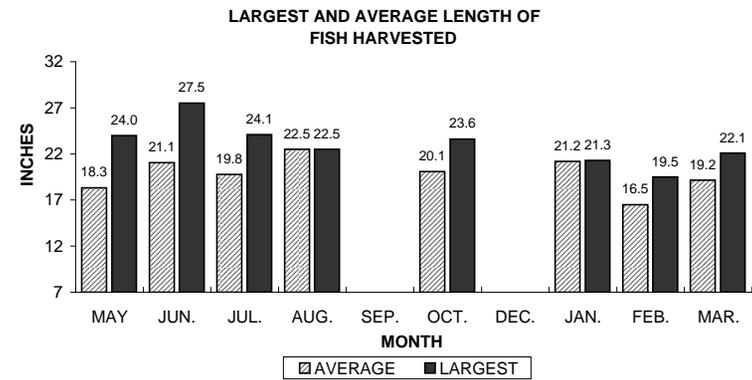
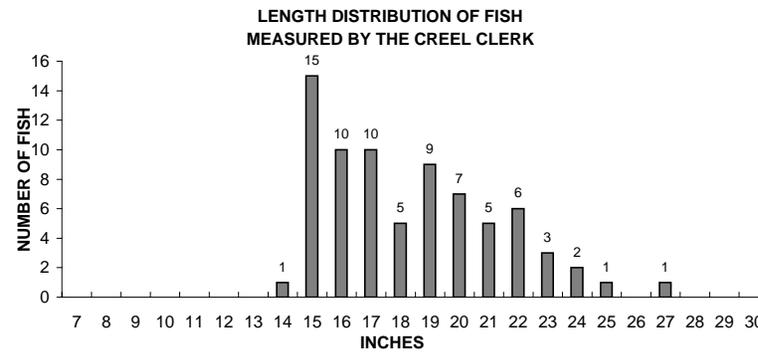
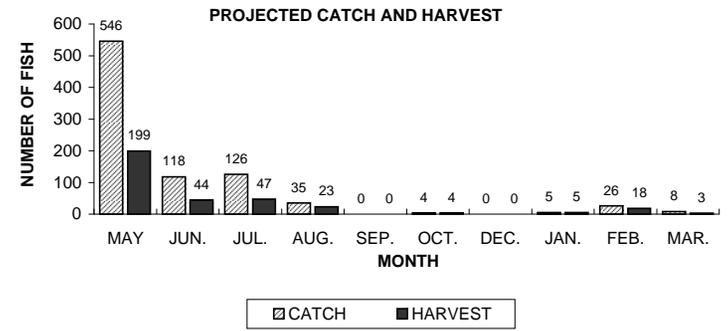
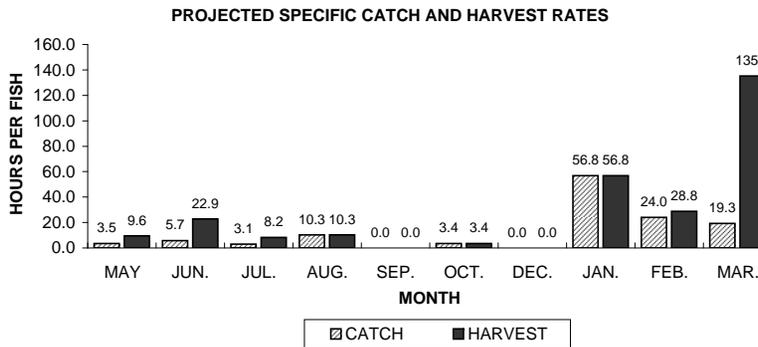
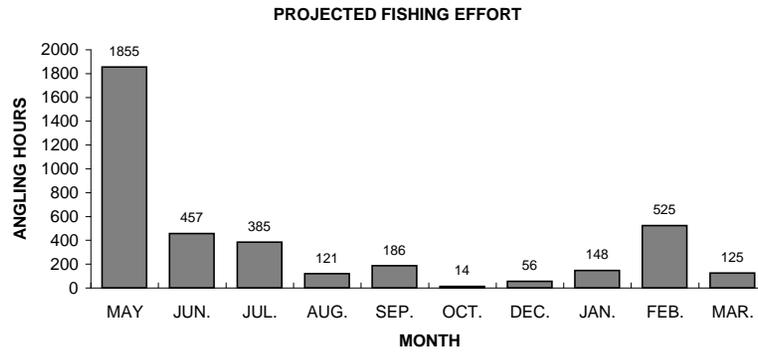
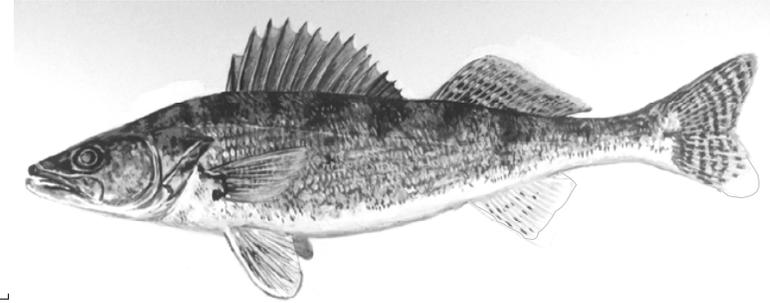
\* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

\*\* 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	5265	22.04%	586	10.4	193	31.9	18.3
Northern Pike	1605	6.72%	763	7.1	236	15.0	22.6
Muskellunge	9675	40.50%	833	13.3	32	357.1	36.3
Smallmouth Bass	194	0.81%	95	4.6	28	6.8	15.8
Largemouth Bass	218	0.91%	30	34.0	0	0.0	
Yellow Perch	1525	6.38%	8052	0.5	1712	1.2	7.6
Bluegill	612	2.56%	341	3.5	157	4.1	7.5
Pumpkinseed	577	2.42%	1312	0.6	716	0.9	7.1
Rock Bass	0	0.00%	416	0.0	60	0.0	8.5
Black Crappie	4216	17.65%	2005	2.2	1494	2.9	9.7

# WALLEYE



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

# NORTHERN PIKE

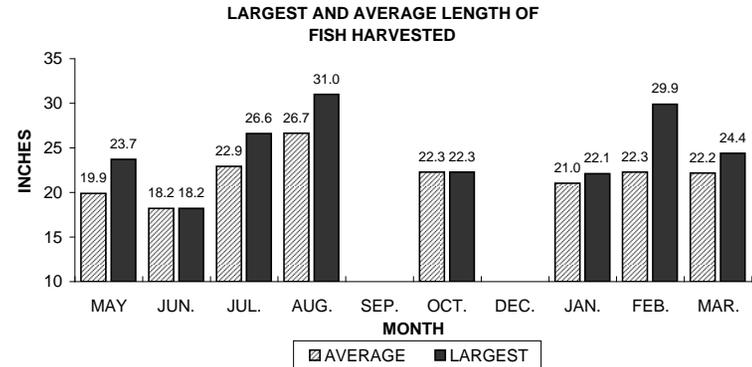
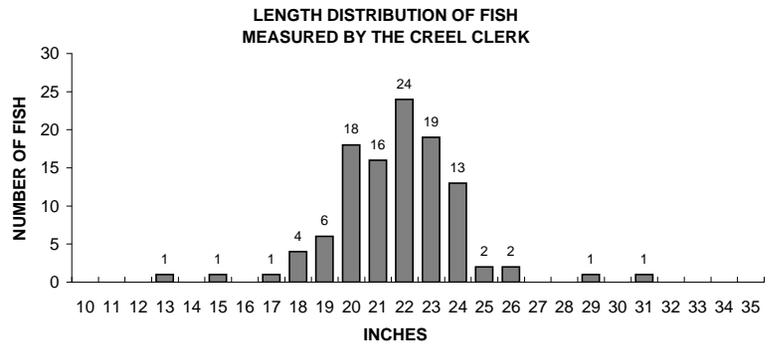
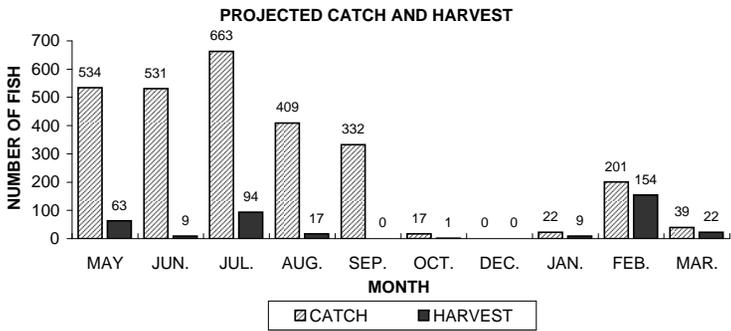
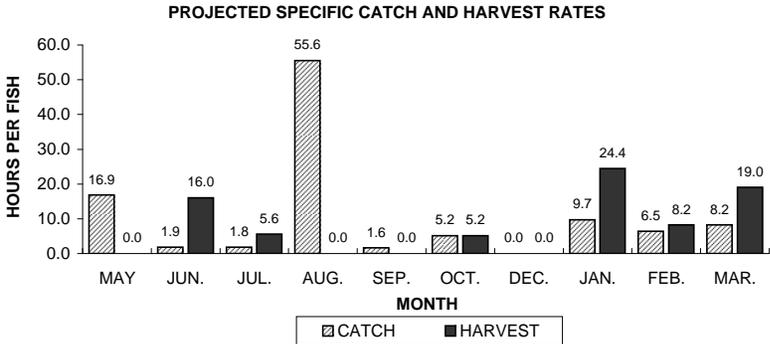
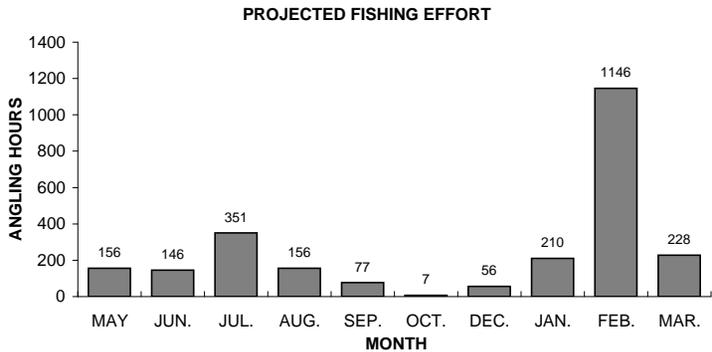
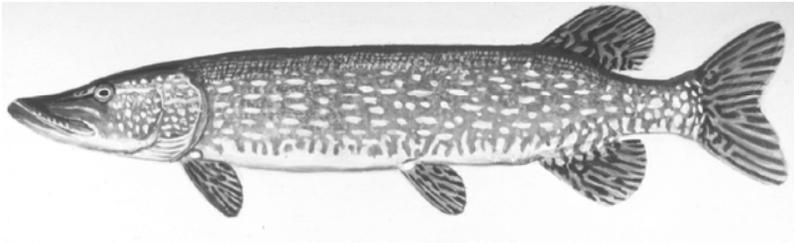
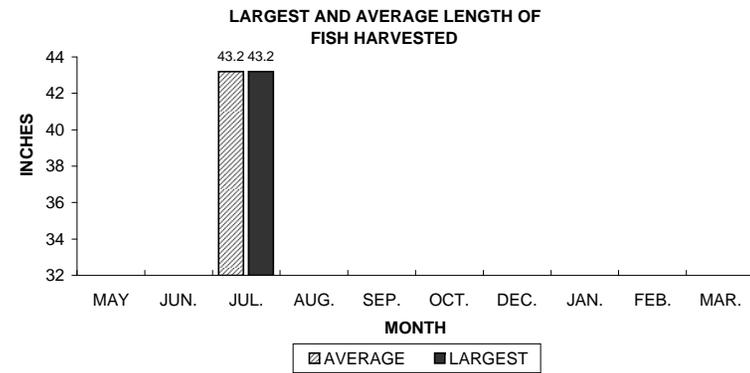
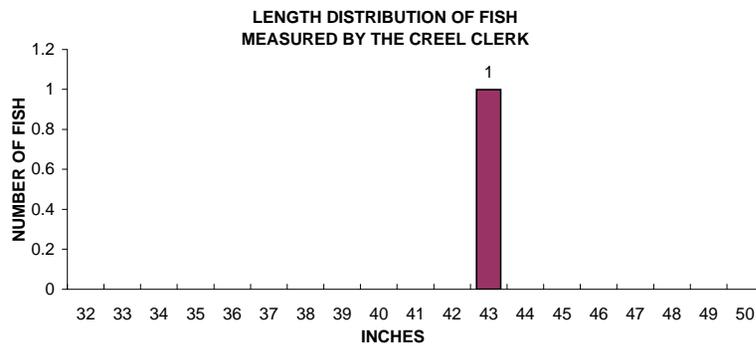
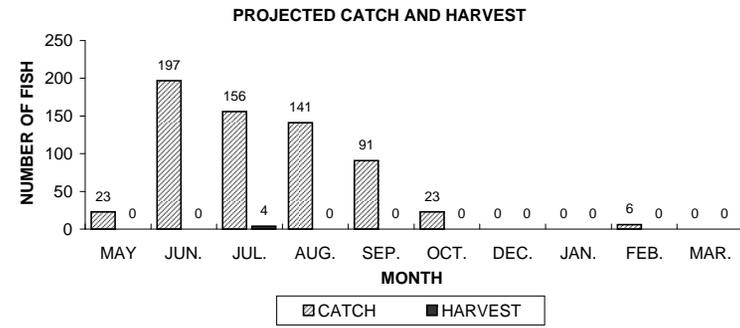
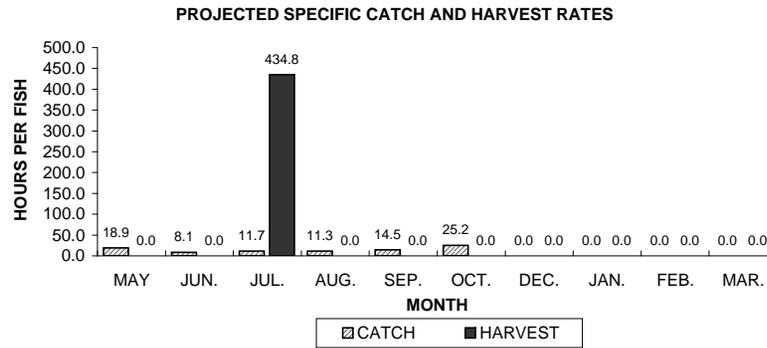
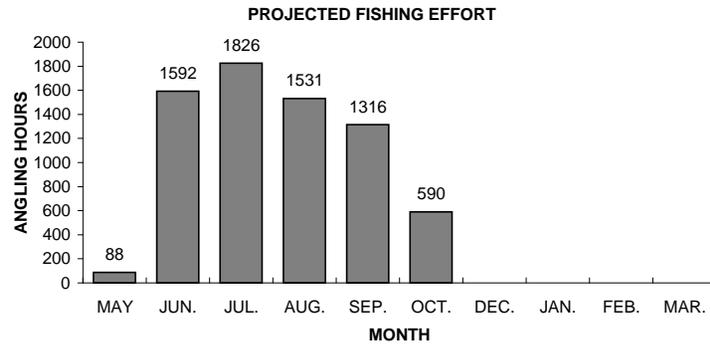
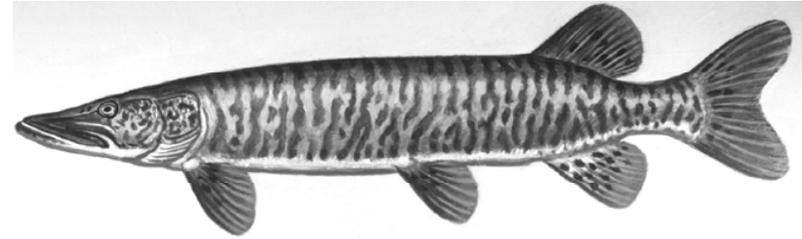


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# MUSKELLUNGE



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

# SMALLMOUTH BASS

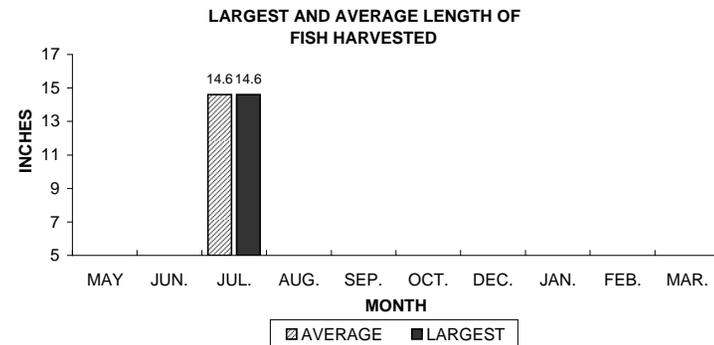
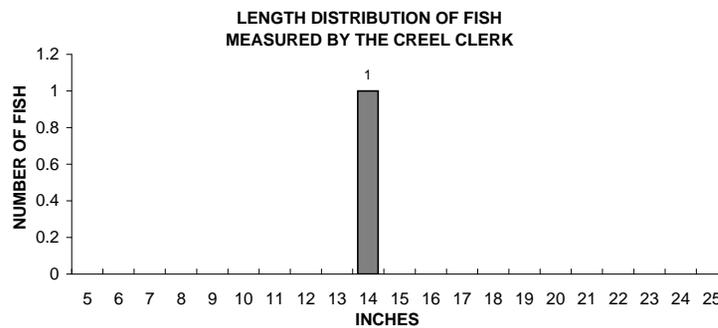
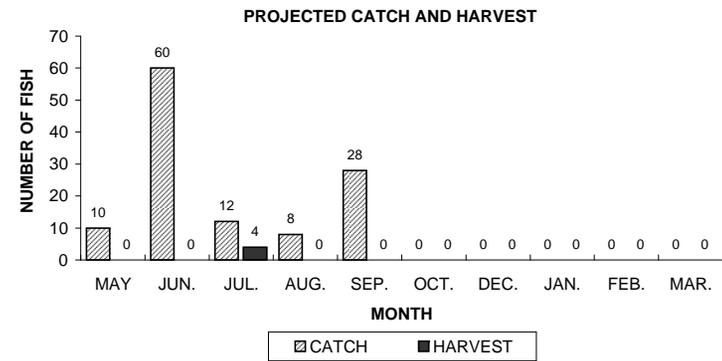
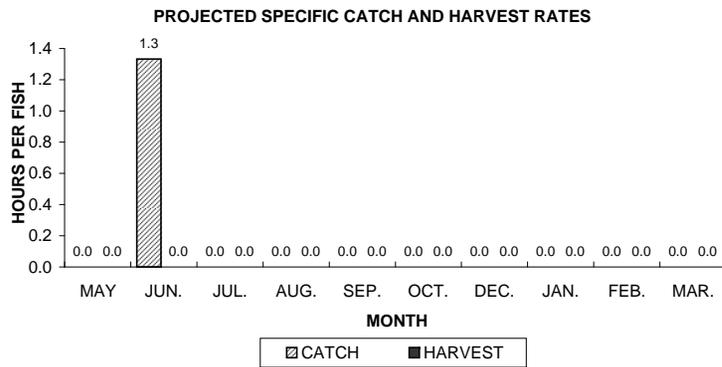
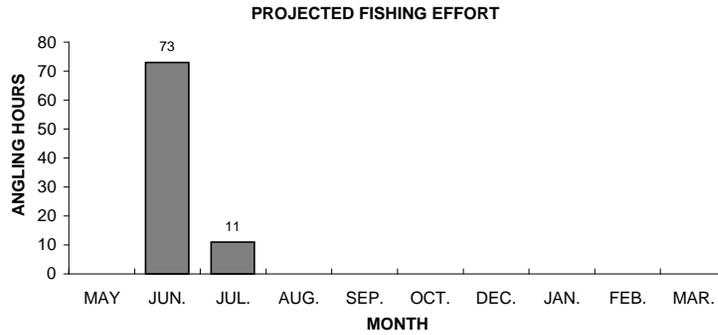
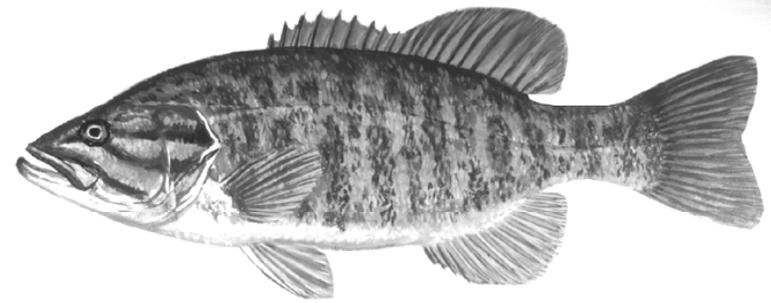


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# LARGEMOUTH BASS

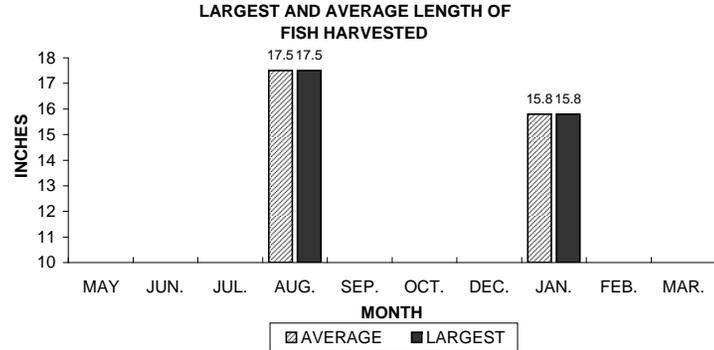
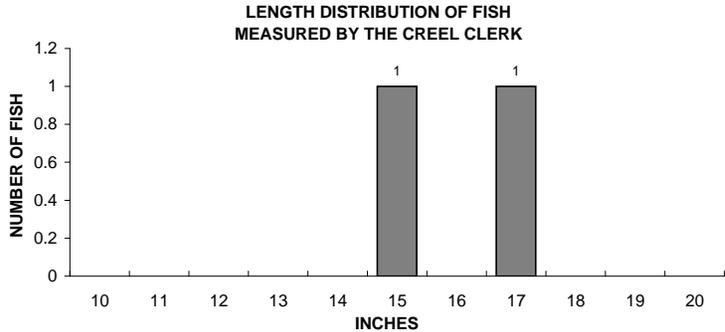
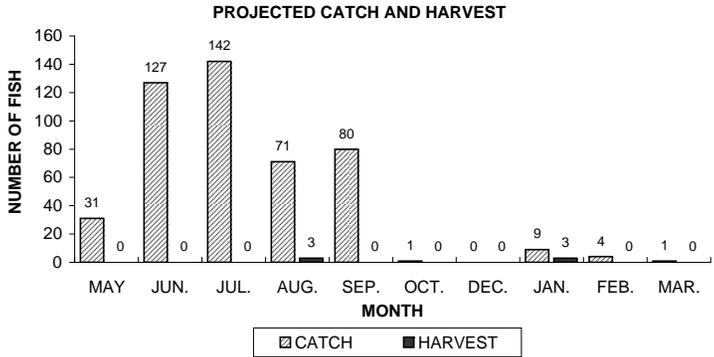
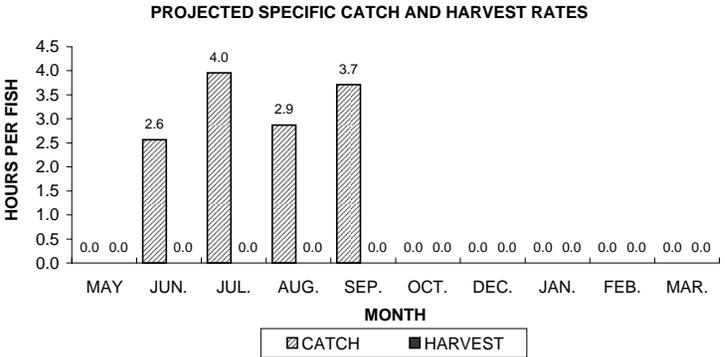
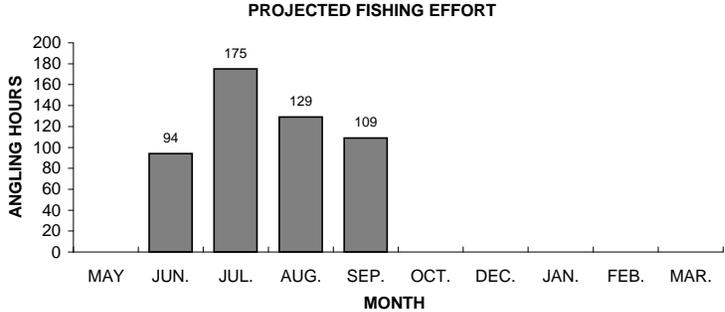
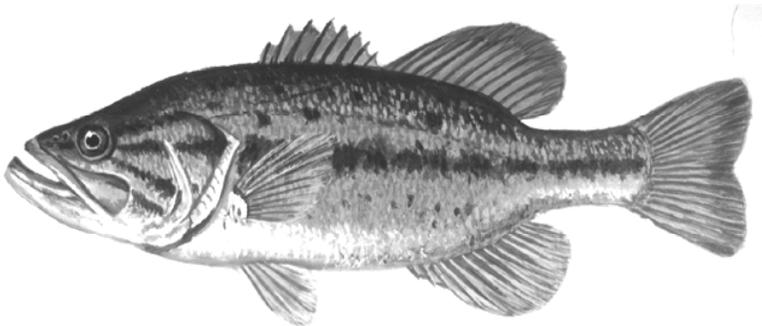


Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# YELLOW PERCH

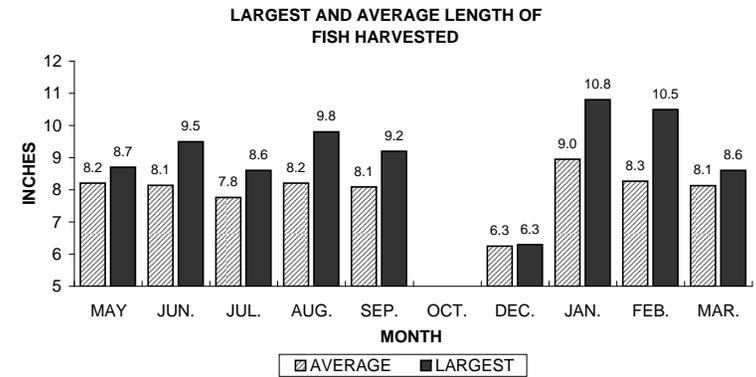
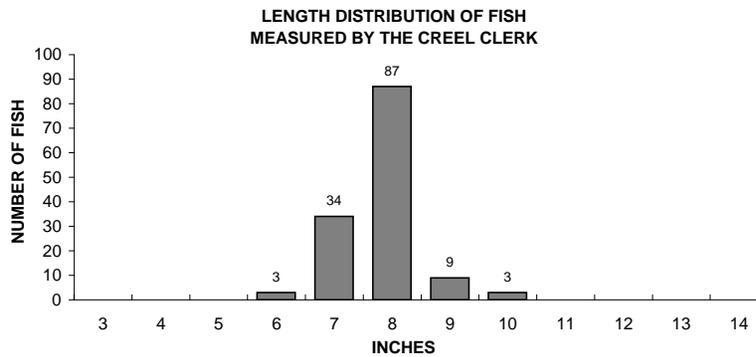
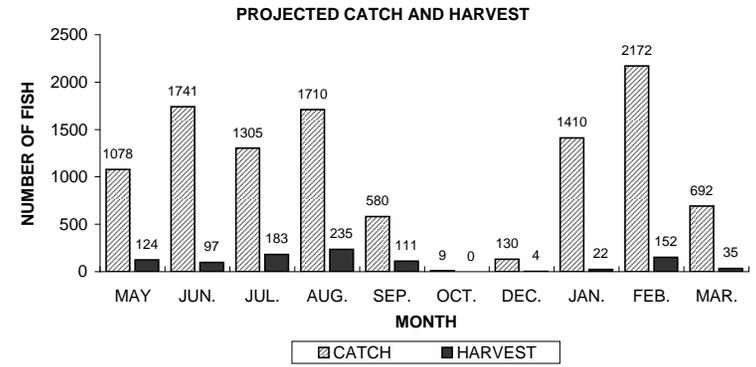
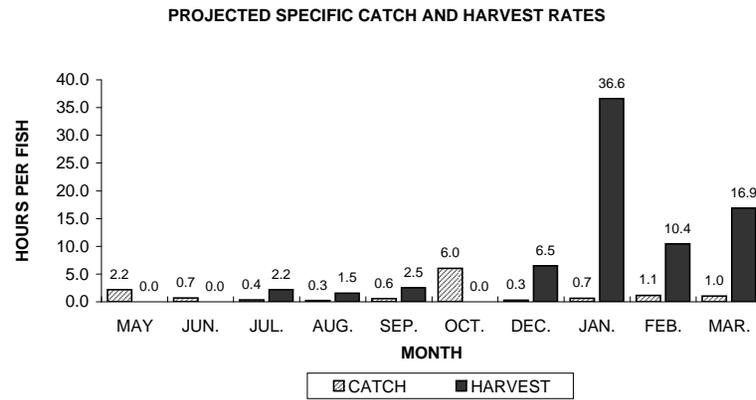
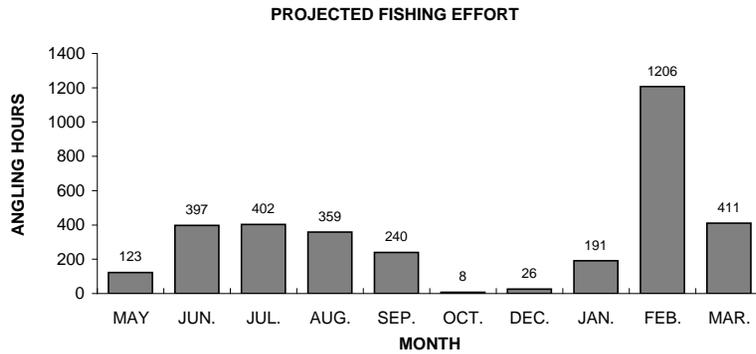
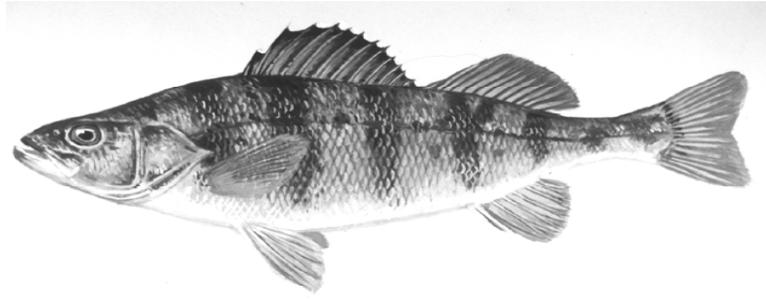


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# BLUEGILL

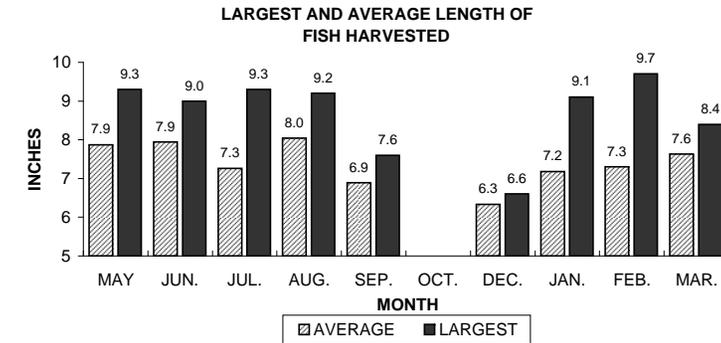
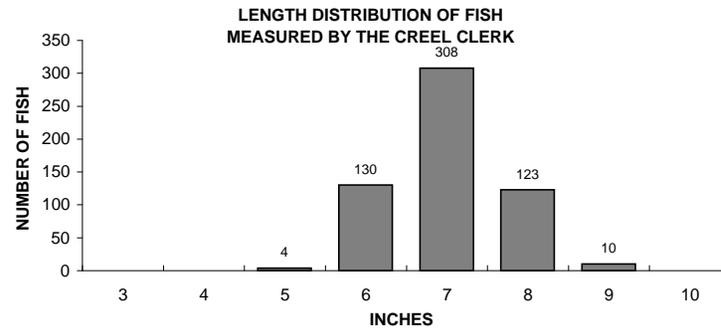
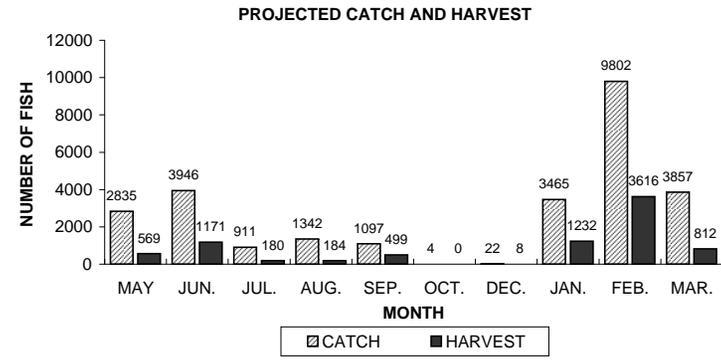
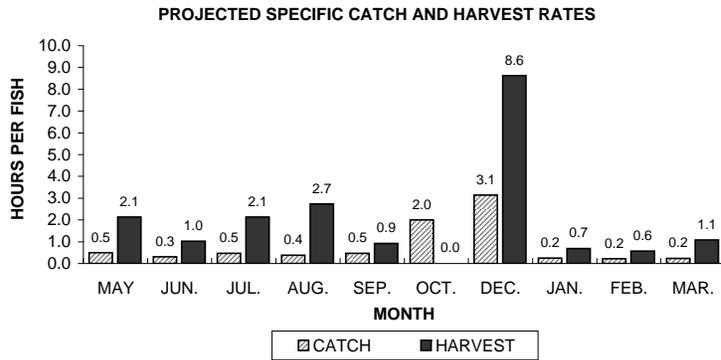
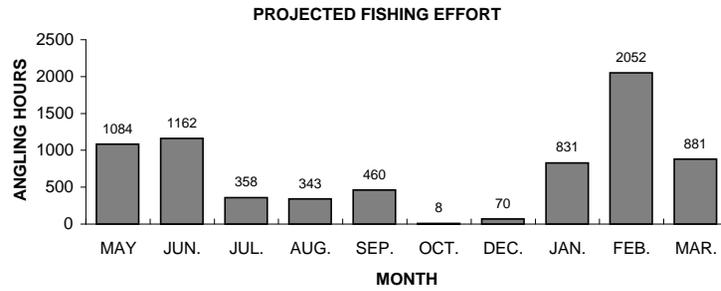
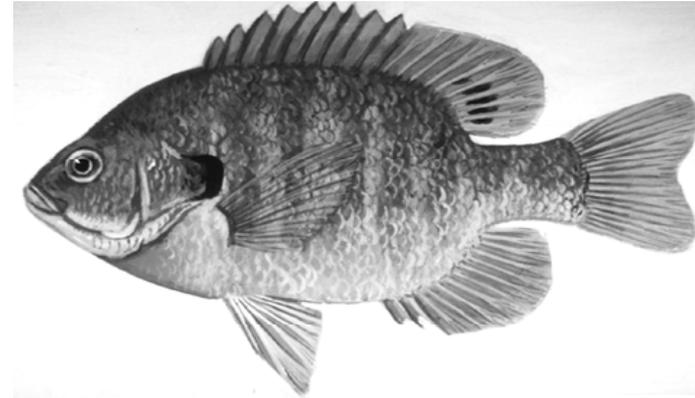


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# PUMPKINSEED

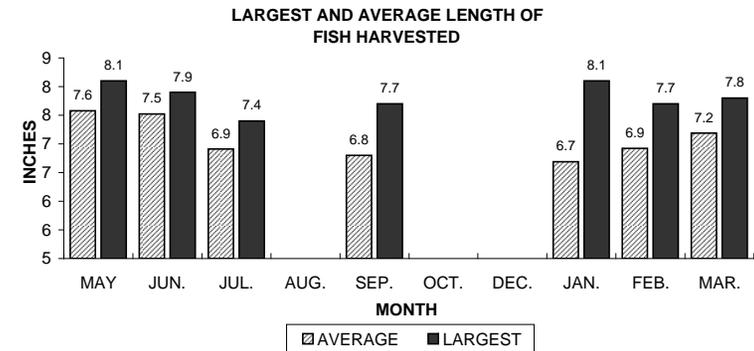
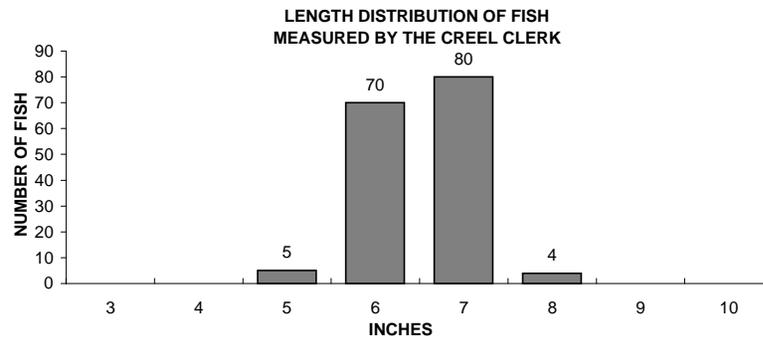
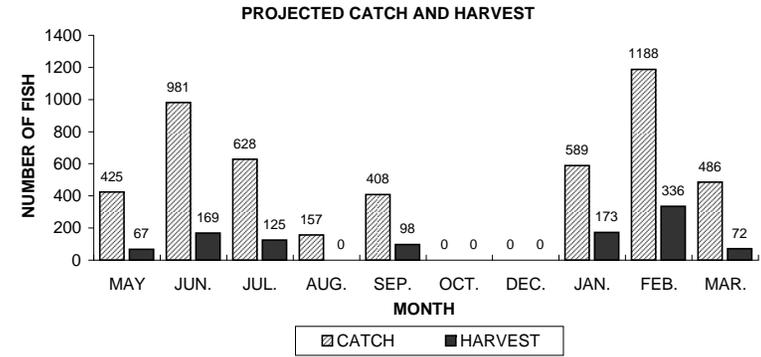
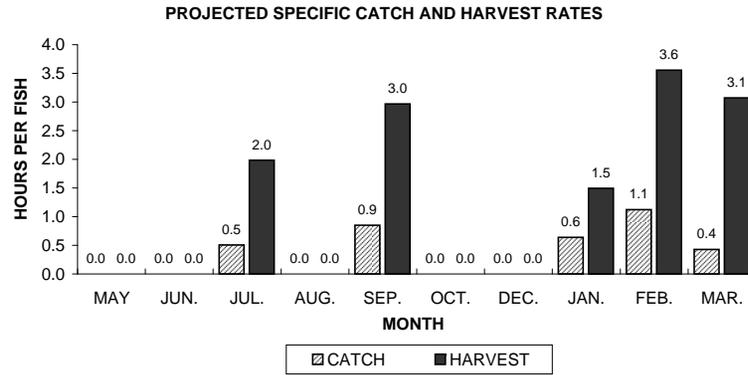
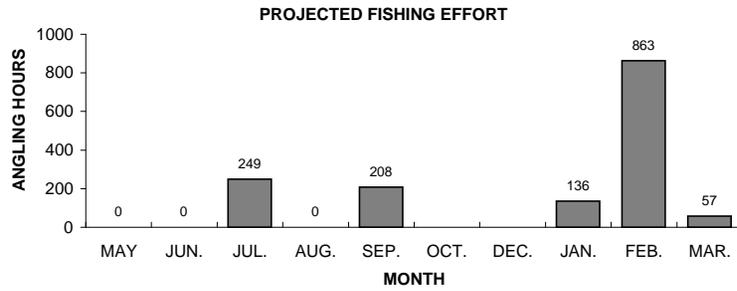
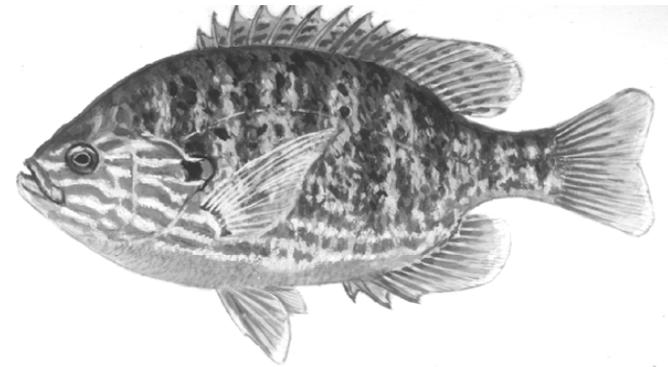


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# ROCK BASS

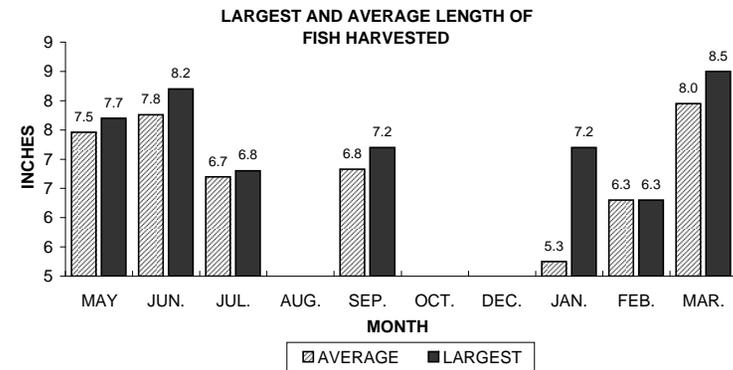
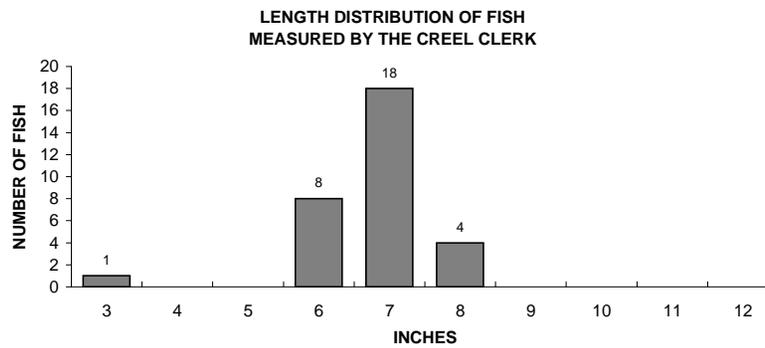
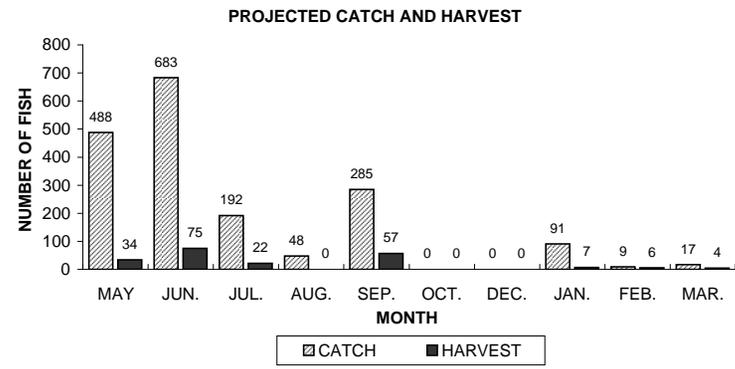
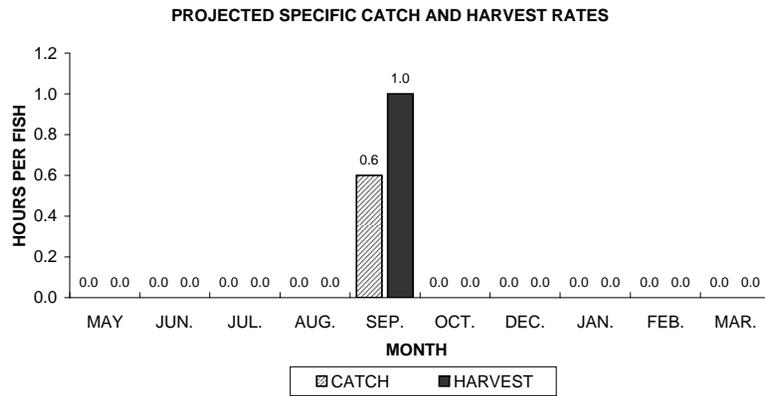
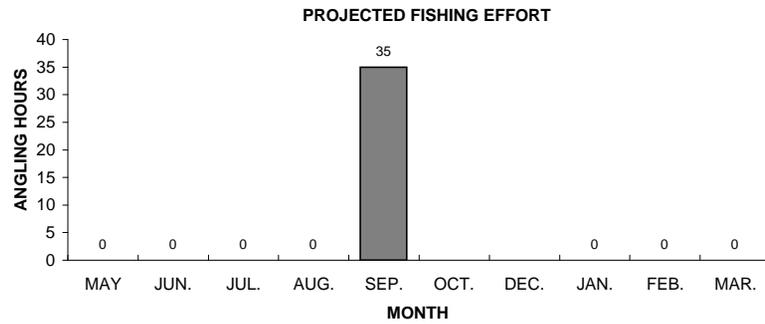
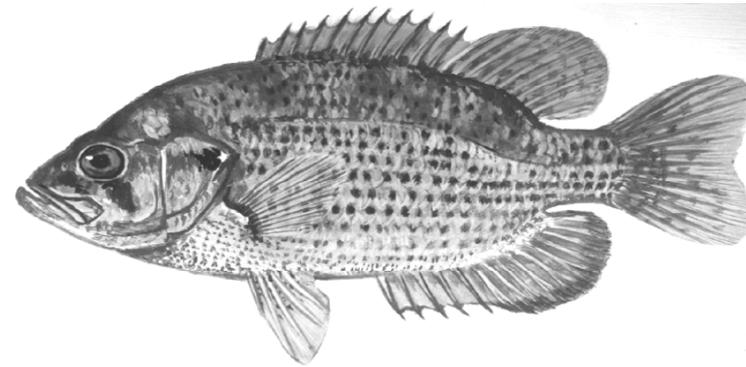


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.

# BLACK CRAPPIE

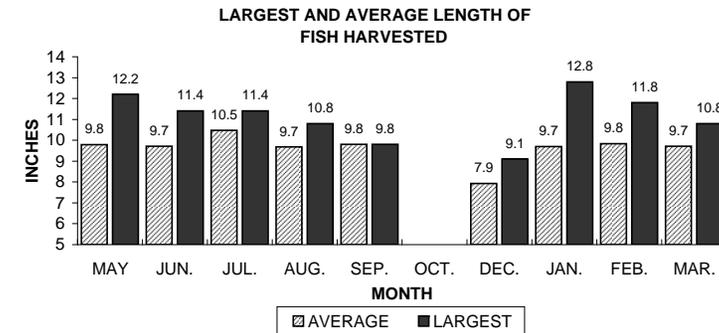
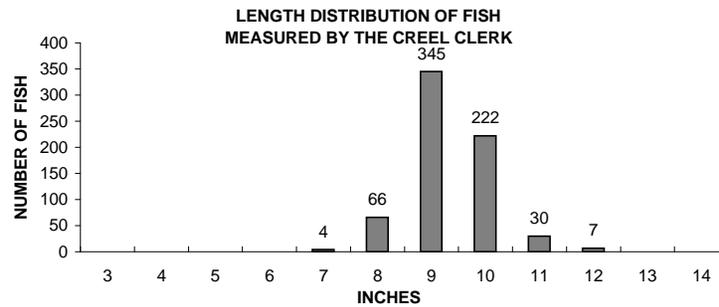
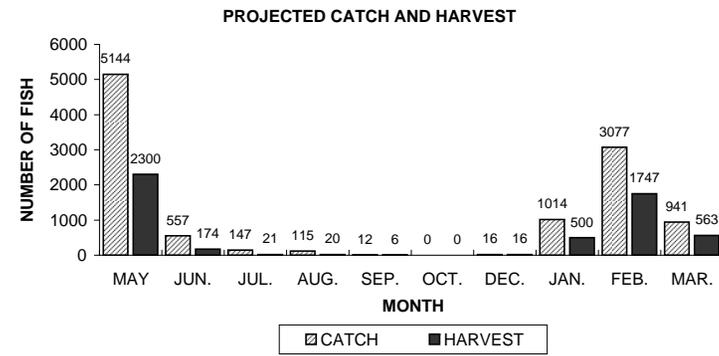
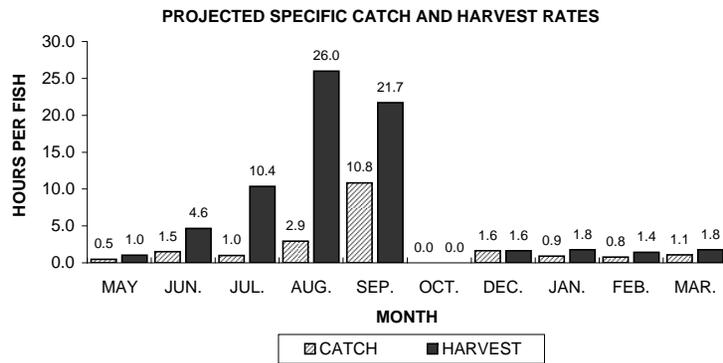
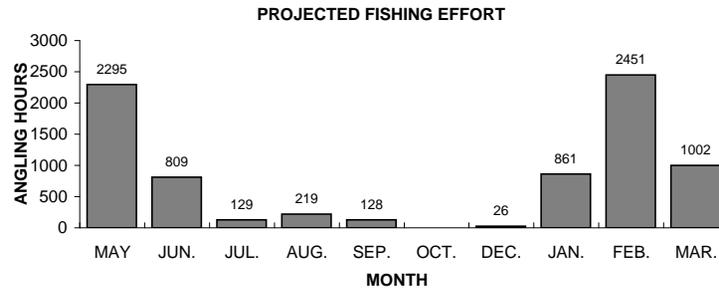
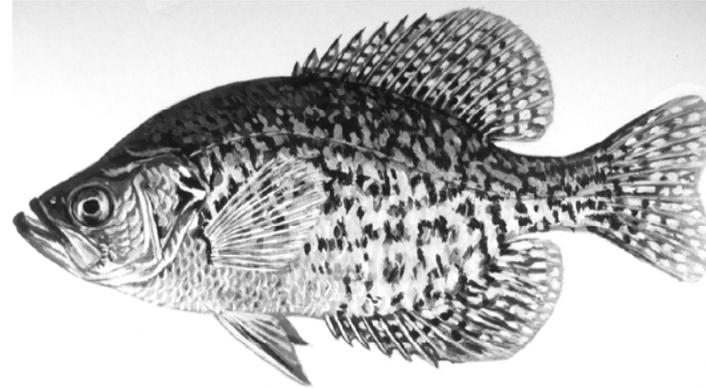


Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Palmer Lake, during 2009-10.