

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

**DEER LAKE**

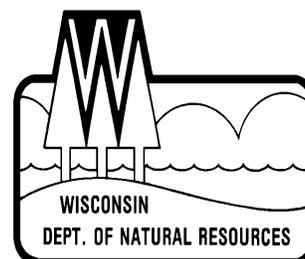
**LINCOLN COUNTY**

**2012-13**



**Treaty Fisheries Publication**

**Compiled by Tim Tobias  
& Jeff Blonski  
Treaty Fisheries Technician**



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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.

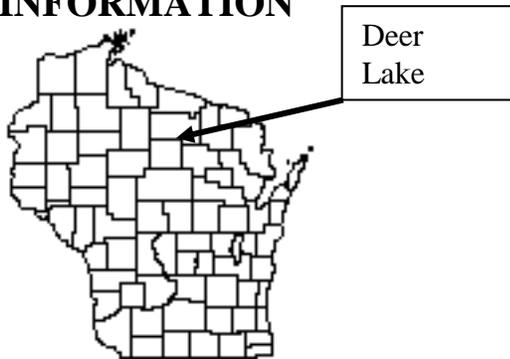
You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

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

## GENERAL LAKE INFORMATION



### Location

Deer Lake is located in Lincoln County in the Town of Brady.

### Physical Characteristics

Deer Lake is a 156 acre drainage lake with a maximum depth of 53 feet. Littoral substrate consists primarily of sand, with lesser amounts of muck, and gravel. Deer Lake is a soft water seepage lake with slightly acidic, clear water of moderate 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 5, 2013.

### Weather

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

### Sportfishing Regulations

The following seasons, daily bag limits, and length limits were in place on Deer Lake during the 2012-13 fishing 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 Deer 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 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 Deer Lake. The last creel survey took place in 2001-02.

### General Angler Information

Anglers spent 4,682 hours or 30 hours per acre fishing Deer Lake during the 2012-13 fishing season (Table 1). That was less than the Lincoln County average of 36.3 hours per acre. June was the most heavily fished month (7.4 hours per acre). Fishing effort was lightest in September (0.8 hours per acre).

## RESULTS BY SPECIES

### Walleye (Table 2, Figure 1)

Fishing effort directed at walleye was 568 hours during the 2012-13 fishing season. The greatest fishing effort for walleyes was in January (271 hours).

There was no catch or harvest of walleyes.

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

Fishing effort directed at northern pike was 1,472 hours during the 2012-13 fishing season. Northern pike fishing effort was greatest in May (416 hours).

Total catch of northern pike was 606 fish with a harvest of 134 fish.

The mean length of harvested northern pike was 22 inches and the largest northern pike measured was a 37.4 inch fish.

### Muskellunge (Table 2, Figure 3)

Anglers spent 705 hours targeting muskellunge during the 2012-13 fishing season. Muskellunge fishing effort was greatest in August (433 hours).

Total catch of muskellunge was 67 fish. Highest catch (47 fish) occurred in September. Anglers fished 15.1 hours to catch a muskellunge during 2012-13

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

Fishing effort targeted at smallmouth bass was 1,088 hours during the 2012-13 fishing season. Smallmouth bass fishing effort was greatest in June (560 hours).

Total catch of smallmouth bass was 665 fish with 0 harvested. Highest catch (304 fish) occurred in May. Anglers fished 1.8 hours to catch a smallmouth bass during 2012-13.

**Largemouth Bass** (Table 2, Figure 5)  
Fishing effort directed at largemouth bass was 943 hours during the 2012-13 fishing season. Largemouth bass fishing effort was greatest in June (473 hours).

Total catch of largemouth bass was 633 fish with a harvest of 1 fish. Highest catch (350 fish) occurred in June. Anglers fished 1.7 hours to catch a largemouth bass during 2012-13.

**Panfish (Table 2, Figures 6-10)**  
**Bluegills** were the most sought after panfish species during the survey. Fishing effort directed at bluegills was 1,708 hours.

Total catch of bluegills was 2,949 fish with 632 harvested. The mean length of bluegills harvested was 7.3 inches.

**Black crappies** were the second most sought after panfish species during the survey. Fishing effort directed at black crappies was 656 hours.

Anglers caught 215 black crappies and harvested 5 fish. The mean length of black crappies harvested was 7.7 inches.

**Pumpkinseeds** were the third most sought after panfish species during the survey. Fishing effort directed at pumpkinseeds was 340 hours.

Total catch of pumpkinseeds was 554 fish with 21 harvested.

**Yellow perch** were the fourth most sought after panfish species during the survey. Fishing effort directed at yellow perch was 210 hours.

Total catch of yellow perch was 358 fish with 104 harvested.

Rock bass were also caught during the 2012-13 fishing 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. Jason Halverson was the creel clerk on Deer 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, Ken and Pam Mack, who generously allowed the department to access the lake through their property during this survey.

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

Additional copies of this report and those covering other local lakes can be obtained from the Woodruff DNR or online at:

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

**Table 1. Sportfishing effort summary, Deer Lake, 2012-13 season.**

Month	Total Angler Hours	Total Angler Hours/Acre	Lincoln County Average Hours/Acre	Statewide Average Hours/Acre
May	487	3.1	5.8	5.8
June	1161	7.4	6.1	6.1
July	732	4.7	7.8	6.4
August	541	3.5	5.1	5.4
September	129	0.8	2.2	3.8
October	164	1.1	0.5	1.6
December	320	2.1	1.6	1.7
January	511	3.3	3.6	1.5
February	447	2.9	2.1	1.3
March	190	1.2	1.5	**
*Summer Total	3214	20.6	27.5	29.1
*Winter Total	1468	9.4	8.8	4.5
Grand Total	4682	30.0	36.3	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 Deer 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 Deer 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 Deer Lake to other lakes statewide.

**Table 2. Comparison of creel survey synopses, Deer Lake, 2012-13 and 2001-02 fishing seasons.**

CREEL YEAR: 2012-13

<b>SPECIES</b>	<b>DIRECTED EFFORT (Hours)</b>	<b>PERCENT OF TOTAL</b>	<b>TOTAL CATCH</b>	<b>SPECIFIC CATCH RATE (Hrs/Fish) *</b>	<b>TOTAL HARVEST</b>	<b>SPECIFIC HARVEST RATE (Hrs/Fish) **</b>	<b>MEAN LENGTH OF HARVESTED FISH</b>
Walleye	568	7.39%	0		0		
Northern Pike	1472	19.14%	606	4.4	134	11.0	22.0
Muskellunge	705	9.17%	67	15.1	0		
Smallmouth Bass	1088	14.15%	665	1.8	0		
Largemouth Bass	943	12.26%	633	1.7	1		16.0
Yellow Perch	210	2.73%	358	0.8	104	2.0	
Bluegill	1708	22.21%	2949	0.6	632	2.7	7.3
Pumpkinseed	340	4.42%	554	1.0	21	16.2	
Black Crappie	656	8.53%	215	3.0	5	120.5	7.7

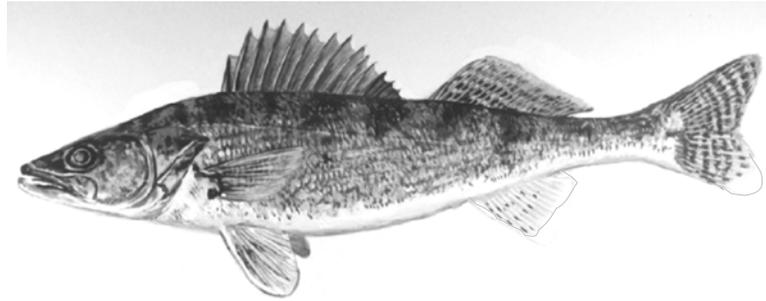
\* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

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

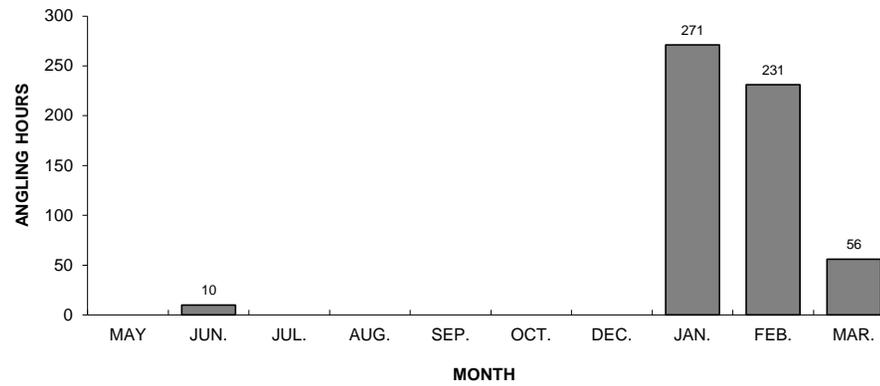
CREEL YEAR: 2001-02

<b>SPECIES</b>	<b>DIRECTED EFFORT (Hours)</b>	<b>PERCENT OF TOTAL</b>	<b>TOTAL CATCH</b>	<b>SPECIFIC CATCH RATE (Hrs/Fish)</b>	<b>TOTAL HARVEST</b>	<b>SPECIFIC HARVEST RATE (Hrs/Fish)</b>	<b>MEAN LENGTH OF HARVESTED FISH</b>
Walleye	488	10.74%	64	7.6	0		
Northern Pike	208	4.58%	354	6.2	20	10.7	37.5
Muskellunge	0	0.00%					
Smallmouth Bass	802	17.65%	42	19.3	0		
Largemouth Bass	186	4.09%	42		0		
Yellow Perch	494	10.87%	1189	0.4	323	1.5	8.6
Bluegill	1994	43.88%	10422	0.2	4924	0.4	6.4
Pumpkinseed	344	7.57%	35	10.0	35	10.0	6.4
Rock Bass	0	0.00%	5		5		7.0
Black Crappie	28	0.62%	5	6.0	5	6.0	11.2

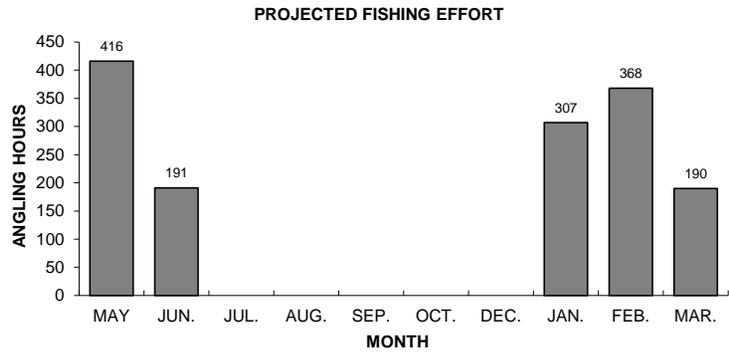
# WALLEYE



PROJECTED FISHING EFFORT



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



## NORTHERN PIKE

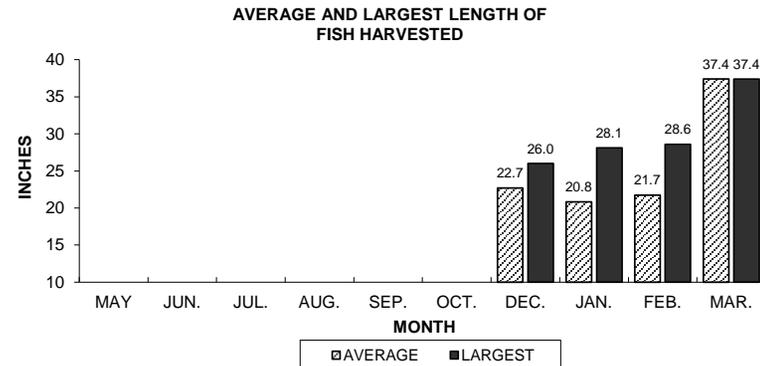
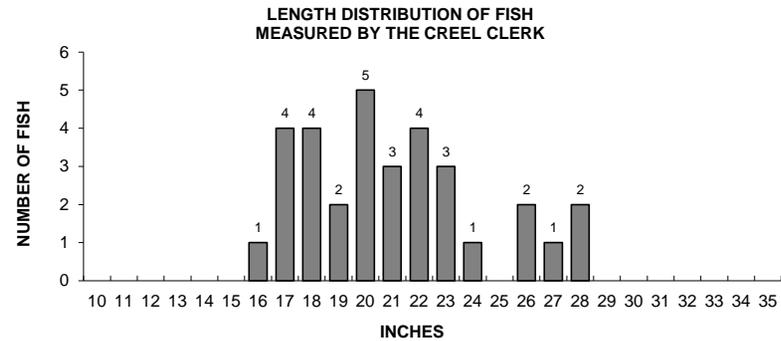
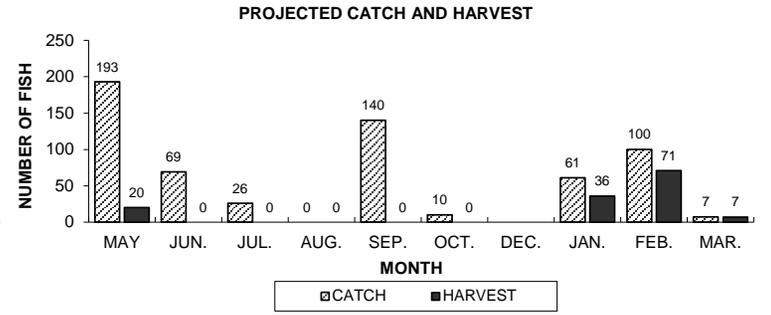
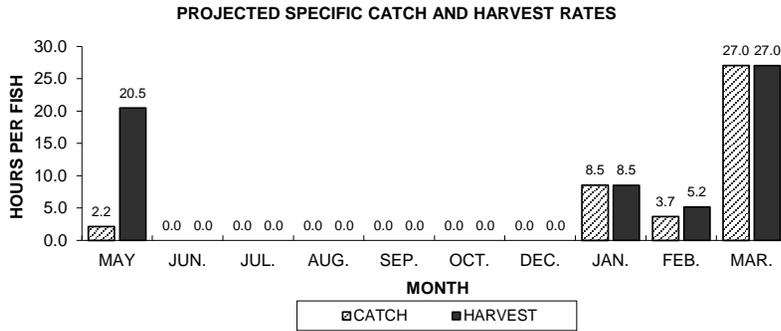
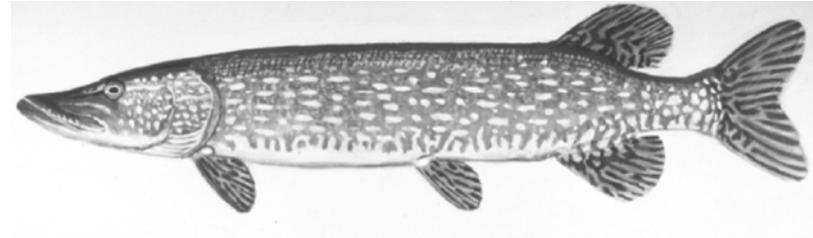
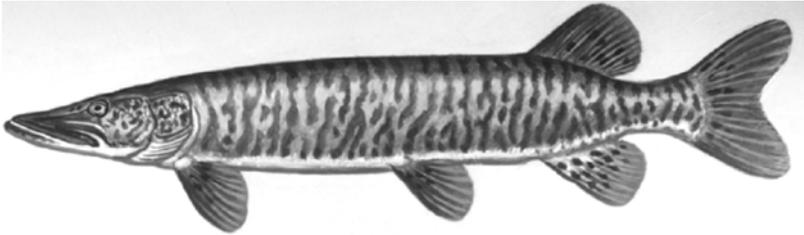
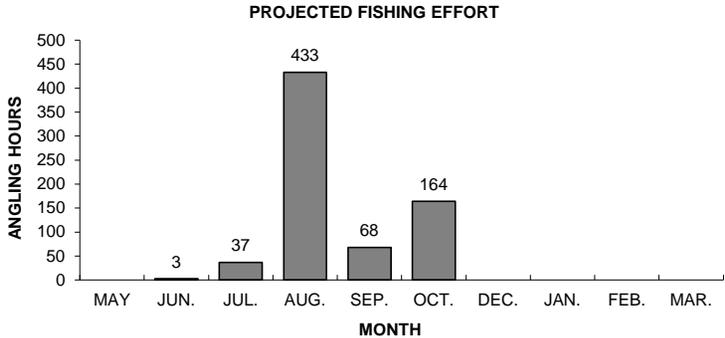


Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# MUSKELLUNGE



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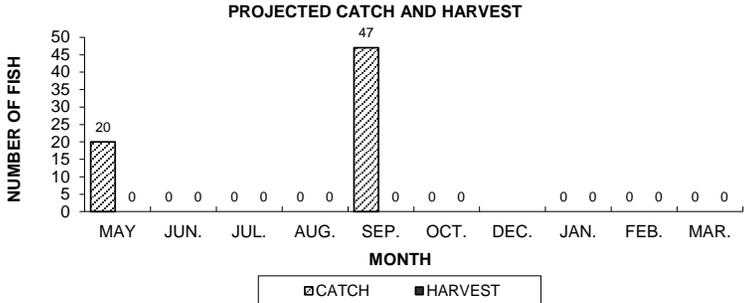
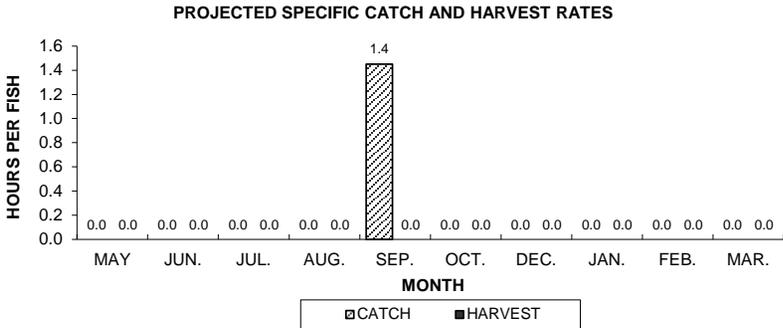


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# SMALLMOUTH BASS

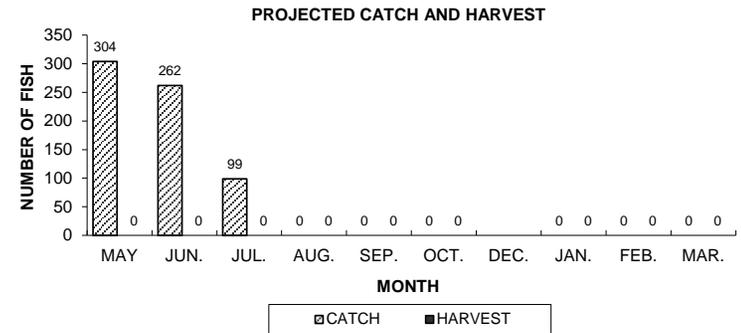
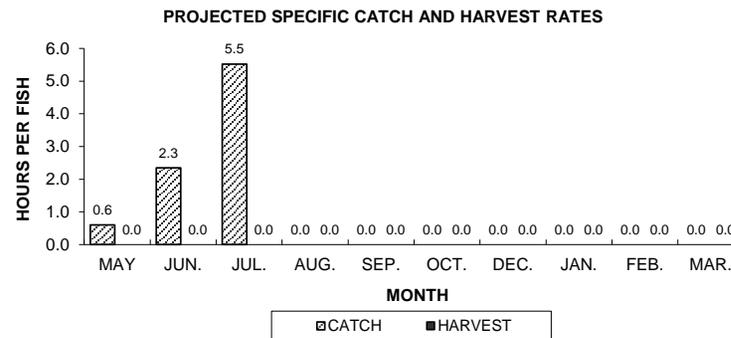
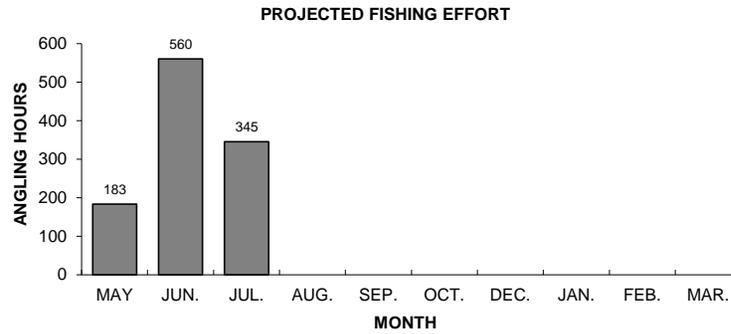
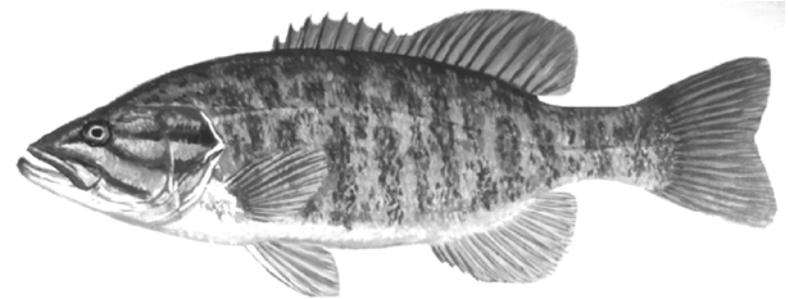
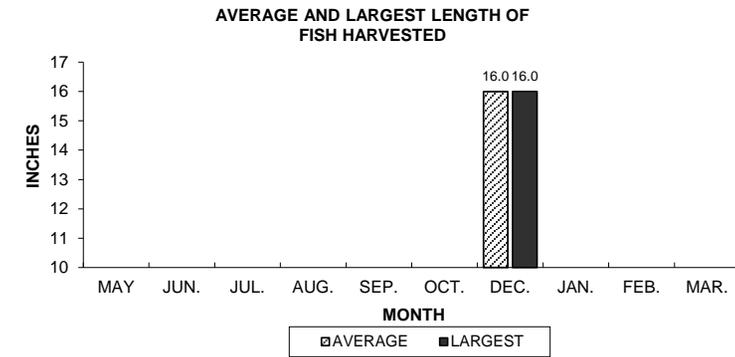
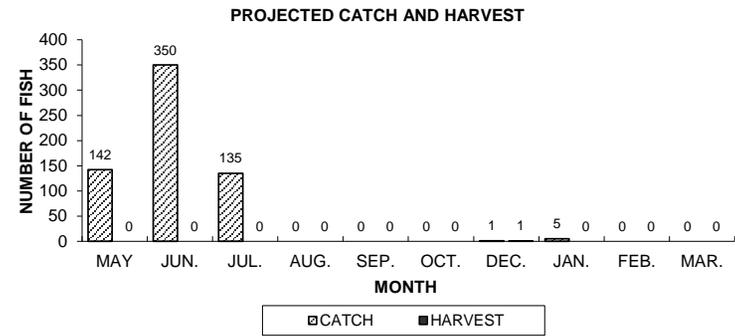
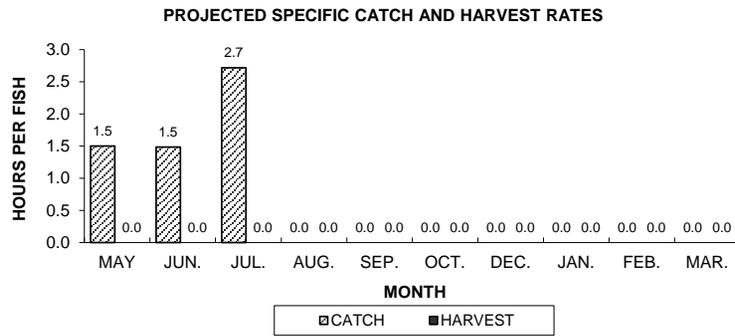
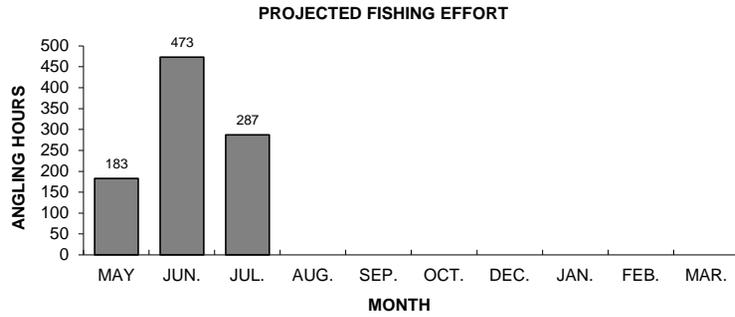
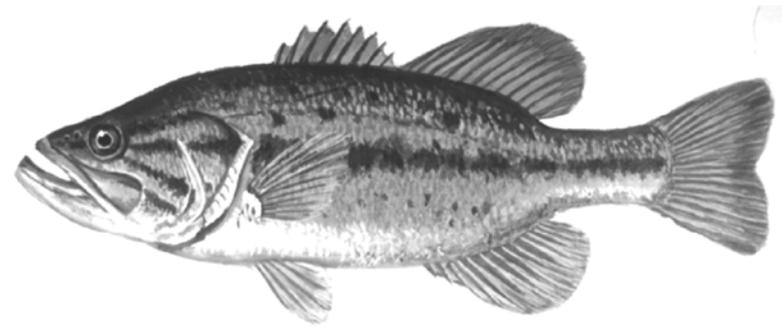


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# LARGEMOUTH BASS



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

# YELLOW PERCH

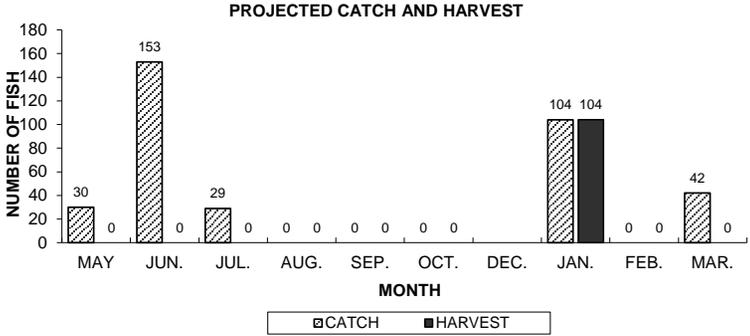
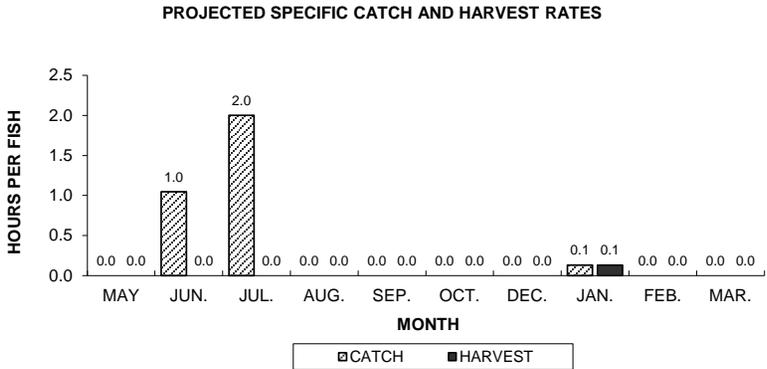
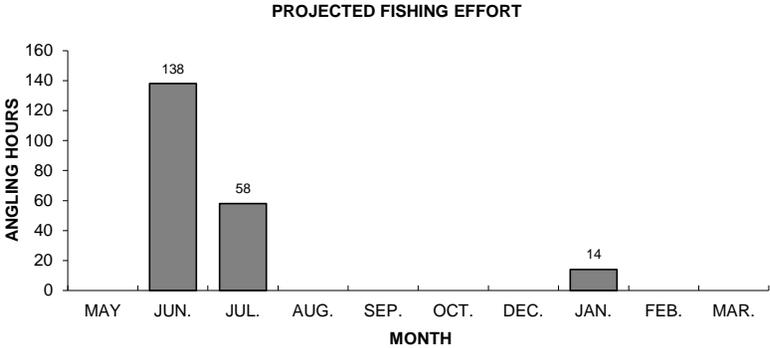


Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# BLUEGILL

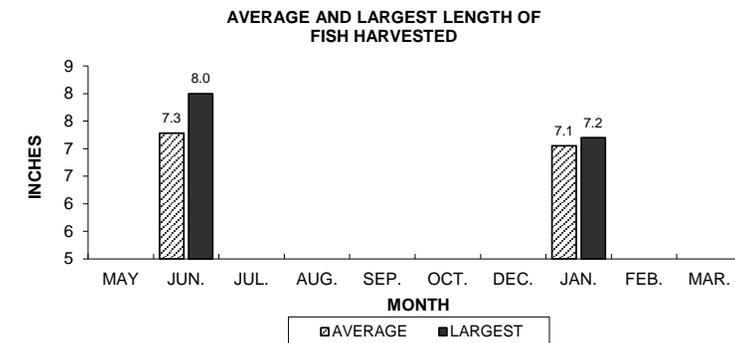
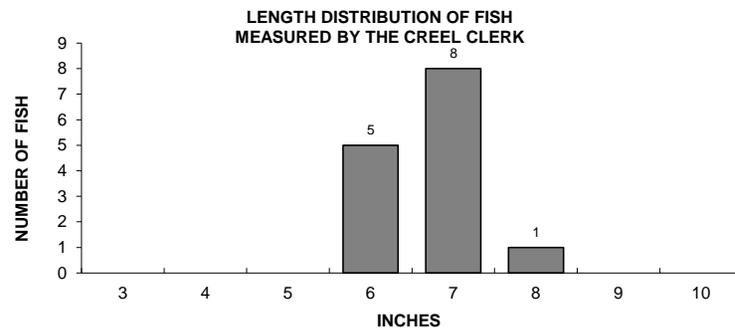
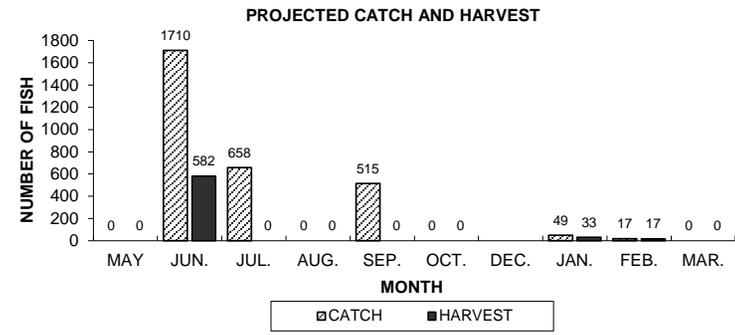
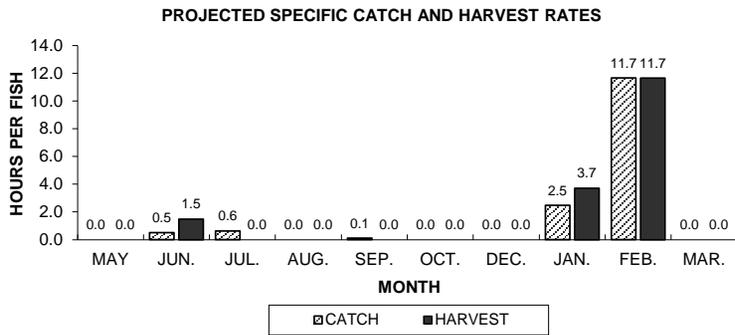
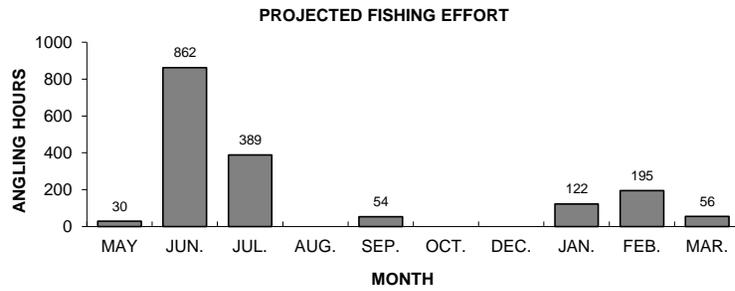
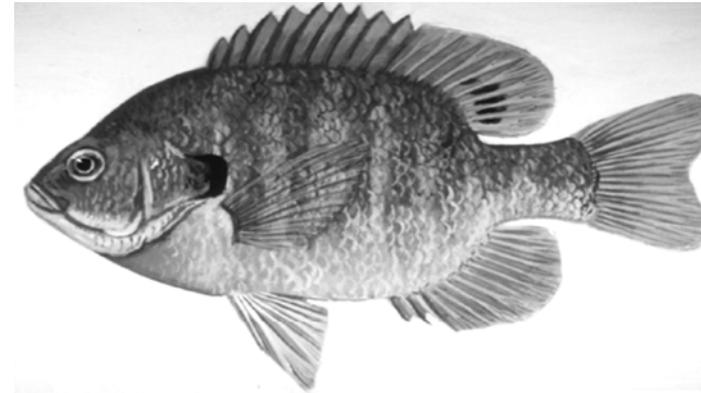


Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# PUMPKINSEED

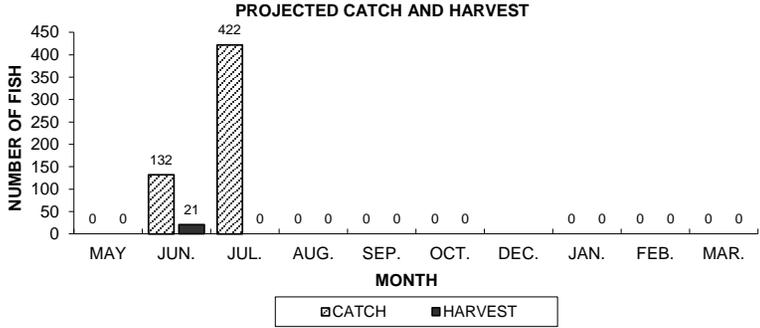
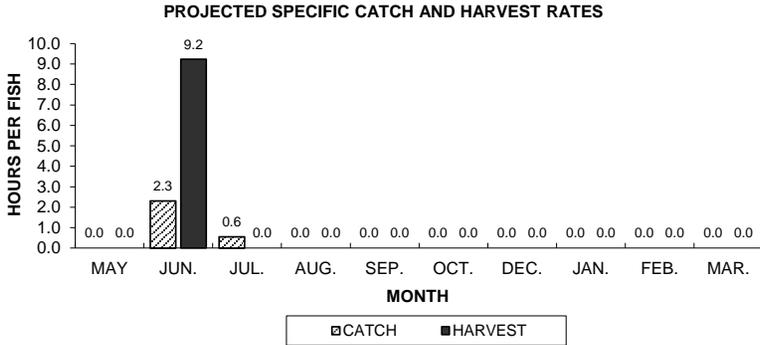
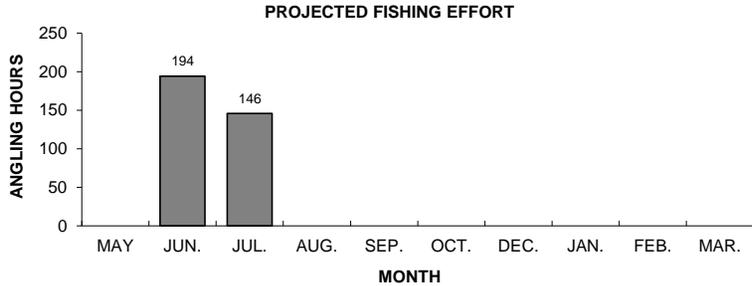
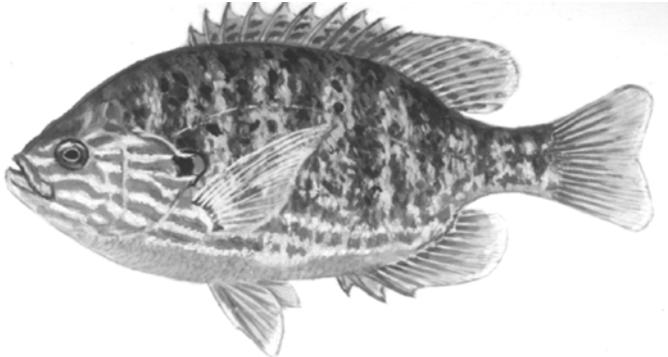


Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.

# BLACK CRAPPIE

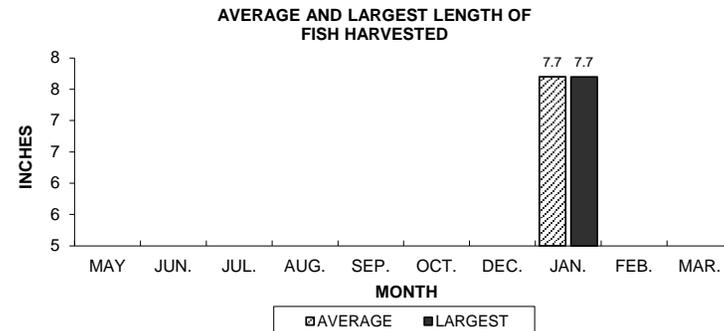
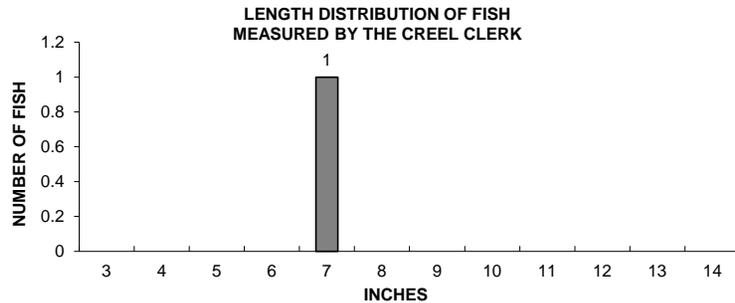
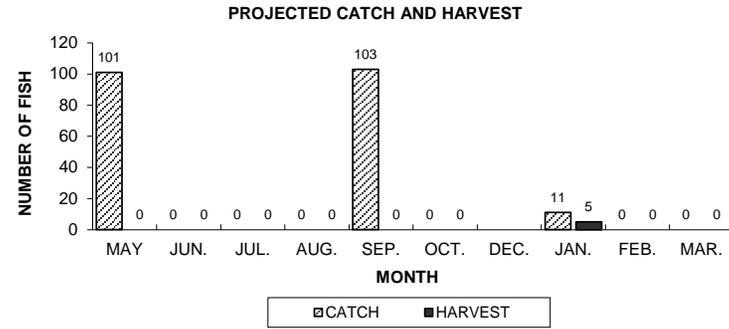
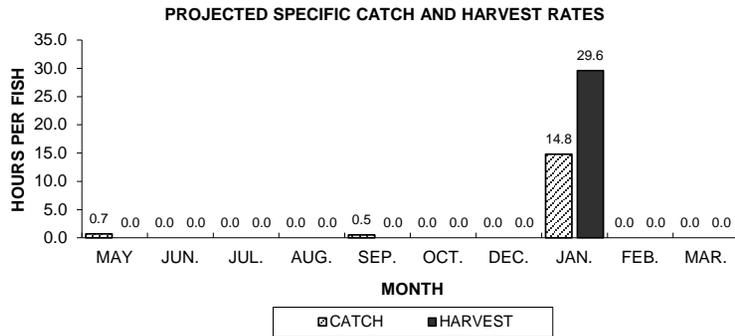
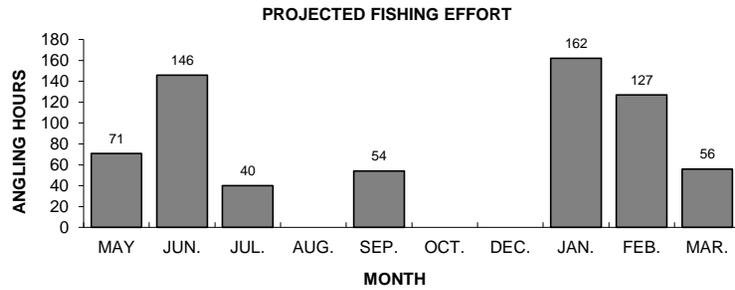
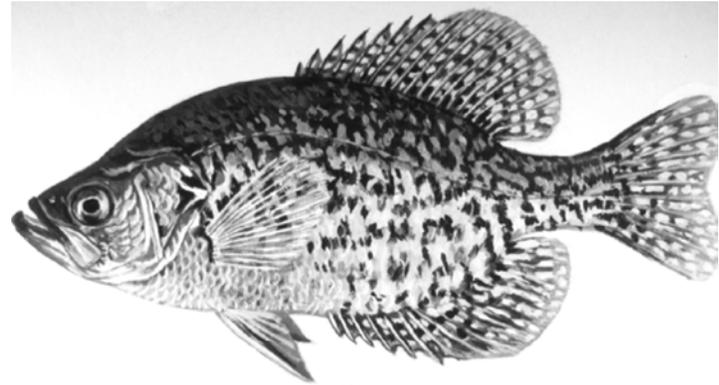


Figure 9. Black crappie sportfishing effort, catch, harvest, and length distribution, Deer Lake, during 2012-13.