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**Maple Lake Winter Creel Survey  
December 12, 2009 to March 14, 2010**

**By**

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## TABLE OF CONTENTS

List of Figures.....	2
List of Tables .....	2
Abstract.....	3
Introduction.....	3
Study Area .....	4
Methods .....	4
Results and Discussion .....	5
Acknowledgements.....	9
References.....	9
Addendum: Harvest Summary Form.....	17

## LIST OF FIGURES

Figure 1. Maple Lake, Wright County, Minnesota .....	10
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## LIST OF TABLES

Table 1. Angling effort estimated for Maple Lake, December 2009-March 2010.. .....	10
Table 2. Percentage <sup>1</sup> of parties targeting species on Maple Lake, December 2009-March 2010.....	11
Table 3. Approximate one-way distance traveled by interviewed anglers to Maple Lake, December 2009-March 2010. ....	11
Table 4. Response to question 1: “On a scale of 1 to 10, with one being poor and ten being excellent, how would you rate your fishing success?”. .....	11
Table 5. Responses to questions 2, 3, and 4.....	12
Table 6. Summarized responses to question 5, “Any suggestions?”. .....	12
Table 7. Harvest, release, and catch rate estimates, Maple Lake, Minnesota, December 12, 2009–March 14, 2010.. .....	13
Table 8. Catch and harvest estimates Maple Lake, Minnesota, December 12, 2009–March 14, 2010.....	13
Table 9. Catch and harvest estimates per acre, Maple Lake, Minnesota, December 12, 2009–March 14, 2010 .....	14
Table 10. Yield estimates in pounds from Maple Lake, December 2009-March 2010.....	14
Table 11. Length frequency of harvested and released <sup>1</sup> fish. Maple Lake, December 2009-March 2010 .....	15

## **Abstract**

A winter creel survey was conducted on Maple Lake, MN from December 12, 2009 to March 14, 2010 using a limited schedule and Montrose area staff. The objectives of the survey were to provide information on fishing pressure, catch and harvest, angler satisfaction, and to augment the results of the 2009 summer lake survey. Total angling pressure was estimated to be 30.54 hrs/acre. The total catch was 42.50 fish/acre with harvest of 14.53 fish/acre. Among species, sunfish species had the highest catch (31.75/acre) and harvest (8.88/acre), followed by black crappie catch (7.30/acre) and harvest (4.29/acre) and northern pike catch (2.45/acre) and harvest (1.19/acre). Similar yield estimates were found for northern pike (2.33 lbs/acre) and sunfish (2.31 lbs/acre), followed by black crappie (1.68 lbs/acre). The total yield for all species combined was 6.56 lbs/acre. Black crappie were the most sought after species (53.9% of parties), followed by sunfish (43.1%), northern pike (36.1%), and walleye (13.2%). Sunfish had the highest catch rate (4.50/hr), followed by black crappie (0.69/hr), northern pike spearing (0.34/hr) and northern pike angling (0.29/hr). The catch rate for walleye (0.01/hr) was low. Angler satisfaction was low and angler comments referred to small northern pike size and the desire for more walleye. Despite regular walleye stocking, creel results and summer gillnetting indicate a low population. Northern pike were small and numerous in both the summer gill nets and the winter creel and will likely hinder improvement in the walleye fishery. The limited creel schedule using area staff was valuable and could be used more often when hiring a full-time clerk is not possible.

## **Introduction**

Maple Lake is a popular angling and recreational lake in central Wright County. The fishery primarily consists of walleye, northern pike, largemouth bass, sunfish, and black crappie. Walleye have been stocked since the 1940s to sustain the fishery; natural reproduction has not been assessed, but is believed to be low or non-existent. A standard lake survey (re-survey) was completed in 2009 (Minnesota Department of Natural Resources 2010). Results from gillnetting included a low catch rate for walleye (1.8/net) and a high catch rate for northern pike (12.3/net). Northern pike were small; only 11.7% exceeded 24 inches.

A modified winter creel survey was conducted on Maple Lake from December 12, 2009 through March 14, 2010 using a limited sampling schedule. The objectives of the survey were to provide information on fishing pressure, catch and harvest, angler demographics and angler attitudes regarding the walleye fishery. In particular, data was needed to determine whether angler catch corresponds to summer netting results for walleye and northern pike. This was the first creel survey done on Maple Lake.

### **Study Area**

Maple Lake is located adjacent to the town of Maple Lake in Wright County, Minnesota (Figure 1). Three distinct basins are present, hereafter referred to as the main lake, middle lake, and Little Maple. The main and middle lakes are well-connected, whereas Little Maple is connected by a navigable channel through a shallow area of cattail. The total surface area is 777 acres with 396 littoral acres. The maximum depth is 76 feet and the shoreline length is 9.2 miles. A public access is located on the southwest end of the main lake and also on the northeast end on Little Maple. The lake is classified as lake class 24 (Schupp 1992). Water clarity is high compared to nearby lakes; the secchi depth was 11 feet on July 20, 2009.

### **Methods**

A stratified, random, roving creel survey was conducted from December 12, 2009 through March 14, 2010. The survey was stratified by month and day type (weekday, weekend/holiday). For individual sampling days, one of two non-overlapping, eight hour periods (6 AM to 2 PM, 2 PM to 10 PM) was used. One weekday and one weekend day were sampled during each week. All days and sampling periods were randomly chosen. Angler type was recorded as one of four strata: using a shelter of any kind (fish house), angling without a shelter (open ice), spearing, or a combination of spearing and angling.

The creel clerk roved the lakes by foot, truck or snowmobile and interviewed as many anglers as possible. The percentage of angling parties which were interviewed was not calculated, but was high. Interview locations were recorded and tabulated by basin, but basin data was combined for analysis. During the interview, the clerk recorded the number of anglers in the party, start and end times, angler demographics, and catch information. An effort was made to record complete trip interviews when anglers were seen leaving the

lake. Angler demographics were recorded individually, whereas all other data were recorded for the party. Open ice anglers were always interviewed individually.

Anglers were also asked a series of questions:

- 1.) “On a scale of 1 to 10, with one being poor and ten being excellent, how would you rate your fishing success today?”
- 2.) “Have you been interviewed before on this lake?”
- 3.) “Do you fish for walleye on Maple Lake?”
- 4.) “How would you rate walleye fishing overall on Maple Lake? Poor, fair, good, or excellent?”
- 5.) “Any suggestions for improving the fishery?”

All anglers were asked question 1, but previously interviewed anglers were not asked any further questions. Anglers who responded “no” to question 3 were not asked question 4.

Angling pressure was estimated from instantaneous counts at randomly selected times. Two counts were made during each sampling period. Open ice anglers were counted individually. Data were analyzed with the Creel Application Software program (CAS, version 2.2) (Soupir 2008).

Harvested fish were measured to the nearest millimeter for total length. A regression was developed from lengths and weights of fish caught in the 2009 summer lake survey and used to estimate weight. Anglers were asked to estimate lengths of fish they released.

## **Results and Discussion**

### **Fishing Pressure**

The creel survey covered a period of 92 days and a total of 29 days were sampled during the survey, including 12 weekdays and 17 weekend/holiday days. A total of 58 activity counts and 416 interviews were recorded. Completed trips (217) represented 52% of all interviews. Total estimates of effort were 22,997 angler hours and 30.54 angler hours per acre (Table 1). Mean party size was 1.61 anglers and mean trip length was 3.35 hours.

Recent winter creel surveys (since 2002) in the Montrose area have had pressure estimates ranging from a low of 8.6 hrs/acre (Clearwater Lake, Minnesota Dept. of Natural Resources 2005) to a high of 46.5 hrs/acre (Buffalo Lake, Minnesota Dept. of Natural Resources 2003). The pressure estimate for Maple Lake is within this range, but higher than initially expected. Angling was generally reported to be poor on area lakes during the

winter season, but angler feedback indicated that Maple Lake was perceived to be better. Separate estimates were not calculated for each basin, but angling pressure on Little Maple seemed high. More parties were counted on Little Maple (351) during pressure counts than on the main lake (251) or middle lake (83), despite the relatively small size of the basin. Possible reasons for the high pressure on Little Maple include: a shallow basin with earlier ice formation, a public access very close to where most anglers were located, and a reputation as a good place to catch crappie and sunfish. The pressure may have had an effect; fewer parties were counted on Little Maple as the season progressed and anglers reported less fish caught.

#### Angler Demographics and Interview Questions

A total of 714 anglers were interviewed, of which 89.0% were male and 11.0% were female. Adults and children (<16 years old) represented 86.8% and 13.2%, respectively. Most parties (83%) used the public accesses to access the lake. A total of 532 anglers gave their home zip codes and approximately one third had a Maple Lake mailing address (Table 3). The mean distance traveled from home to the lake was 6 miles and the majority of anglers traveled 10 miles or less.

Black crappie was the most sought after species; overall, 53.9% of anglers targeted black crappie, with higher percentages in December and March (Table 2). Sunfish (43.1%) and northern pike (36.1%) were also highly sought after by anglers. The season for northern pike and walleye closed on February 28, 2010 and anglers targeted crappie and sunfish exclusively after this date. Overall, only 13.2% of anglers targeted walleye.

Each party was asked a series of questions during the interview. When asked to rate their fishing success on a scale of one to ten, the mean response from all parties was 3.6 and the most common response was one (Table 4). Only 11.5% of parties gave a response of 8 or more. A minority of parties (26.2%) indicated that they fish for walleye at some time on Maple Lake and nearly half (48.6%) rated walleye fishing overall as poor (Table 5). Anglers gave a variety of suggestions and comments to creel clerks; most involved regulation changes, stocking walleye, or complaints about small northern pike (Table 6).

#### Catch and Harvest

For all species combined, 1.39 fish were caught and 0.48 harvested per angler-hour (Table 7). Among species, sunfish species had the highest catch (4.50/hr) and harvest

(1.34/hr) rates for targeting anglers, followed by black crappie (0.69, 0.38/hr, respectively). Northern pike spearkers had higher catch and harvest rates (0.34/hr) than pike anglers (0.29, 0.19/hr, respectively), but there were few spearkers. The walleye catch rate for targeting anglers was very low (0.008/hr). No interviewed anglers targeted largemouth bass or yellow perch, but a small number were caught and all perch were released. Some anglers commented that bass fishing during the open water season was good.

Sunfish were the most numerous fish caught (23,905 fish), but most were released (72%; Table 8). Conversely, most black crappie caught (5,505) were harvested (59%). Northern pike anglers caught far more pike than spearkers (1,757 and 117, respectively) and harvested less than half of their catch (46%). Anglers indicated some awareness that keeping small pike was good for the population; without this, the harvest rate would have been lower. Only 74 walleye were estimated as caught during the survey. Sunfish had the highest catch and harvest per acre (31.75, 8.88/acre, respectively), followed by black crappie (7.31, 4.29/acre, respectively)(Table 9). Northern pike had the highest yield (1,753 lbs, 2.33 lbs/acre), followed by sunfish (2.31 lbs/acre) and black crappie (1.68 lbs/acre)(Table 10).

Length frequencies for harvested and released fish are shown in Table 11. Data for released fish should be used with caution, since these are angler estimates. The mean lengths of harvested and released black crappie were 8.9 and 7.1 inches, respectively. Sunfish had mean lengths of 6.9 and 4.9 inches for harvested and released fish, respectively. Mean lengths for northern pike harvested by angling (20.9 in) and spearing (20.8 in) were nearly identical, but relatively few speared pike were measured. Only 16% of harvested northern pike (n=144) exceeded 24 inches in length and anglers reported only four released pike exceeding 24 inches. Summer gillnetting found that only 12.3% of pike exceeded 24 inches, perhaps underscoring the harvest pressure on larger pike.

### Conclusions and Recommendations

Results from the creel survey mostly corroborate summer netting data for Maple Lake. The summer gill net catch (12.3/net) for northern pike was more than twice the management goal of 4-6/net. In the creel survey, northern pike catch and harvest per hour and per acre were much higher than were found in nearby Pulaski Lake and Clearwater Lake winter creel surveys (Minnesota Department of Natural Resources 2003, 2005).

Northern pike caught in gill nets and harvested in the creel were small (20.2 and 20.9 inches, respectively) and angler comments were negative regarding pike size.

Walleye numbers and catch rate were quite low and nearly half of walleye anglers rated walleye fishing as poor. Many anglers who fish for walleye (Table 5, Question 3) indicated that they do so mainly during the open water season and were targeting other species when interviewed. Given the low catch rate, if anglers had been asked to rate walleye fishing during the survey, their responses might have been even worse.

Summer gillnetting yielded only 1.9 walleye per net, well below the management goal of 4-6 per net. Walleye stocking has been substantial in recent years; DNR stocking has been augmented by the lake association for a rate of 1.5 pounds of fingerlings per year on an every other year stocking schedule. Recent research indicates that northern pike catches exceeding 7.5/gill net negatively affect survival of walleye fingerlings (Brad Parsons, unpublished data). Reducing the number of northern pike, especially small pike less than 24 inches, would likely improve the walleye fishery, but options to accomplish this are limited. Signs are posted at the public accesses encouraging anglers to keep their limit of pike, but many anglers are reluctant to keep small pike. A special regulation to protect larger pike might help, but results have been mixed on other lakes and implementing additional northern pike regulations in the Montrose area is currently not feasible.

Most anglers targeted sunfish or black crappie and seemed somewhat satisfied with the number of fish caught, if not the size. The high number of released sunfish suggests that anglers were sorting fish to find sunfish of an acceptable size to harvest. A low number of yellow perch were caught in the creel survey and none in the 2009 summer gill nets. Past net catches were higher when northern pike catches were lower.

This survey was done using only Montrose area staff on a limited sampling schedule. This approach was used successfully for a previous winter creel survey in Wright County (Minnesota Department of Natural Resources 2002) and yielded valuable results. Given recent creel funding constraints, this type of survey could be used more often to augment data from summer lake surveys when sufficient staff and time are available. Data regarding angler attitudes has been especially valuable when a special regulation is in place or being



considered. However, the amount of effort should be increased if the survey is done on a larger lake with potentially more anglers.

### **Acknowledgements**

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Figure 1. Maple Lake, Wright County, Minnesota.

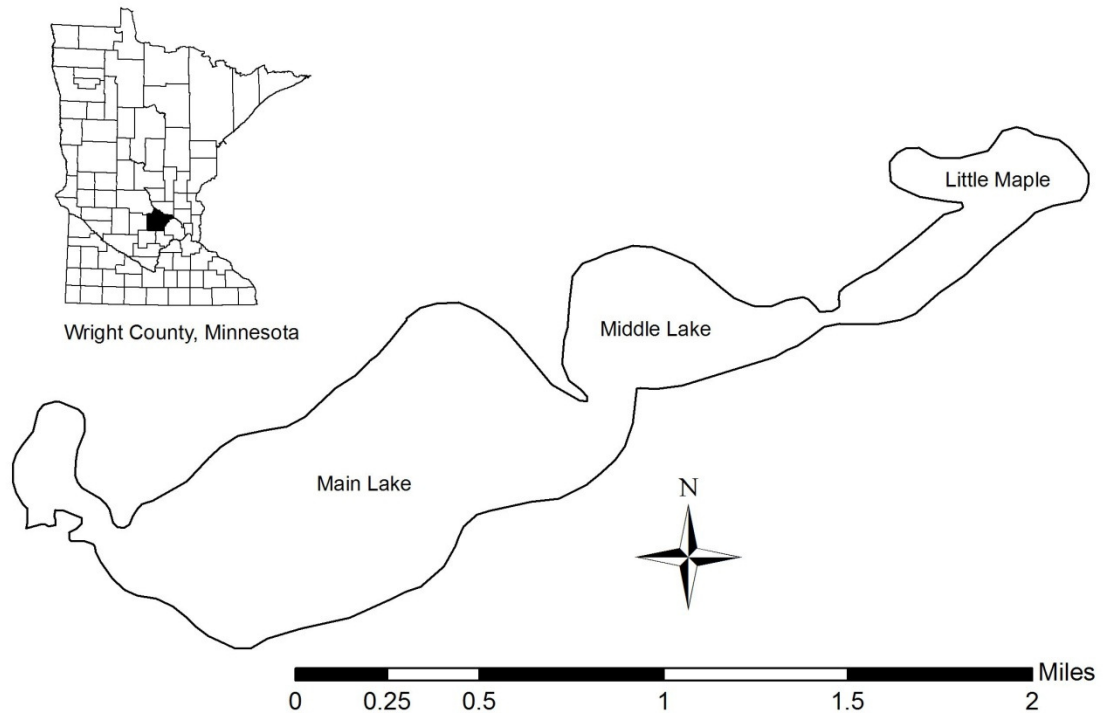


Table 1. Angling effort estimated for Maple Lake, December 2009-March 2010. Standard errors are in parentheses.

	Month				Entire
	December	January	February	March	Season
Angler hours	4,899 (1,634)	8,704 (2,266)	8,452 (2,538)	941 (293)	22,997 (3,785)
Angler hours/acre	6.51 (2.17)	11.56 (3.01)	11.23 (3.37)	1.25 (0.39)	30.54 (5.03)
Anglers/interview	1.67 (0.73)	1.60 (0.48)	1.83 (0.94)	1.13 (0.17)	1.61 (0.36)
Avg trip length (hrs)	3.65 (1.81)	3.06 (0.61)	3.52 (2.34)	3.03 (—)	3.35 (0.87)
Number of interviews	74	195	118	29	416

Table 2. Percentage<sup>1</sup> of parties targeting species on Maple Lake, December 2009-March 2010.

Target Species	December	January	February	March	Total
Anything	0.8	1.5	2.8	0.0	1.7
Black crappie	83.5	42.6	49.3	87.5	53.9
Northern pike	17.3	40.5	45.6	0.0	36.1
Sunfish spp.	41.7	42.0	41.5	71.9	43.1
Walleye	12.6	17.5	8.8	0.0	13.2
Anglers (N)	127	338	217	32	714

<sup>1</sup>Percentages do not total to 100 because anglers could target up to two species.

Table 3. Approximate one-way distance traveled by interviewed anglers to Maple Lake, December 2009-March 2010. Distances are calculated in a straight line from center of zipcode areas.

Most Frequent Home Zipcodes	Number of Anglers	Percent of Anglers	Distance To Lake (miles)
Maple Lake	238	33.6	0
Monticello	125	17.6	10
Buffalo	86	12.1	8
Big Lake	38	5.4	14
Elk River	28	4.0	21
Annandale	17	2.4	7
Total	532	75.1	Mean = 6.0 miles

Table 4. Response to question 1: “On a scale of 1 to 10, with one being poor and ten being excellent, how would you rate your fishing success today?” One response was collected from each party, regardless of party size.

3.6	Average response from all parties
391	Total number of parties responding
55.8	Percentage of responses equal to 3 or less
11.5	Percentage of responses equal to 8 or more
1	Most frequent response

Table 5. Responses to questions 2, 3, and 4. One response was collected from each party, regardless of party size. Previously interviewed anglers were not asked question 3. Only anglers who responded “yes” to question 3 were asked question 4.

Question 2: “Have you been interviewed before on Maple Lake?”

Yes	No	Total	Percent Yes
106	289	395	26.8

Question 3: “Do you fish for walleye on Maple Lake?”

Yes	No	Total	Percent Yes
74	208	282	26.2

Question 4: “How would you rate walleye fishing overall on Maple Lake?”

	Excellent	Good	Fair	Poor	Total
Number	0	11	25	34	70
Percent	0	15.7	35.7	48.6	

Table 6. Summarized responses to question 5, “Any suggestions for improving the fishery?” Multiple responses were allowed for a given party, but not duplicate responses. Previously interviewed anglers were not asked question 5.

Number	Response
10	More stocking/keep stocking (most stated walleye)
8	Complaints about small northern pike
11	Regulation changes
3	Northern pike slot limit
3	Raise bag limit on northern pike
1	close channel during crappie spawning
4	unspecified increase in bag limit
1	Desire to ban league fishing for largemouth bass
1	Desire for sunfish management
1	Poor enforcement response to TIP calls
1	Complaint about ice on Northeast (Little Maple) public access
1	Complaint about garbage left on ice
34	Total number of comments/suggestions

Table 7. Harvest, release, and catch rate estimates, Maple Lake, Minnesota, December 12, 2009–March 14, 2010. Standard errors appear in parentheses.

Species	Harvest per Angler Hour		Release per Angler Hour		Catch per Angler Hour	
<b>Targeting Anglers</b>						
Black crappie	0.380	(0.076)	0.307	(0.065)	0.687	(0.121)
Northern pike angling	0.188	(0.049)	0.104	(0.023)	0.291	(0.059)
Northern pike spearing	0.336	(0.146)	0.000	(0.000)	0.336	(0.146)
Sunfish <sup>1</sup>	1.339	(0.454)	3.162	(0.754)	4.502	(1.130)
Walleye	0.004	(0.012)	0.004	(0.020)	0.008	(0.020)
<b>All Anglers</b>						
Black crappie	0.141	(0.067)	0.099	(0.041)	0.239	(0.106)
Largemouth bass	0.002	(0.001)	0.003	(0.001)	0.005	(0.002)
Northern pike	0.040	(0.010)	0.041	(0.011)	0.082	(0.022)
Sunfish <sup>1</sup>	0.291	(0.126)	0.749	(0.366)	1.040	(0.490)
Walleye	0.002	(0.001)	0.001	(0.001)	0.003	(0.002)
Yellow perch	0.000	(0.000)	0.023	(0.011)	0.023	(0.011)
All species	0.476	(0.187)	0.916	(0.422)	1.392	(0.606)

<sup>1</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Table 8. Catch and harvest estimates Maple Lake, Minnesota, December 12, 2009–March 14, 2010. Standard errors are in parentheses.

Species	Number Harvested		Number Released		Number Caught	
Black crappie	3,230	(900)	2,274	(528)	5,505	(1,357)
Largemouth bass	47	(19)	64	(23)	110	(35)
Northern pike angled	810	(122)	948	(142)	1,757	(285)
Northern pike speared	117	(27)	0	(0)	117	(27)
Sunfish <sup>1</sup>	6,687	(1,889)	17,218	(5,363)	23,905	(7,153)
Walleye	53	(25)	20	(6)	74	(29)
Yellow perch	0	(0)	532	(206)	532	(206)
All species	10,944	(2,673)	21,056	(5,933)	32,000	(8,428)

<sup>1</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Table 9. Catch and harvest estimates per acre, Maple Lake, Minnesota, December 12, 2009–March 14, 2010. Standard errors are in parentheses.

Species	Number Harvested per Acre		Number Released per Acre		Number Caught per Acre	
Black crappie	4.290	(1.195)	3.020	(0.702)	7.310	(1.802)
Largemouth bass	0.062	(0.025)	0.084	(0.031)	0.146	(0.046)
Northern pike angled	1.042	(0.162)	1.259	(0.189)	2.301	(0.378)
Northern pike speared	0.151	(0.033)	0.000	(0.000)	0.151	(0.033)
Sunfish <sup>1</sup>	8.880	(2.508)	22.866	(7.122)	31.746	(9.500)
Walleye	0.071	(0.033)	0.027	(0.022)	0.098	(0.039)
Yellow perch	0.000	(0.000)	0.707	(0.273)	0.707	(0.273)
All species	14.533	(3.550)	27.963	(7.879)	42.497	(11.193)

<sup>1</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Table 10. Yield estimates in pounds from Maple Lake, December 2009-March 2010. SE is standard error.

Species	Harvest	SE	Harvest/acre	SE
Black crappie	1,267.60	309.64	1.683	0.411
Largemouth bass	88.96	35.52	0.118	0.047
Northern pike	1,753.39	350.09	2.329	0.465
Sunfish <sup>1</sup>	1,739.50	352.91	2.310	0.469
Walleye	87.30	73.94	0.116	0.054
All species	4,936.75	—	6.556	—

<sup>1</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Table 11. Length frequency of harvested and released<sup>1</sup> fish. Maple Lake, December 2009-March 2010. SE is standard error.

Total Length (in.)	Black Crappie		Sunfish <sup>2</sup>		Yellow Perch	
	Harvest	Release	Harvest	Release	Harvest	Release
<4.0	—	—	—	47	—	—
4.0-4.4	—	—	—	396	—	29
4.5-4.9	—	3	—	806	—	—
5.0-5.4	—	15	8	12	—	1
5.5-5.9	—	1	30	291	—	—
6.0-6.4	—	40	132	24	—	16
6.5-6.9	1	7	148	7	—	—
7.0-7.4	30	2	168	59	—	2
7.5-7.9	10	72	58	10	—	—
8.0-8.4	42	33	12	—	—	—
8.5-8.9	115	1	1	—	—	—
9.0-9.4	99	8	—	—	—	—
9.5-9.9	27	17	—	—	—	—
10.0-10.4	10	3	—	—	—	—
10.5-10.9	7	—	—	—	—	—
11.0-11.4	—	1	—	—	—	—
11.5-12.0	2	—	—	—	—	—
>12.0	—	—	—	—	—	—
Total (N)	343	203	557	1,652		48
Mean length	8.9	7.1	6.9	4.9	—	4.9
SE	4.1	—	2.8	—	—	0.2
Mean weight (lb)	0.39	0.20	0.26	0.09	—	—
SE	0.24	—	0.13	—	—	—

<sup>1</sup>Lengths estimated by anglers <sup>2</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Table 11 (continued). Length frequency distribution of harvested and released<sup>1</sup> fish. Maple Lake, December 2009-March 2010. SE is standard error.

Total Length (in)	Largemouth bass		Northern pike–angle		Northern pike–spear		Walleye	
	Harvest	Release	Harvest	Release	Harvest	Release	Harvest	Release
<12.0	—	—	—	—	—	—	—	—
12.0–12.9	—	1	—	1	—	—	—	—
13.0–13.9	3	—	—	9	—	—	2	—
14.0–14.9	1	2	—	2	—	—	2	—
15.0–15.9	4	—	2	14	—	—	—	—
16.0–16.9	—	1	10	6	1	—	—	—
17.0–17.9	1	1	6	3	—	—	4	—
18.0–18.9	—	—	17	17	5	—	—	—
19.0–19.9	—	—	33	—	—	—	1	—
20.0–20.9	—	—	15	13	—	—	—	—
21.0–21.9	—	—	14	3	1	—	—	—
22.0–22.9	—	—	15	—	2	—	—	—
23.0–23.9	—	—	9	3	2	—	—	—
24.0–24.9	—	—	6	—	1	—	—	—
25.0–25.9	—	—	7	3	1	—	—	—
26.0–26.9	—	—	1	—	—	—	—	—
27.0–27.9	—	—	5	—	—	—	—	—
28.0–28.9	—	—	—	—	—	—	—	1
29.0–29.9	—	—	1	—	1	—	—	—
30.0–30.9	—	—	2	1	—	—	—	—
31.0–31.9	—	—	—	—	—	—	—	—
32.0–32.9	—	—	—	—	—	—	—	—
33.0–33.9	—	—	—	—	—	—	—	—
34.0–35.0	—	—	1	—	—	—	—	—
>35.0	—	—	—	—	—	—	—	—
Total N	9	5	144	75	14	0	9	1
Mean Length	14.8	14.6	20.9	17.2	20.8	—	16.4	28.0
SE	8.3	—	5.85	—	7.6	—	12.0	—
Mean Weight (lb)	1.90	1.84	1.89	0.96	1.89	—	1.65	6.42
SE	1.33	—	0.96	—	0.82	—	1.60	—

<sup>1</sup>Lengths estimated by anglers



Addendum: Harvest Summary Form

MINNESOTA DEPARTMENT OF NATURAL RESOURCES DIVISION OF FISH & WILDLIFE				
Creel Survey Harvest Summary For Maple Lake, Winter 2010				
DOW#: Maple Lake 86-134	Fish Management Area: Montrose	Lake Class: 24	Lake Area: 777 Acres	Dates of Survey: 12/12/09-3/14/10

Fishing pressure (angler hours)	22,997	Number of days surveyed	29
Angler hours per acre	30.5	Average trip length (hours)	3.4
Average party size	1.6	Number of interviews	416

Species	Length Frequency for Harvested & Measured Fish (Inch Groups)													
	5	6	7	8	9	10	11	12-14	15-17	18-20	21-23	24-26	27-29	30+
Black crappie	0	1	40	157	126	17	2	0	—	—	—	—	—	—
Northern Pike	—	—	—	—	—	—	—	—	19	70	43	16	7	3
Sunfish <sup>1</sup>	38	280	226	13	—	—	—	—	—	—	—	—	—	—
Walleye	—	—	—	—	—	—	—	4	4	1	—	—	—	—

<sup>1</sup>Includes bluegill, pumpkinseed, hybrid and green sunfish.

Species	Estimated Total Harvest				Catch Rate
	Number	Mean Length (in)	Mean Weight (lbs)	Number/Acre	Number/Hour <sup>1</sup>
Black crappie	3,230	8.9	0.39	4.29	0.687
Largemouth bass	47	14.8	1.90	0.06	—
Northern pike angle	810	20.9	1.89	1.04	0.291
Northern pike spear	117	20.8	1.89	0.15	0.336
Sunfish	6,687	6.9	0.26	8.88	4.502
Walleye	53	16.4	1.65	0.07	0.008
All species	10,944	—	—	14.53	—

<sup>1</sup>For anglers targeting each species

Montrose Area Fisheries Office: (763) 675-3301  
Minnesota DNR website: [www.dnr.state.mn.us](http://www.dnr.state.mn.us)

*Mark Bellman*

5/5/2010

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Author

Date

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Area Fisheries Supervisor

Date

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Regional Fisheries Supervisor

Date

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