

## Survey Report for Portage Lake, Manistee County, Summer, 2014

<b>Waterbody</b>	Portage Lake
<b>Year</b>	Summer, 2014
<b>County</b>	Manistee
<b>Sites</b>	"Portage Lake Manistee"
<b>Survey period</b>	April 1 to October 31
<b>Interview type/mode</b>	Access/boat, open ice, dock, shore
<b>Survey purpose</b>	Characterize general effort and catch aspects of the fishery

### Notes

Survey followed a access site design. All funding was provided through Fisheries Division. One clerk worked half time to collect angler survey data. No holidays were sampled. Clerk followed a randomized count and interview schedule. One of two shifts was selected each sample day. The entire water body was sampled each day. Two counts of open ice, dock, shore and boat anglers were made per day. Survey period for both counts and interviews was April 1 to October 31. Months were estimated separately. Estimates are given in the following tables.

Table –Work shifts used to estimate catch and effort at Portage Lake, April 1 to October 31, Summer, 2014

	<b>Year</b>	<b>Month</b>	<b>Hrs/day</b>
1	2014	4	14
2	2014	5	15
3	2014	6	16
4	2014	7	17
5	2014	8	17
6	2014	9	16
7	2014	10	14

Estimated harvest, catch per hour, and fishing pressure for Portage Lake, boat. Two standard errors are given in parentheses.

Species	C/H	April	May	June	July	August	Sept	October	Season
<b>HARVEST</b>									
Walleye	0.0007 (0.0014)	0 (0)	0 (0)	0 (0)	0 (0)	15 (29)	0 (0)	0 (0)	15 (29)
Northern pike	0.0025 (0.0040)	0 (0)	0 (0)	0 (0)	11 (23)	0 (0)	41 (80)	0 (0)	51 (83)
Largemouth bass	0.0144 (0.0119)	0 (0)	0 (0)	160 (177)	74 (129)	66 (95)	0 (0)	0 (0)	300 (239)
Smallmouth bass	0.0072 (0.0081)	0 (0)	0 (0)	28 (55)	32 (68)	70 (136)	0 (0)	19 (32)	149 (165)
Yellow Perch	0.1714 (0.1161)	47 (88)	2,168 (2,032)	282 (423)	240 (318)	93 (158)	715 (909)	30 (52)	3,575 (2,296)
Bluegill	0.3382 (0.1606)	0 (0)	1,496 (1,826)	2,407 (1,508)	998 (914)	836 (1,095)	1,153 (1,097)	165 (276)	7,055 (2,987)
Pumpkinseed	0.0147 (0.0160)	0 (0)	170 (303)	44 (67)	25 (44)	66 (96)	0 (0)	0 (0)	306 (328)
Rock bass	0.1024 (0.0537)	0 (0)	57 (85)	754 (490)	526 (564)	272 (401)	438 (546)	89 (142)	2,137 (1,022)
OTH1	0.0141 (0.0226)	0 (0)	204 (434)	91 (176)	0 (0)	0 (0)	0 (0)	0 (0)	294 (468)
OTH3	0.0058 (0.0117)	0 (0)	0 (0)	121 (242)	0 (0)	0 (0)	0 (0)	0 (0)	121 (242)
<b>TOTAL HARVEST</b>	<b>0.6714 (0.2386)</b>	<b>47 (88)</b>	<b>4,095 (2,784)</b>	<b>3,888 (1,680)</b>	<b>1,906 (1,131)</b>	<b>1,418 (1,193)</b>	<b>2,347 (1,528)</b>	<b>304 (316)</b>	<b>14,003 (3,964)</b>
<b>RELEASED</b>									
Walleye	0.0007 (0.0014)	0 (0)	0 (0)	15 (30)	0 (0)	0 (0)	0 (0)	0 (0)	15 (30)
Northern pike	0.0120 (0.0089)	0 (0)	80 (96)	88 (104)	0 (0)	70 (103)	13 (27)	0 (0)	251 (178)
Largemouth bass	0.5046 (0.2388)	0 (0)	4,010 (3,520)	2,196 (1,527)	1,850 (1,528)	1,639 (1,287)	643 (938)	188 (329)	10,526 (4,439)
Smallmouth bass	0.0820 (0.0489)	0 (0)	533 (702)	587 (526)	95 (127)	372 (319)	64 (102)	58 (79)	1,710 (951)
Yellow Perch	0.4876 (0.3487)	54 (111)	7,493 (6,741)	446 (477)	235 (276)	415 (461)	1,426 (1,454)	100 (175)	10,170 (6,936)
Bluegill	0.2156 (0.1160)	0 (0)	748 (1,144)	1,601 (1,315)	892 (924)	505 (519)	656 (840)	95 (232)	4,497 (2,219)
Rock bass	0.0533 (0.0431)	0 (0)	68 (140)	115 (125)	793 (820)	136 (214)	0 (0)	0 (0)	1,112 (868)
<b>TOTAL RELEASED</b>	<b>1.3558 (0.5058)</b>	<b>54 (111)</b>	<b>12,932 (7,724)</b>	<b>5,046 (2,143)</b>	<b>3,866 (1,988)</b>	<b>3,138 (1,515)</b>	<b>2,802 (1,927)</b>	<b>441 (446)</b>	<b>28,280 (8,627)</b>
<b>TOTAL CATCH</b>	<b>2.0272 (0.6299)</b>	<b>101 (142)</b>	<b>17,027 (8,211)</b>	<b>8,934 (2,723)</b>	<b>5,772 (2,287)</b>	<b>4,556 (1,928)</b>	<b>5,149 (2,459)</b>	<b>745 (546)</b>	<b>42,283 (9,494)</b>
<b>ANGLER HOURS</b>		314 NAN	3,906 (2,396)	4,623 (1,900)	6,203 (2,612)	3,656 (1,461)	1,761 (1,260)	395 (417)	20,858 (4,480)
<b>ANGLER TRIPS</b>		86 NAN	1,332 (943)	1,222 (539)	1,173 (614)	1,265 (562)	456 (335)	88 (91)	5,623 (1,412)

Estimated harvest, catch per hour, and fishing pressure for Portage Lake, open ice. Two standard errors are given in parentheses.

Species	C/H	April	May	June	July	August	Sept	October	Season
<b>HARVEST</b>									
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Largemouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0.9137 (1.4573)	863 (1,017)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	863 (1,017)
Bluegill	0.0445 (0.1045)	42 (88)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	42 (88)
Pumpkinseed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Rock bass	0.0386 (0.0714)	36 (55)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	36 (55)
OTH1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
OTH3	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>TOTAL HARVEST</b>	<b>0.9967 (1.5229)</b>	<b>941 (1,022)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>941 (1,022)</b>
<b>RELEASED</b>									
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Largemouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0.4489 (0.8501)	424 (661)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	424 (661)
Bluegill	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>TOTAL RELEASED</b>	<b>0.4489 (0.8501)</b>	<b>424 (661)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>424 (661)</b>
<b>TOTAL CATCH</b>	<b>1.4456 (2.0187)</b>	<b>1,365 (1,217)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>1,365 (1,217)</b>
<b>ANGLER HOURS</b>		<b>882 (1,011)</b>	<b>26 (53)</b>	<b>36 (72)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>944 (1,015)</b>
<b>ANGLER TRIPS</b>		<b>207 (234)</b>	<b>NAN NAN</b>	<b>NAN NAN</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>207 (234)</b>

Estimated harvest, catch per hour, and fishing pressure for Portage Lake, dock. Two standard errors are given in parentheses.

Species	C/H	April	May	June	July	August	Sept	October	Season
<b>HARVEST</b>									
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Largemouth bass	0.2069 (0.5934)	0 (0)	0 (0)	0 (0)	0 (0)	22 (56)	0 (0)	0 (0)	22 (56)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bluegill	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Pumpkinseed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
OTH1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
OTH3	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>TOTAL HARVEST</b>	<b>0.2069 (0.5934)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>22 (56)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>22 (56)</b>
<b>RELEASED</b>									
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Largemouth bass	0.7586 (1.4117)	0 (0)	0 (0)	0 (0)	0 (0)	81 (107)	0 (0)	0 (0)	81 (107)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Bluegill	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>TOTAL RELEASED</b>	<b>0.7586 (1.4117)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>81 (107)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>81 (107)</b>
<b>TOTAL CATCH</b>	<b>0.9655 (1.6963)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>103 (121)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>103 (121)</b>
<b>ANGLER HOURS</b>		<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>106 (138)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>106 (138)</b>
<b>ANGLER TRIPS</b>		<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>39 (55)</b>	<b>0 (0)</b>	<b>0 (0)</b>	<b>39 (55)</b>



Estimated harvest, catch per hour, and fishing pressure for Portage Lake, all modes combined.  
Two standard errors are given in parentheses.

Species	C/H	April	May	June	July	August	Sept	October	Season
<b>HARVEST</b>									
Walleye	0.0007 (0.0013)	0 (0)	0 (0)	0 (0)	0 (0)	15 (29)	0 (0)	0 (0)	15 (29)
Northern pike	0.0023 (0.0038)	0 (0)	0 (0)	0 (0)	11 (23)	0 (0)	41 (80)	0 (0)	51 (83)
Largemouth bass	0.0147 (0.0116)	0 (0)	0 (0)	160 (177)	74 (129)	88 (111)	0 (0)	0 (0)	322 (245)
Smallmouth bass	0.0068 (0.0076)	0 (0)	0 (0)	28 (55)	32 (68)	70 (136)	0 (0)	19 (32)	149 (165)
Yellow Perch	0.2022 (0.1216)	909 (1,021)	2,168 (2,032)	282 (423)	240 (318)	93 (158)	715 (909)	30 (52)	4,437 (2,511)
Bluegill	0.3234 (0.1514)	42 (88)	1,496 (1,826)	2,407 (1,508)	998 (914)	836 (1,095)	1,153 (1,097)	165 (276)	7,097 (2,989)
Pumpkinseed	0.0139 (0.0152)	0 (0)	170 (303)	44 (67)	25 (44)	66 (96)	0 (0)	0 (0)	306 (328)
Rock bass	0.0990 (0.0508)	36 (55)	57 (85)	754 (490)	526 (564)	272 (401)	438 (546)	89 (142)	2,173 (1,023)
OTH1	0.0134 (0.0215)	0 (0)	204 (434)	91 (176)	0 (0)	0 (0)	0 (0)	0 (0)	294 (468)
OTH3	0.0055 (0.0111)	0 (0)	0 (0)	121 (242)	0 (0)	0 (0)	0 (0)	0 (0)	121 (242)
<b>TOTAL HARVEST</b>	<b>0.6820 (0.2328)</b>	<b>988 (1,026)</b>	<b>4,095 (2,784)</b>	<b>3,888 (1,680)</b>	<b>1,906 (1,131)</b>	<b>1,440 (1,194)</b>	<b>2,347 (1,528)</b>	<b>304 (316)</b>	<b>14,967 (4,094)</b>
<b>RELEASED</b>									
Walleye	0.0007 (0.0014)	0 (0)	0 (0)	15 (30)	0 (0)	0 (0)	0 (0)	0 (0)	15 (30)
Northern pike	0.0114 (0.0084)	0 (0)	80 (96)	88 (104)	0 (0)	70 (103)	13 (27)	0 (0)	251 (178)
Largemouth bass	0.4833 (0.2251)	0 (0)	4,010 (3,520)	2,196 (1,527)	1,850 (1,528)	1,720 (1,291)	643 (938)	188 (329)	10,606 (4,440)
Smallmouth bass	0.0779 (0.0461)	0 (0)	533 (702)	587 (526)	95 (127)	372 (319)	64 (102)	58 (79)	1,710 (951)
Yellow Perch	0.4827 (0.3324)	478 (670)	7,493 (6,741)	446 (477)	235 (276)	415 (461)	1,426 (1,454)	100 (175)	10,594 (6,968)
Bluegill	0.2049 (0.1094)	0 (0)	748 (1,144)	1,601 (1,315)	892 (924)	505 (519)	656 (840)	95 (232)	4,497 (2,219)
Rock bass	0.0507 (0.0409)	0 (0)	68 (140)	115 (125)	793 (820)	136 (214)	0 (0)	0 (0)	1,112 (868)
<b>TOTAL RELEASED</b>	<b>1.3116 (0.4767)</b>	<b>478 (670)</b>	<b>12,932 (7,724)</b>	<b>5,046 (2,143)</b>	<b>3,866 (1,988)</b>	<b>3,218 (1,519)</b>	<b>2,802 (1,927)</b>	<b>441 (446)</b>	<b>28,784 (8,653)</b>
<b>TOTAL CATCH</b>	<b>1.9935 (0.5967)</b>	<b>1,466 (1,225)</b>	<b>17,027 (8,211)</b>	<b>8,934 (2,723)</b>	<b>5,772 (2,287)</b>	<b>4,658 (1,932)</b>	<b>5,149 (2,459)</b>	<b>745 (546)</b>	<b>43,750 (9,573)</b>
<b>ANGLER HOURS</b>		1,234 NAN	3,933 (2,396)	4,659 (1,901)	6,203 (2,612)	3,762 (1,467)	1,761 (1,260)	395 (417)	21,946 (4,483)
<b>ANGLER TRIPS</b>		305 NAN	NAN NAN	NAN NAN	1,173 (614)	1,303 (565)	456 (335)	88 (91)	3,325 (904)