

## Open Water Creel Survey Report for Portage Lake, Manistee County, 2015

<b>Waterbody</b>	Portage Lake
<b>Year</b>	2015
<b>County</b>	Manistee County
<b>Site</b>	Portage Lake
<b>Survey period</b>	April 1 to October 31
<b>Survey design</b>	Roving (instantaneous)-access
<b>Count methods/modes</b>	Roving (instantaneous)/boat, pier/dock, and shore
<b>Clerk time</b>	1/2 time
<b>Survey purpose</b>	Characterize general effort and catch aspects of the fishery

### Notes

This survey followed a roving (instantaneous)-access design. Funding was provided by the Federal Aid to Sport Fish Restoration Project F-81, Study 230499. One clerk worked 1/2 time to collect angler survey data. Two weekend days and 3 week days were randomly selected for sampling during each week of the survey season. No holidays were sampled. The 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. Roving (instantaneous) counts of boat, pier/dock, and shore anglers were made twice per day. Survey period for both counts and interviews was April 1 to October 31. Months were estimated separately. **NAN** in a table means not enough data to make an estimate.

Table 1.–Daylight hours used to estimate catch and effort at Portage Lake, April 1 to October 31, 2015.

<b>Year</b>	<b>Month</b>	<b>Daylight hours</b>
2015	4	13
2015	5	14
2015	6	15
2015	7	15
2015	8	15
2015	9	15
2015	10	13

Table 2.—Estimated harvest, catch per hour, and fishing pressure for the Portage Lake boat fishery. Two standard errors are given below the estimates.

Species	C/H	April	May	June	July	August	September	October	Season
<b>HARVEST</b>									
Northern Pike	0.0019	—	41	—	—	—	—	—	41
	0.0038	—	81	—	—	—	—	—	81
Largemouth Bass	0.0884	16	204	1,547	—	27	57	31	1,881
	0.1406	30	355	2,937	—	52	139	62	2,963
Smallmouth Bass	0.0019	—	41	—	—	—	—	—	41
	0.0038	—	81	—	—	—	—	—	81
Yellow Perch	0.6906	202	4,515	2,263	5,082	1,914	—	713	14,689
	0.4101	403	4,377	2,130	6,167	1,898	—	925	8,145
Bluegill	0.4134	—	408	1,773	4,799	782	1,031	—	8,793
	0.3321	—	846	1,503	6,267	837	1,856	—	6,812
Pumpkinseed	0.0238	—	—	—	506	—	—	—	506
	0.0558	—	—	—	1,181	—	—	—	1,181
Rock Bass	0.1946	—	—	1,124	1,112	484	1,375	44	4,138
	0.1715	—	—	1,391	2,371	650	2,131	89	3,540
Brown Trout	0.0250	—	531	—	—	—	—	—	531
	0.0494	—	1,044	—	—	—	—	—	1,044
Freshwater Drum	0.0004	—	—	—	—	9	—	—	9
	0.0008	—	—	—	—	18	—	—	18
Green Sunfish	0.0099	—	—	108	75	27	—	—	210
	0.0108	—	—	155	153	55	—	—	225
TOTAL HARVEST	1.4499	218	5,740	6,815	11,573	3,242	2,462	788	30,839
	0.6300	404	4,594	4,169	9,185	2,175	2,830	931	11,688
<b>RELEASED</b>									
Walleye	0.0032	—	—	—	—	—	69	—	69
	0.0065	—	—	—	—	—	137	—	137
Northern pike	0.0148	—	82	82	75	9	69	—	316
	0.0117	—	124	122	91	18	137	—	240
Largemouth bass	0.6140	—	1,272	5,087	3,917	994	1,562	227	13,058
	0.3314	—	1,454	4,090	4,431	784	1,678	257	6,479
Smallmouth bass	0.0585	109	293	300	125	36	372	10	1,244
	0.0378	150	366	347	140	45	528	21	760
Yellow Perch	1.1072	93	3,072	5,254	10,200	3,411	550	969	23,548
	0.7069	186	3,393	5,957	11,909	3,163	891	1,162	14,178
Bluegill	0.1657	—	524	452	—	1,151	1,375	22	3,524
	0.1287	—	906	569	—	1,119	2,128	45	2,632
Pumpkinseed	0.0162	—	—	344	—	—	—	—	344
	0.0267	—	—	564	—	—	—	—	564
Rock bass	0.2119	31	204	817	2,655	528	206	66	4,507
	0.2271	64	312	1,250	4,477	716	412	134	4,734
Brown trout	0.0520	—	1,106	—	—	—	—	—	1,106
	0.1029	—	2,176	—	—	—	—	—	2,176
Common White Sucker	0.0010	—	—	—	—	—	—	22	22
	0.0021	—	—	—	—	—	—	45	45
Lake trout	0.1244	—	—	2,645	—	—	—	—	2,645
	0.2388	—	—	5,049	—	—	—	—	5,049
Freshwater drum	0.0004	—	—	—	—	9	—	—	9
	0.0008	—	—	—	—	18	—	—	18
OTH1	0.0078	—	—	166	—	—	—	—	166
	0.0163	—	—	344	—	—	—	—	344
TOTAL RELEASED	2.3771	233	6,553	15,146	16,970	6,138	4,202	1,317	50,559
	0.9624	247	4,408	8,953	13,473	3,520	2,937	1,199	17,425
TOTAL CATCH	3.8271	451	12,292	21,961	28,544	9,380	6,664	2,105	81,397
	1.2784	474	6,367	9,876	16,306	4,137	4,078	1,518	20,982
ANGLER HOURS		525	3,064	5,207	5,623	3,407	2,847	596	21,269
		554	1,956	1,685	2,414	1,113	2,479	485	4,519
ANGLER TRIPS		124	970	1,252	1,510	801	841	195	5,693
		134	598	436	765	288	738	166	1,344

Table 3.—Estimated harvest, catch per hour, and fishing pressure for the Portage Lake pier/dock fishery. Two standard errors are given below the estimates.

Species	C/H	April	May	June	July	August	September	October	Season
HARVEST									
Northern Pike	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Largemouth Bass	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Smallmouth Bass	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Yellow Perch	0.5572	-	-	-	-	331	-	-	331
	0.9567	-	-	-	-	519	-	-	519
Bluegill	0.2478	-	147	-	-	-	-	-	147
	1.0061	-	NAN	-	-	-	-	-	588
Pumpkinseed	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Rock Bass	0.5283	-	294	-	-	19	-	-	313
	2.0170	-	NAN	-	-	35	-	-	1,177
Brown Trout	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Freshwater Drum	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Green Sunfish	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
TOTAL HARVEST	1.3333	-	441	-	-	350	-	-	791
	3.2361	-	NAN	-	-	520	-	-	1,839
RELEASED									
Walleye	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Northern pike	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Largemouth bass	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Smallmouth bass	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Yellow Perch	2.0166	-	98	-	-	1,069	29	-	1,196
	3.0669	-	NAN	-	-	1,565	NAN	-	1,617
Bluegill	1.0061	-	490	-	-	97	10	-	597
	3.3951	-	NAN	-	-	202	NAN	-	1,971
Pumpkinseed	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Rock bass	0.1652	-	98	-	-	-	-	-	98
	0.6707	-	NAN	-	-	-	-	-	392
Brown trout	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Common White Sucker	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Lake trout	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Freshwater drum	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
OTH1	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
TOTAL RELEASED	3.1878	-	686	-	-	1,167	39	-	1,891
	5.7853	-	NAN	-	-	1,578	NAN	-	3,169
TOTAL CATCH	4.5211	-	1,127	-	-	1,517	39	-	2,682
	6.9336	-	NAN	-	-	1,661	NAN	-	3,664
ANGLER HOURS		-	135	62	138	210	48	-	593
		-	270	70	205	216	71	-	414
ANGLER TRIPS		-	60	28	61	93	22	-	264
		-	123	33	95	101	33	-	191

Table 4.– Only 2 shore angler interviews were taken, therefore we could not estimate a shore fishery on Portage Lake. Counts were made of shore anglers so we were able to estimate angler hours. Two standard errors are given below the estimates.

	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>Season</b>
ANGLER HOURS	–	77	60	15	–	–	–	152
	–	154	120	30	–	–	–	198

Table 5.—Total combined estimated harvest, catch per hour, and fishing pressure for the Portage Lake fishery. Two standard errors are given below the estimates.

Species	C/H	April	May	June	July	August	September	October	Season
<b>HARVEST</b>									
Northern Pike	0.0019	–	41	–	–	–	–	–	41
	0.0037	–	81	–	–	–	–	–	81
Largemouth Bass	0.0855	16	204	1,547	–	27	57	31	1,881
	0.1357	30	355	2,937	–	52	139	62	2,963
Smallmouth Bass	0.0019	–	41	–	–	–	–	–	41
	0.0037	–	81	–	–	–	–	–	81
Yellow Perch	0.6823	202	4,515	2,263	5,082	2,244	–	713	15,019
	0.3966	403	4,377	2,130	6,167	1,967	–	925	8,162
Bluegill	0.4061	–	555	1,773	4,799	782	1,031	–	8,940
	0.3339	–	NAN	1,503	6,267	837	1,856	–	7,115
Pumpkinseed	0.0230	–	–	–	506	–	–	–	506
	0.0539	–	–	–	1,181	–	–	–	1,181
Rock Bass	0.2022	–	294	1,124	1,112	503	1,375	44	4,452
	0.1745	–	NAN	1,391	2,371	651	2,131	89	3,730
Brown Trout	0.0241	–	531	–	–	–	–	–	531
	0.0477	–	1,044	–	–	–	–	–	1,044
Freshwater Drum	0.0004	–	–	–	–	9	–	–	9
	0.0008	–	–	–	–	18	–	–	18
Green Sunfish	0.0095	–	–	108	75	27	–	–	210
	0.0104	–	–	155	153	55	–	–	225
TOTAL HARVEST	1.4368	218	6,181	6,815	11,573	3,592	2,462	788	31,630
	1.2601	404	NAN	4,169	9,185	2,236	2,830	931	26,962
<b>RELEASED</b>									
Walleye	0.0031	–	–	–	–	–	69	–	69
	0.0063	–	–	–	–	–	137	–	137
Northern pike	0.0143	–	82	82	75	9	69	–	316
	0.0113	–	124	122	91	18	137	–	240
Largemouth bass	0.5932	–	1,272	5,087	3,917	994	1,562	227	13,058
	0.3187	–	1,454	4,090	4,431	784	1,678	257	6,479
Smallmouth bass	0.0565	109	293	300	125	36	372	10	1,244
	0.0364	150	366	347	140	45	528	21	760
Yellow Perch	1.1241	93	3,170	5,254	10,200	4,480	579	969	24,745
	0.8894	186	NAN	5,957	11,909	3,529	NAN	1,162	18,902
Bluegill	0.1872	–	1,014	452	–	1,248	1,384	22	4,121
	0.3194	–	NAN	569	–	1,137	NAN	45	6,980
Pumpkinseed	0.0156	–	–	344	–	–	–	–	344
	0.0258	–	–	564	–	–	–	–	564
Rock bass	0.2092	31	302	817	2,655	528	206	66	4,605
	0.2257	64	NAN	1,250	4,477	716	412	134	4,876
Brown trout	0.0502	–	1,106	–	–	–	–	–	1,106
	0.0994	–	2,176	–	–	–	–	–	2,176
Common White Sucker	0.0010	–	–	–	–	–	–	22	22
	0.0021	–	–	–	–	–	–	45	45
Lake trout	0.1202	–	–	2,645	–	–	–	–	2,645
	0.2307	–	–	5,049	–	–	–	–	5,049
Freshwater drum	0.0004	–	–	–	–	9	–	–	9
	0.0008	–	–	–	–	18	–	–	18
OTH1	0.0075	–	–	166	–	–	–	–	166
	0.0157	–	–	344	–	–	–	–	344
TOTAL RELEASED	2.3826	233	7,239	15,146	16,970	7,304	4,240	1,317	52,450
	1.7717	247	NAN	8,953	13,473	3,857	NAN	1,199	37,472
TOTAL CATCH	3.8194	451	13,419	21,961	28,544	10,896	6,703	2,105	84,079
	2.2402	474	NAN	9,876	16,306	4,458	NAN	1,518	46,164
ANGLER HOURS		525	3,275	5,329	5,776	3,617	2,896	596	22,014
		554	1,980	1,691	2,423	1,133	2,480	485	4,542
ANGLER TRIPS		124	1,055	1,299	1,576	894	863	195	6,008
		134	613	440	771	305	739	166	1,360