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

Waterbody Portage Lake

Year 2015

County Manistee County Site Portage Lake

Survey period April 1 to October 31

Survey design Roving (instantaneous)-access

Count methods/modes Roving (instantaneous)/boat, pier/dock, and shore

Clerk time 1/2 time

Survey purpose 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.

Year	Month	Daylight hours
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
HARVEST									
Northern Pike	0.0019	-	41	_	-	_	-	_	41
	0.0038	_	81	_	-	_	-	_	81
Largemouth Bass	0.0884	16	204	1,547	_	27	57	31	1,881
ū	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
I GIIOW I GIGII	0.0300	403	4,313	2,203	6,167	1,898	_	925	8,145
Diversill									
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
Diowii iioat	0.0494	_	1,044					_	1,044
Freshwater Drum			1,044	_	_	_	_		
riesiiwalei Dium	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
RELEASED	0.0000		.,00.	.,	0,.00	_,	_,000		,
	0.0032						69		69
Walleye		_	_	_	_	_		_	
	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
I GIIOW I GIGII	0.7069						891		
DI 111		186	3,393	5,957	11,909	3,163		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	1,200	-,	, 10	-	-	1,106
טוטאוו ווטענ		_		_	_	_	_	_	
On manage \	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	0.0008	_	_	166	_	10	_	_	166
OIIII		-	_		_	_	_	_	
TOTAL DELECTED	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	1.2.01	525	3,064	5,207	5,623	3,407	2,847	596	21,269
ANOLLIN HOURS									
		554	1,956	1,685	2,414	1,113	2,479	485	4,519
ANOLED TE:50		401	^-^	4 0-0	4 - 4 -	~ ~ .	~		
ANGLER TRIPS		124 134	970 598	1,252 436	1,510 765	801 288	841 738	195 166	5,693 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	_	_	_	_	_	_	_	_	_
Largemouth bass	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
Smallmouth Bass	-	_	-	_	-	_	_	_	_
	_	_	_	_	_	_	_	_	_
Yellow Perch	0.5572	_	_	_	_	331	_	_	331
TOHOW T GIGHT	0.9567	_			_	519		_	519
D			4.47	_		319	_		
Bluegill	0.2478	_	147	_	_	_	_	_	147
	1.0061	_	NAN	_	_	_	_	_	588
Pumpkinseed	_	_	_	_	_	_	_	_	_
· amplimosea		_	_			_	_		_
D . D				_	_		_	_	
Rock Bass	0.5283	_	294	_	_	19	_	-	313
	2.0170	_	NAN	_	_	35	_	_	1,177
Brown Trout	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
Freshwater Drum	-	-	-	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
Green Sunfish	_	_	_	_	_	_	_	_	_
Ologii ouimon	-		_	_		_		_	_
									
TOTAL HARVEST	1.3333	_	441	_	_	350	_	_	791
	3.2361	_	NAN	_	_	520	_	_	1,839
RELEASED	0.2001		147414			020			1,000
Walleye	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
Northern pike									
Northern pike	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	-	-
Largemouth bass	_	_	_	_	_	_	_	_	_
J	_	_	_	_	_	_	_	_	_
Smallmouth bass		_							
Silialifiloutii bass	_	_	_	_	_	_	_	_	_
	_	-	_	-	-	_	_	-	_
Yellow Perch	2.0166	_	98	_	-	1,069	29	_	1,196
	3.0669	_	NAN	_	_	1,565	NAN	_	1,617
Pluggill	1.0061		490			97	10		597
Bluegill		-		_	_			-	
	3.3951	-	NAN	-	-	202	NAN	-	1,971
Pumpkinseed	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
Daali haaa	0.4650		-	_	_	_	_	_	_
Rock bass	0.1652	_	98	_	_	_	_	_	98
	0.6707	_	NAN	_	_	_	_	_	392
Brown trout	_	_	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
0 140 11 0 1	_	_	_	_	_	_	_	_	_
Common White Sucker	_	-	_	_	_	_	_	_	_
	_	_	_	_	_	_	_	_	_
I ake trout			_	_	_	_	_	_	_
	_	_			_		_	_	_
Lake trout	-	-	_						
	_	-	_	-	_	-	-	-	-
	- - -	- - -	_ _ _	- -	- -	-	<u>-</u>	- -	- -
	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Freshwater drum	- - -	- - - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
	- - - -	- - - -	- - - -	- - -	- - -	- - -	- - -	- - -	- - -
	- - - - -	- - - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -
Freshwater drum OTH1	- - - - - - 3.1878	- - - - - -	- - - - - - 686	- - - - -	- - - -	- - - - - 1,167	- - - - - 39	- - - -	- - - - - 1,891
Freshwater drum	- - - - - - 3.1878		- - - - - 686	- - - - -	- - - - -	- - - - 1,167	- - - - 39	- - - - -	- - - - - 1,891
Freshwater drum OTH1 TOTAL RELEASED	5.7853	- - - - - -	NAN	- - - - -	- - - - - -	1,578	NAN	- - - - -	3,169
Freshwater drum OTH1	5.7853 4.5211		NAN 1,127	- - - - - -	- - - - - -	1,578 1,517	NAN 39	- - - - - -	3,169 2,682
Freshwater drum OTH1 TOTAL RELEASED	5.7853 4.5211	_	NAN 1,127	- - - - - - -	- - - - - - -	1,578 1,517	NAN 39	_	3,169 2,682
Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH	5.7853	<u>-</u> - -	NAN 1,127 NAN		- - - - - - - - 120	1,578 1,517 1,661	NAN 39 NAN	<u>-</u> - -	3,169 2,682 3,664
Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH	5.7853 4.5211	- - - -	1,127 NAN 135	- - - 62	- - - - - - - 138	1,578 1,517 1,661 210	NAN 39 NAN 48	_	3,169 2,682 3,664 593
Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH ANGLER HOURS	5.7853 4.5211	<u>-</u> - -	NAN 1,127 NAN 135 270	- - - 62 70	205	1,578 1,517 1,661 210 216	NAN 39 NAN 48 71	<u>-</u> - -	3,169 2,682 3,664 593 414
Freshwater drum OTH1 TOTAL RELEASED	5.7853 4.5211	- - - -	1,127 NAN 135	- - - 62		1,578 1,517 1,661 210	NAN 39 NAN 48	- - -	3,169 2,682 3,664 593

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.

	April	May	June	July	August	September	October	Season
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
HARVEST									
Northern Pike	0.0019	_	41	-	-	_	-	_	41
	0.0037	_	81	_	_	_	_	_	81
Largemouth Bass	0.0855	16	204	1,547	_	27	57	31	1,881
. J	0.1357	30	355	2,937	_	52	139	62	2,963
Smallmouth Bass	0.0019	_	41	_	_	_	_	_	41
Omalimodin Bado	0.0037	_	81					_	81
Vallau Darah				2 262	E 002	2 244	_		
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
RUCK Dass		-							
	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	0.0005	_	_	108	- 75	27	_	_	210
OIEEH OUHHSH									
	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
RELEASED				•			·		
Walleye	0.0031	_	_	_	_	_	69	_	69
vvalicyc									
	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
Omalimodin bass	0.0364	150	366	347	140	45	528	21	760
Vallani Danah									
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
i amplimooda	0.0258			564					564
Daalchaaa		- 24	200			-	-	-	
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
DIOWII tiout									
		_		_	_	_	_	_	
Common White Sucker	0.0994	-	2,176	-	_	-	-	- 22	2,176
Common White Sucker	0.0994 0.0010	- -		- -	- -	- -	- -	- 22 45	2,176 22
	0.0994 0.0010 0.0021	- - -		- - -	- - -	- - -	- - -	22 45	2,176 22 45
	0.0994 0.0010 0.0021 0.1202	- - -		- - 2,645	- - -	- - -	- - -		2,176 22 45 2,645
Lake trout	0.0994 0.0010 0.0021 0.1202 0.2307	- - - -		- - 2,645 5,049	- - - -	- - - -	- - - -		2,176 22 45
Lake trout	0.0994 0.0010 0.0021 0.1202	- - - - -			- - - -	- - - - - 9	- - - -		2,176 22 45 2,645
Lake trout	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004	- - - - -			- - - - -		- - - - -		2,176 22 45 2,645 5,049 9
Lake trout Freshwater drum	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008	- - - - -		5,049 - -	- - - - -	- - - - 9 18	- - - - -		2,176 22 45 2,645 5,049 9
Lake trout	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075	- - - - - -		5,049 - - 166	- - - - - -		- - - - - -		2,176 22 45 2,645 5,049 9 18 166
Lake trout Freshwater drum OTH1	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157	- - - - - -	2,176 - - - - - - - -	5,049 - - 166 344	- - - - - -	18 - -	- - - - - -	45 - - - - -	2,176 22 45 2,645 5,049 9 18 166 344
Lake trout Freshwater drum OTH1	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826	- - - - - - - - 233	2,176 - - - - - - - 7,239	5,049 - 166 344 15,146	- - - - - - - - 16,970	18 - - 7,304	- - - - - - - - 4,240	45 - - - - - 1,317	2,176 22 45 2,645 5,049 9 18 166 344 52,450
Lake trout Freshwater drum OTH1	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157	- - - - - - - 233 247	2,176 - - - - - - - -	5,049 - - 166 344	- - - - - - - - 16,970 13,473	18 - -	- - - - - - - 4,240	45 - - - - -	2,176 22 45 2,645 5,049 9 18 166 344
Lake trout Freshwater drum OTH1 TOTAL RELEASED	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717	247	2,176 - - - - - - 7,239 NAN	5,049 - 166 344 15,146 8,953	13,473	18 - - 7,304 3,857	NAN	45 - - - - - 1,317 1,199	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472
Lake trout Freshwater drum OTH1 TOTAL RELEASED	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717 3.8194	247 451	2,176 - - - - - - 7,239 NAN 13,419	5,049 - 166 344 15,146 8,953 21,961	13,473 28,544	18 - - 7,304 3,857 10,896	NAN 6,703	45 - - - - - 1,317 1,199 2,105	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472 84,079
Lake trout Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717	247 451 474	2,176 - - - - - - 7,239 NAN 13,419 NAN	5,049 - 166 344 15,146 8,953 21,961 9,876	13,473 28,544 16,306	7,304 3,857 10,896 4,458	6,703 NAN	45 - - - - 1,317 1,199 2,105 1,518	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472 84,079 46,164
Common White Sucker Lake trout Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH ANGLER HOURS	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717 3.8194	247 451 474 525	2,176 - - - - - - 7,239 NAN 13,419 NAN 3,275	5,049 - 166 344 15,146 8,953 21,961 9,876 5,329	13,473 28,544 16,306 5,776	7,304 3,857 10,896 4,458 3,617	NAN 6,703 NAN 2,896	45 - - - - 1,317 1,199 2,105 1,518 596	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472 84,079 46,164 22,014
Lake trout Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH ANGLER HOURS	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717 3.8194	247 451 474	2,176 - - - - - - 7,239 NAN 13,419 NAN	5,049 - 166 344 15,146 8,953 21,961 9,876	13,473 28,544 16,306	7,304 3,857 10,896 4,458	6,703 NAN	45 - - - - 1,317 1,199 2,105 1,518	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472 84,079 46,164
Lake trout Freshwater drum OTH1 TOTAL RELEASED TOTAL CATCH	0.0994 0.0010 0.0021 0.1202 0.2307 0.0004 0.0008 0.0075 0.0157 2.3826 1.7717 3.8194	247 451 474 525	2,176 - - - - - - 7,239 NAN 13,419 NAN 3,275	5,049 - 166 344 15,146 8,953 21,961 9,876 5,329	13,473 28,544 16,306 5,776	7,304 3,857 10,896 4,458 3,617	NAN 6,703 NAN 2,896	45 - - - - 1,317 1,199 2,105 1,518 596	2,176 22 45 2,645 5,049 9 18 166 344 52,450 37,472 84,079 46,164 22,014