

## Open Water Creel Survey Report for Arcadia Lake, Manistee County, 2018

<b>Waterbody</b>	Arcadia Lake
<b>Year</b>	2018
<b>County</b>	Manistee
<b>Sites</b>	ArcadiaLake
<b>Survey period</b>	April 14 to October 31
<b>Survey design</b>	Roving (instantaneous)-access
<b>Count methods/modes</b>	Roving (instantaneous)/boat 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 angling survey data. Three weekdays and two weekend days were randomly selected for sampling during each week of the survey season. 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. Roving (instantaneous) counts of boat and shore anglers were made five times per day for April and half of May; the rest of the survey only two counts per day were made. Survey period for both counts and interviews was April 14 to October 31. Months were estimated separately. Estimates are available for boat and shore. "NAN" in a table means there was not enough information to make a calculation.

Table 1.—Daylight hours used to estimate catch and effort each month of Arcadia Lake open water creel survey from April 14 to October 31, 2018.

Year	Month	Hours
2018	April	14
2018	May	15
2018	June	16
2018	July	17
2018	August	17
2018	September	16
2018	October	14

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

Species	C/H	April	May	June	July	August	September	October	Season
<b>HARVEST</b>									
Northern pike	0.1234	21	91	66	22	0	0	0	200
	0.1982	42	80	130	44	0	0	0	164
Largemouth bass	0.0069	0	0	0	11	0	0	0	11
	0.0163	0	0	0	22	0	0	0	22
Yellow Perch	0.5889	0	16	66	579	294	0	0	955
	1.1318	0	32	120	479	NAN	0	0	1,278
Bluegill	0.1042	0	33	66	22	47	0	0	169
	0.2057	0	68	120	45	NAN	0	0	239
Pumpkinseed	0.5067	0	0	0	223	599	0	0	822
	1.6398	0	0	0	215	NAN	0	0	2,405
Rock bass	0.0584	0	0	0	0	95	0	0	95
	0.2473	0	0	0	0	NAN	0	0	379
Bowfin	0.0031	0	0	0	0	5	0	0	5
	0.0131	0	0	0	0	NAN	0	0	20
TOTAL HARVEST	1.3917	21	139	198	858	1,041	0	0	2,257
	3.2256	42	109	214	530	NAN	0	0	4,203
<b>RELEASED</b>									
Northern pike	0.9465	113	526	499	45	0	352	0	1,535
	2.0164	208	431	NAN	68	0	NAN	0	2,491
Largemouth bass	0.0825	0	119	0	0	15	0	0	134
	0.1554	0	160	0	0	NAN	0	0	171
Smallmouth bass	0.2631	50	240	137	0	0	0	0	427
	0.5160	70	219	NAN	0	0	0	0	595
Yellow Perch	0.5725	0	0	0	360	569	0	0	928
	1.6462	0	0	0	557	NAN	0	0	2,342
Bluegill	0.2771	0	21	66	363	0	0	0	449
	0.5104	0	43	120	533	0	0	0	548
Pumpkinseed	0.3774	0	0	0	328	284	0	0	612
	0.8941	0	0	0	308	NAN	0	0	1,179
Rock bass	0.0041	0	7	0	0	0	0	0	7
	0.0104	0	14	0	0	0	0	0	14
Rainbow trout	0.0035	6	0	0	0	0	0	0	6
	0.0076	10	0	0	0	0	0	0	10
Bowfin	0.1147	0	140	46	0	0	0	0	186
	0.2562	0	271	NAN	0	0	0	0	327
TOTAL RELEASED	2.6415	168	1,052	748	1,095	868	352	0	4,284
	4.7369	220	579	NAN	833	NAN	NAN	0	4,907
TOTAL CATCH	4.0332	190	1,192	946	1,953	1,909	352	0	6,541
	6.8440	224	589	NAN	987	NAN	NAN	0	6,461
ANGLER HOURS		53	348	308	331	142	440	0	1,622
		61	162	NAN	201	NAN	NAN	0	2,238
ANGLER TRIPS		22	89	100	108	43	149	0	511
		24	46	NAN	69	NAN	NAN	0	741

Table 3.—Estimated harvest, catch per hour, and fishing pressure for Arcadia Lakeshore angling. Two standard errors are given below the estimates.

Species	C/H	April	May	June	July	August	September	October	Season
HARVEST									
Northern pike	0.0146	0	12	0	0	0	0	0	12
	0.0210	0	17	0	0	0	0	0	17
TOTAL HARVEST	0.0146	0	12	0	0	0	0	0	12
	0.0210	0	17	0	0	0	0	0	17
RELEASED									
Northern pike	0.2628	0	88	0	133	0	0	0	221
	0.7652	0	NAN	0	NAN	0	0	0	639
Largemouth bass	0.1583	0	0	0	133	0	0	0	133
	0.6359	0	0	0	NAN	0	0	0	533
Smallmouth bass	0.2577	8	209	0	0	0	0	0	217
	0.3355	18	270	0	0	0	0	0	270
Bowfin	0.1055	0	0	0	89	0	0	0	89
	0.4239	0	0	0	NAN	0	0	0	355
TOTAL RELEASED	0.7843	8	297	0	355	0	0	0	660
	2.2192	18	NAN	0	NAN	0	0	0	1,852
TOTAL CATCH	0.7988	8	309	0	355	0	0	0	673
	2.2200	18	NAN	0	NAN	0	0	0	1,852
ANGLER HOURS		40	123	172	280	23	204	0	842
		53	107	133	220	36	146	0	321
ANGLER TRIPS		25	84	103	186	13	128	0	538
		36	73	85	168	21	107	0	232

Table 4.—Estimated harvest, catch per hour, and fishing pressure for Arcadia Lake all modes of angling combined. Two standard errors are given below the estimates.

Species	C/H	April	May	June	July	August	September	October	Season
<b>HARVEST</b>									
Northern pike	0.0862	21	103	66	22	0	0	0	212
	0.1336	42	82	130	44	0	0	0	165
Largemouth bass	0.0045	0	0	0	11	0	0	0	11
	0.0107	0	0	0	22	0	0	0	22
Yellow Perch	0.3876	0	16	66	579	294	0	0	955
	0.7339	0	32	120	479	NAN	0	0	1,278
Bluegill	0.0686	0	33	66	22	47	0	0	169
	0.1335	0	68	120	45	NAN	0	0	239
Pumpkinseed	0.3335	0	0	0	223	599	0	0	822
	1.0737	0	0	0	215	NAN	0	0	2,405
Rock bass	0.0385	0	0	0	0	95	0	0	95
	0.1623	0	0	0	0	NAN	0	0	379
Bowfin	0.0020	0	0	0	0	5	0	0	5
	0.0086	0	0	0	0	NAN	0	0	20
TOTAL HARVEST	0.9210	21	152	198	858	1,041	0	0	2,269
	2.1054	42	111	214	530	NAN	0	0	4,203
<b>RELEASED</b>									
Northern pike	0.7128	113	614	499	178	0	352	0	1,756
	1.7266	208	NAN	NAN	NAN	0	NAN	0	3,544
Largemouth bass	0.1084	0	119	0	133	15	0	0	267
	0.2697	0	160	0	NAN	NAN	0	0	560
Smallmouth bass	0.2613	58	448	137	0	0	0	0	644
	0.4391	72	348	NAN	0	0	0	0	653
Yellow Perch	0.3768	0	0	0	360	569	0	0	928
	1.0763	0	0	0	557	NAN	0	0	2,342
Bluegill	0.1824	0	21	66	363	0	0	0	449
	0.3305	0	43	120	533	0	0	0	548
Pumpkinseed	0.2484	0	0	0	328	284	0	0	612
	0.5827	0	0	0	308	NAN	0	0	1,179
Rock bass	0.0027	0	7	0	0	0	0	0	7
	0.0068	0	14	0	0	0	0	0	14
Rainbow trout	0.0023	6	0	0	0	0	0	0	6
	0.0049	10	0	0	0	0	0	0	10
Bowfin	0.1116	0	140	46	89	0	0	0	275
	0.2464	0	271	NAN	NAN	0	0	0	483
TOTAL RELEASED	2.0067	177	1,349	748	1,450	868	352	0	4,944
	4.6221	220	NAN	NAN	NAN	NAN	NAN	0	9,264
TOTAL CATCH	2.9277	198	1,501	946	2,308	1,909	352	0	7,213
	5.6947	224	NAN	NAN	NAN	NAN	NAN	0	10,173
ANGLER HOURS		93	472	480	610	164	644	0	2,464
		81	194	NAN	298	NAN	NAN	0	3,301
ANGLER TRIPS		47	173	202	294	56	277	0	1,049
		43	86	NAN	181	NAN	NAN	0	1,405