

Cass Lake and Union Lake, Oakland County 2016 Open Water Creel Survey Report

Waterbody	Cass Lake and Union Lake
Year	2016
County	Oakland County
Sites	Cass and Union
Survey period	March 19 to October 31
Survey design	Roving (instantaneous)-access
Count methods/modes	Roving (instantaneous)/boat
Clerk time	full 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 full time to collect angling survey data. Two weekend days (one day on each lake) and 3 week days (alternating between lakes) were randomly selected for sampling during each week of the survey season. No holidays were sampled. Clerks followed a randomized count and interview schedule. One of two shifts was selected each sample day. Cass Lake and Union Lake were divided into 2 sites: Cass and Union. A whole shift was spent at one site. Starting location within a section and direction of travel were randomized for both counting and interviewing. Roving (instantaneous) counts of boat anglers were made twice per day. Survey period for both counts and interviews was March 19 to October 31. The last few days of March were combined with April because it was an open water fishery and not an ice fishery. All other months were estimated separately. Only anglers fishing from boats were surveyed during this period.

Table 1.–Daylight hours used to estimate catch and effort at Cass Lake and Union Lake from March 19 to October 31, 2016.

Year	Month	Daylight hours
2016	3	14
2016	4	14
2016	5	16
2016	6	16
2016	7	17
2016	8	16
2016	9	15
2016	10	14

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

Species	C/H	March-April	May	June	July	August	September	October	Season
HARVEST									
Walleye	0.0070	—	37	32	63	4	8	—	144
	0.0050	—	57	45	65	9	15	—	99
Northern pike	0.0038	—	—	—	34	15	21	10	80
	0.0039	—	—	—	67	30	25	15	79
Largemouth bass	0.0056	—	40	36	—	—	40	—	116
	0.0046	—	62	51	—	—	49	—	94
Smallmouth bass	0.0059	—	40	—	46	14	22	—	122
	0.0047	—	51	—	73	22	23	—	94
Yellow Perch	0.0050	—	—	15	—	89	—	—	104
	0.0087	—	—	31	—	176	—	—	179
Bluegill	0.6430	277	831	3,473	1,181	1,119	2,314	4,160	13,354
	0.2477	333	781	3,339	788	998	1,174	2,302	4,491
Rock bass	0.0195	11	11	26	323	19	12	5	406
	0.0177	26	21	43	354	30	18	10	360
Black crappie	0.0533	44	110	14	79	325	305	231	1,108
	0.0330	105	159	29	122	485	308	208	652
Carp	0.0006	—	13	—	—	—	—	—	13
	0.0013	—	26	—	—	—	—	—	26
TOTAL HARVEST	0.7437	331	1,082	3,596	1,725	1,584	2,722	4,406	15,447
	0.2603	350	803	3,340	881	1,125	1,216	2,311	4,559
RELEASED									
Walleye	0.0071	11	24	17	61	19	16	—	148
	0.0047	22	34	34	66	31	22	—	93
Northern pike	0.1095	197	409	571	261	498	229	110	2,275
	0.0441	200	327	435	161	522	126	85	811
Largemouth bass	0.4712	467	996	1,841	1,087	3,939	1,095	361	9,786
	0.1729	492	776	1,824	433	2,211	464	230	3,084
Smallmouth bass	0.5293	50	4,138	1,394	594	2,715	1,779	325	10,993
	0.2559	64	4,328	1,150	331	1,699	925	280	4,897
Yellow Perch	0.0431	—	—	85	277	121	360	53	896
	0.0212	—	—	153	208	182	242	82	407
Bluegill	1.0333	726	1,462	5,450	3,549	2,977	3,509	3,789	21,462
	0.4016	864	1,339	5,682	2,276	2,476	1,708	2,060	7,300
Pumpkinseed	0.0014	—	—	—	21	—	8	—	29
	0.0022	—	—	—	42	—	16	—	44
Rock bass	0.0941	—	413	443	298	693	107	—	1,955
	0.0453	—	431	495	240	503	80	—	865
Black crappie	0.0389	11	32	17	203	325	9	209	807
	0.0352	23	63	34	266	595	14	287	716
Carp	0.0009	11	—	9	—	—	—	—	19
	0.0013	19	—	17	—	—	—	—	26
Gar	0.0015	—	—	—	12	15	5	—	31
	0.0019	—	—	—	23	30	9	—	38
TOTAL RELEASED	2.3304	1,473	7,473	9,827	6,362	11,302	7,116	4,848	48,401
	0.6310	1,017	4,629	6,115	2,384	3,850	2,017	2,115	9,428
TOTAL CATCH	3.0741	1,804	8,555	13,423	8,088	12,887	9,837	9,254	63,848
	0.7671	1,075	4,698	6,968	2,541	4,010	2,355	3,133	10,473
ANGLER HOURS		808	2,875	3,934	4,046	3,747	2,988	2,372	20,770
		416	1,384	2,833	998	1,585	990	807	3,906
ANGLER TRIPS		244	777	934	1,126	1,106	676	571	5,433
		147	374	648	321	484	226	212	1,007

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

Species	C/H	March-April	May	June	July	August	September	October	Season
HARVEST									
Walleye	0.0311	—	32	96	204	18	—	—	350
	0.0273	—	32	92	277	25	—	—	295
Largemouth bass	0.0041	—	—	29	—	9	8	—	46
	0.0043	—	—	41	—	17	15	—	47
Smallmouth bass	0.0110	—	—	49	14	27	34	—	124
	0.0087	—	—	69	27	37	43	—	93
Yellow Perch	0.0117	—	—	—	39	4	88	—	131
	0.0147	—	—	—	43	9	157	—	163
Bluegill	0.0816	19	—	337	41	294	197	32	918
	0.0596	37	—	529	63	242	229	64	633
Rock bass	0.0007	—	—	—	—	—	8	—	8
	0.0014	—	—	—	—	—	16	—	16
Gar	0.0051	—	57	—	—	—	—	—	57
	0.0076	—	85	—	—	—	—	—	85
TOTAL HARVEST	0.1452	19	89	512	298	352	335	32	1,635
	0.0738	37	91	543	289	247	282	64	730
RELEASED									
Walleye	0.0797	43	6	31	447	141	104	126	898
	0.0554	36	12	45	538	137	124	120	585
Northern pike	0.0514	27	88	241	107	13	16	86	578
	0.0276	31	78	201	148	19	23	83	277
Largemouth bass	0.3757	398	384	1,197	1,181	389	187	495	4,230
	0.1687	328	301	977	1,041	271	194	453	1,598
Smallmouth bass	0.7364	1,674	1,402	1,506	1,180	1,103	577	850	8,292
	0.2809	1,094	785	1,217	1,054	831	663	651	2,441
Yellow Perch	0.1918	8	—	47	1,498	447	128	31	2,160
	0.1365	16	—	73	1,367	440	140	40	1,445
Bluegill	0.1274	186	27	98	312	279	493	39	1,435
	0.0984	372	55	109	301	242	894	63	1,051
Rock bass	0.0262	8	78	73	82	31	16	8	295
	0.0171	16	69	63	139	55	23	15	179
Black crappie	0.0253	120	—	—	—	—	165	—	285
	0.0364	192	—	—	—	—	355	—	404
Common white sucker	0.0006	6	—	—	—	—	—	—	6
	0.0012	14	—	—	—	—	—	—	14
Gar	0.0008	—	—	—	—	9	—	—	9
	0.0016	—	—	—	—	18	—	—	18
Bowfin	0.0017	—	19	—	—	—	—	—	19
	0.0034	—	38	—	—	—	—	—	38
TOTAL RELEASED	1.6169	2,469	2,004	3,192	4,806	2,413	1,685	1,636	18,206
	0.5010	1,218	850	1,581	2,118	1,019	1,199	810	3,510
TOTAL CATCH	1.7621	2,488	2,093	3,703	5,104	2,765	2,020	1,668	19,841
	0.5330	1,218	855	1,672	2,137	1,048	1,232	813	3,585
ANGLER HOURS		1,075	1,580	2,582	2,544	1,506	767	1,205	11,260
		594	579	1,566	1,711	538	495	927	2,732
ANGLER TRIPS		263	431	606	755	331	229	281	2,897
		155	168	345	524	132	196	217	741