

Survey Report for KENT LAKE, , Summer, Winter, 2007

KENT LAKE, Livingston, Summer, Winter, 2007

Waterbody	KENT LAKE
Year	Summer, Winter, 2007
County	Livingston
Sites	KENT LAKE
Survey period	January 1 to September 30
Survey design	Roving-access (roving counts and access interviews)
Interview type/mode	access/boat, open ice, shanty, shore
Count type/mode	roving/boat and shore
Clerk time	full time
Survey purpose	Characterize general effort and catch aspects of the fishery

KENT LAKE
2007 Creel Census Schedule
Lake Erie Management Unit

Work shifts	A-April through September	6:00am to 2:30pm
	B-April, May, & August	12:30am to 9:00pm
	June & July	1:30pm to 10:00pm
	September	11:30am to 8:00pm

New for 2007: When an A-shift is scheduled to follow B-shift the pervious day ending at 9, 10, or 11, that A-shift will start at 8:00am and run to 4:30pm AS LONG AS the scheduling program has not randomly assigned a count for 7 or 8 am. If a count has been assigned to these early hours of an A-shift, the work day will be 6:00am to 2:30pm regardless of the previous day's schedule. A-shifts that are to be delayed will be denoted by a "*****" next to the date on your schedule.

SITE DESCRIPTION & COUNT INSTRUCTIONS

Kent Lake (see map included w/ your schedule)

At the times indicated on your schedule, stop interviewing and start a count. Counts are to be made from shore at the following three sites:

- 1) West Boat Launch: Count all fishing boats on the lake including canoes and kayaks that fishing activity can be confirmed in. DO NOT count sail boats. Also glass the shoreline using binoculars and count all visible anglers fishing from shore or wading.

- 2) East Boat Launch: Count all fishing boats on the lake including canoes and kayaks that fishing activity can be confirmed in. DO NOT count sail boats. Also glass the shoreline using binoculars and count all visible anglers fishing from shore or wading.
- 3) Shore Fishing Site Up River: Also glass the shoreline using binoculars and count all visible anglers fishing from shore or wading. While boat fishing is not anticipated at this location go a head and make a boat count. Count all fishing boats seen including canoes and kayaks that fishing activity can be confirmed in. Again DO NOT count sail boats.

NOTE: Note at the end of a count, combine the number of fishing boats counted from the three locations and record the total as “boat” in you PDA. Also combine the number shore/wading anglers counted at the three locations and record their total as “Shore” in your PDA.

The count can commence from the site that is closest to where interviews were being conducted at the time a count was scheduled to begin. Counts should take around 30 minutes. Upon finishing the count, resume angler interviews. Two counts will be assigned per day.

INTERVIEW INSTRUCTIONS

Interview anglers randomly around the lake’s perimeter making sure to spend time getting information from both shore anglers and fishing boats. When conducting an interview, each shore angler should be recorded as a separate entry while boat interviews should be recorded as a party entry and include all fishers on board. Anglers that have not finished fishing Kent Lake may be interviewed as an incomplete-interview but must have been fishing for at least 1 hour in order to be interviewed. Anglers that have finished fishing for the day should be recorded as “complete trip” interviews. There is no minimum length of time an angler must be fishing to be eligible for a complete trip interview. Preference, when conducting interview, should go to getting information for the individuals or fishing boats that have completed their fishing trip. Interview as many anglers as possible and record all data on you PDA. Be sure to ask the start time of their fishing trip.

Notes

Survey followed a roving-access (roving counts and access interviews) design. All funding was provided through Fisheries Division. One clerk worked full time to collect angler survey data. Both weekend days and 3 randomly selected weekdays were 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. Starting location within the waterbody and direction of travel were randomized for both counting and interviewing. roving counts of anglers were made once per day. Survey period for both counts and interviews was April 1 to September 30. Months were estimated separately. Estimates are given in Tables xxx.

The survey design described in the previous instructions have been changed:

Zhen,

I want your opinion on the attached changes to the Kent Lake count protocol. Shore counts of the boats and on the water boat counts are not feasible. Jim Francis and I discussed the situation and thought that a combination of trailers, rentals, and vacant boat slips might work in getting an estimate of boat fishing. The shoreline is nearly entirely public so you do not have boats accessing the water from private property that other lake do. He wrote the following description and I would like your opinion on what is being proposed. Is it workable? We really have not dealt with any other inland lake with these type of wake/speed restrictions which make an on the water count very difficult.

Tom

05/14/2007

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There were actually three components of the boat fishery; 1-trailer counts at the two access sites (fishing to non-fishing ratio generated by interviews); 2-boat rental-only rentals used for fishing were counted; 3-boat slips. The boat slip data is where I am fuzzy on how the numbers were calculated. The instructions to the clerk was to inventory the total number of boats and then subtract the number of boats at the dock during the count period to generate the number of boats missing (meaning the number of boats on the water). The problem was that I do not think we were able to get interviews from these boaters. Therefore, I am wondering how we generated a ratio of fishers to non-fishers?

Based on these discussions, the final results were calculated the following:

- (1) treated both 1-trailer counts at the two access sites and 2-boat rental-only rentals used for fishing were counted as the total number of counts which includes both fishing and non-fishing boats. They were adjusted by the proportion of non-fishing interviews to get fishing effort.
- (2) Boat slips counts were treated as fishing boat counts

Table – Fishable hours/day used to estimate fishing effort at KENT LAKE, January 1 to September 30, Summer, Winter, 2007

Month	F
1	12

2	12
3	13
4	15
5	16
6	18
7	18
8	17
9	16



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

Species	C/H	January	February	March	April	May	June	July	August	September	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST															
Walleye	0.0068 (0.0045)	0 (0)	0 (0)	0 (0)	0 (0)	10 (21)	126 (127)	146 (142)	15 (29)	0 (0)	297 (194)	NAN (0)	0 (0)	0.0068 (0.0045)	297 (194)
Northern pike	0.0007 (0.0010)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	32 (44)	0 (0)	0 (0)	32 (44)	NAN (0)	0 (0)	0.0007 (0.0010)	32 (44)
Largemouth bass	0.0034 (0.0040)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (24)	50 (73)	86 (158)	0 (0)	148 (176)	NAN (0)	0 (0)	0.0034 (0.0040)	148 (176)
Smallmouth bass	0.0008 (0.0009)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	14 (29)	0 (0)	10 (19)	10 (21)	34 (41)	NAN (0)	0 (0)	0.0008 (0.0009)	34 (41)
Yellow Perch	0.0009 (0.0015)	0 (0)	0 (0)	0 (0)	0 (0)	8 (17)	0 (0)	0 (0)	30 (62)	0 (0)	39 (64)	NAN (0)	0 (0)	0.0009 (0.0015)	39 (64)
Bluegill	0.0633 (0.0371)	0 (0)	0 (0)	0 (0)	0 (0)	198 (225)	241 (340)	752 (900)	778 (921)	800 (835)	2,769 (1,588)	NAN (0)	0 (0)	0.0633 (0.0371)	2,769 (1,588)
Pumpkinseed	0.0046 (0.0066)	0 (0)	0 (0)	0 (0)	0 (0)	125 (261)	0 (0)	75 (121)	0 (0)	0 (0)	200 (287)	NAN (0)	0 (0)	0.0046 (0.0066)	200 (287)
Rock bass	0.0003 (0.0005)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0 (0)	12 (23)	NAN (0)	0 (0)	0.0003 (0.0005)	12 (23)
Black crappie	0.0090 (0.0086)	0 (0)	0 (0)	0 (0)	0 (0)	346 (366)	0 (0)	15 (29)	30 (58)	0 (0)	392 (372)	NAN (0)	0 (0)	0.0090 (0.0086)	392 (372)
Brown bullhead	0.0003 (0.0005)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0 (0)	12 (23)	NAN (0)	0 (0)	0.0003 (0.0005)	12 (23)
Carp	0.0003 (0.0005)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (24)	0 (0)	0 (0)	0 (0)	12 (24)	NAN (0)	0 (0)	0.0003 (0.0005)	12 (24)
OTH1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
TOTAL HARVEST	0.0902 (0.0400)	0 (0)	0 (0)	0 (0)	0 (0)	689 (503)	428 (367)	1,070 (923)	949 (939)	810 (835)	3,946 (1,679)	NAN (0.0000)	0 (0)	0.0902 (0.0400)	3,946 (1,679)
RELEASED															
Walleye	0.0096 (0.0049)	0 (0)	0 (0)	0 (0)	61 (104)	115 (85)	153 (136)	50 (59)	30 (58)	10 (19)	420 (209)	NAN (0)	0 (0)	0.0096 (0.0049)	420 (209)
Northern pike	0.0096 (0.0044)	0 (0)	0 (0)	0 (0)	110 (97)	154 (123)	61 (53)	49 (57)	25 (35)	21 (43)	420 (183)	NAN (0)	0 (0)	0.0096 (0.0044)	420 (183)
Largemouth bass	0.3341 (0.0889)	0 (0)	0 (0)	0 (0)	1,298 (882)	7,231 (2,924)	2,900 (1,296)	1,093 (591)	1,328 (559)	763 (448)	14,613 (3,445)	NAN (0)	0 (0)	0.3341 (0.0889)	14,613 (3,445)

Smallmouth bass	0.1227	0	0	0	318	2,654	909	647	481	355	5,365	NAN	0	0.1227	5,365
	(0.0384)	(0)	(0)	(0)	(247)	(1,304)	(575)	(373)	(302)	(237)	(1,542)	(0)	(0)	(0.0384)	(1,542)
Yellow Perch	0.0130	0	0	0	0	0	154	286	90	40	570	NAN	0	0.0130	570
	(0.0086)	(0)	(0)	(0)	(0)	(0)	(294)	(172)	(137)	(47)	(370)	(0)	(0)	(0.0086)	(370)
Bluegill	0.1486	0	0	0	122	1,189	831	1,169	910	2,279	6,501	NAN	0	0.1486	6,501
	(0.0933)	(0)	(0)	(0)	(123)	(1,783)	(658)	(858)	(830)	(3,311)	(4,002)	(0)	(0)	(0.0933)	(4,002)
Pumpkinseed	0.0170	0	0	0	0	0	588	125	29	0	742	NAN	0	0.0170	742
	(0.0226)	(0)	(0)	(0)	(0)	(0)	(969)	(172)	(45)	(0)	(986)	(0)	(0)	(0.0226)	(986)
Rock bass	0.0002	0	0	0	0	0	0	0	10	0	10	NAN	0	0.0002	10
	(0.0004)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(19)	(0)	(19)	(0)	(0)	(0.0004)	(19)
Black crappie	0.0047	0	0	0	12	10	12	154	19	0	207	NAN	0	0.0047	207
	(0.0039)	(0)	(0)	(0)	(25)	(21)	(24)	(161)	(38)	(0)	(170)	(0)	(0)	(0.0039)	(170)
Brown bullhead	0.0004	0	0	0	0	0	0	17	0	0	17	NAN	0	0.0004	17
	(0.0007)	(0)	(0)	(0)	(0)	(0)	(0)	(33)	(0)	(0)	(33)	(0)	(0)	(0.0007)	(33)
Channel catfish	0	0	0	0	0	0	0	0	0	0	0	NAN	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Carp	0	0	0	0	0	0	0	0	0	0	0	NAN	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Bowfin	0.0002	0	0	0	0	0	0	0	10	0	10	NAN	0	0.0002	10
	(0.0004)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(19)	(0)	(19)	(0)	(0)	(0.0004)	(19)
OTH1	0.0002	0	0	0	0	0	0	0	0	11	11	NAN	0	0.0002	11
	(0.0005)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(21)	(21)	(0)	(0)	(0.0005)	(21)
TOTAL RELEASED	0.6605	0	0	0	1,922	11,353	5,609	3,590	2,932	3,480	28,886	NAN	0	0.6605	28,886
	(0.1519)	(0)	(0)	(0)	(935)	(3,668)	(1,869)	(1,148)	(1,059)	(3,350)	(5,611)	(0.0000)	(0)	(0.1519)	(5,611)
TOTAL CATCH	0.7507	0	0	0	1,922	12,042	6,037	4,660	3,881	4,290	32,832	NAN	0	0.7507	32,832
	(0.1627)	(0)	(0)	(0)	(935)	(3,702)	(1,904)	(1,473)	(1,415)	(3,453)	(5,857)	(0)	(0)	(0.1627)	(5,857)
ANGLER HOURS		0	0	0	4,353	13,527	8,580	9,352	4,703	3,222	43,736		0		43,736
		(0)	(0)	(0)	(1,698)	(4,270)	(1,768)	(1,593)	(1,347)	(644)	(5,386)		(0)		(5,386)
ANGLER TRIPS		0	0	0	841	2,333	1,849	2,026	853	629	8,532		0		8,532
		(0)	(0)	(0)	(350)	(747)	(429)	(416)	(274)	(143)	(1,065)		(0)		(1,065)

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

Species	C/H	January	February	March	April	May	June	July	August	September	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Largemouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Yellow Perch	0.1070 (0.1439)	31 (42)	302 (439)	3 (6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	336 (441)	0.1070 (0.1403)	336 (441)	NAN (0)	0 (0)
Bluegill	0.0427 (0.0544)	0 (0)	18 (38)	116 (162)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	134 (166)	0.0427 (0.0529)	134 (166)	NAN (0)	0 (0)
Pumpkinseed	0.0011 (0.0014)	0 (0)	0 (0)	3 (4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (4)	0.0011 (0.0013)	3 (4)	NAN (0)	0 (0)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Black crappie	0.0153 (0.0295)	0 (0)	0 (0)	48 (91)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	48 (91)	0.0153 (0.0291)	48 (91)	NAN (0)	0 (0)
Brown bullhead	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Carp	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
OTH1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
TOTAL HARVEST	0.1660 (0.1607)	31 (42)	321 (440)	170 (186)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	522 (480)	0.1660 (0.1607)	522 (480)	NAN (0.0000)	0 (0)
RELEASED															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Largemouth bass	0.0073 (0.0113)	0 (0)	0 (0)	23 (35)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	23 (35)	0.0073 (0.0111)	23 (35)	NAN (0)	0 (0)

Smallmouth bass	0.0029	0	9	0	0	0	0	0	0	0	9	0.0029	9	NAN	0
	(0.0059)	(0)	(18)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(18)	(0.0059)	(18)	(0)	(0)
Yellow Perch	0.3179	244	657	98	0	0	0	0	0	0	998	0.3179	998	NAN	0
	(0.3058)	(260)	(870)	(88)	(0)	(0)	(0)	(0)	(0)	(0)	(912)	(0.2906)	(912)	(0)	(0)
Bluegill	1.3031	159	157	3,778	0	0	0	0	0	0	4,093	1.3031	4,093	NAN	0
	(1.3517)	(172)	(209)	(4,054)	(0)	(0)	(0)	(0)	(0)	(0)	(4,063)	(1.2943)	(4,063)	(0)	(0)
Pumpkinseed	0.0838	207	9	47	0	0	0	0	0	0	263	0.0838	263	NAN	0
	(0.0696)	(190)	(18)	(71)	(0)	(0)	(0)	(0)	(0)	(0)	(204)	(0.0649)	(204)	(0)	(0)
Rock bass	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Black crappie	0.0330	0	0	104	0	0	0	0	0	0	104	0.0330	104	NAN	0
	(0.0494)	(0)	(0)	(152)	(0)	(0)	(0)	(0)	(0)	(0)	(152)	(0.0484)	(152)	(0)	(0)
Brown bullhead	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Channel catfish	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Carp	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Bowfin	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	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	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TOTAL RELEASED	1.7480	609	832	4,049	0	0	0	0	0	0	5,491	1.7480	5,491	NAN	0
	(1.4288)	(365)	(895)	(4,059)	(0)	(0)	(0)	(0)	(0)	(0)	(4,172)	(1.4288)	(4,172)	(0.0000)	(0)
TOTAL CATCH	1.9140	640	1,153	4,219	0	0	0	0	0	0	6,012	1.9140	6,012	NAN	0
	(1.4560)	(367)	(998)	(4,063)	(0)	(0)	(0)	(0)	(0)	(0)	(4,200)	(1.4560)	(4,200)	(0)	(0)
ANGLER HOURS		628	1,680	833	0	0	0	0	0	0	3,141		3,141		0
		(428)	(793)	(288)	(0)	(0)	(0)	(0)	(0)	(0)	(946)		(946)		(0)
ANGLER TRIPS		222	270	136	0	0	0	0	0	0	628		628		0
		(158)	(208)	(90)	(0)	(0)	(0)	(0)	(0)	(0)	(277)		(277)		(0)

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

Species	C/H	January	February	March	April	May	June	July	August	September	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Largemouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Yellow Perch	0.1466 (0.1162)	72 (113)	455 (387)	5 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	532 (404)	0.1466 (0.1115)	532 (404)	NAN (0)	0 (0)
Bluegill	0.0005 (0.0004)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0.0005 (0.0004)	2 (1)	NAN (0)	0 (0)
Pumpkinseed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Black crappie	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Brown bullhead	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Carp	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
OTH1	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
TOTAL HARVEST	0.1471 (0.1162)	72 (113)	455 (387)	7 (14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	534 (404)	0.1471 (0.1162)	534 (404)	NAN (0.0000)	0 (0)
RELEASED															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)
Largemouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)

Smallmouth bass	0.0018	0	7	0	0	0	0	0	0	0	7	0.0018	7	NAN	0
	(0.0027)	(0)	(10)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(10)	(0.0026)	(10)	(0)	(0)
Yellow Perch	0.3617	338	866	108	0	0	0	0	0	0	1,312	0.3617	1,312	NAN	0
	(0.2152)	(418)	(565)	(166)	(0)	(0)	(0)	(0)	(0)	(0)	(722)	(0.1995)	(722)	(0)	(0)
Bluegill	0.0364	95	34	3	0	0	0	0	0	0	132	0.0364	132	NAN	0
	(0.0467)	(157)	(56)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(167)	(0.0460)	(167)	(0)	(0)
Pumpkinseed	0.0038	14	0	0	0	0	0	0	0	0	14	0.0038	14	NAN	0
	(0.0076)	(27)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(27)	(0.0076)	(27)	(0)	(0)
Rock bass	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Black crappie	0.0007	0	3	0	0	0	0	0	0	0	3	0.0007	3	NAN	0
	(0.0011)	(0)	(4)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)	(0.0010)	(4)	(0)	(0)
Brown bullhead	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Channel catfish	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Carp	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Bowfin	0	0	0	0	0	0	0	0	0	0	0	0	0	NAN	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	NAN	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TOTAL RELEASED	0.4044	447	909	110	0	0	0	0	0	0	1,467	0.4044	1,467	NAN	0
	(0.2240)	(447)	(568)	(166)	(0)	(0)	(0)	(0)	(0)	(0)	(742)	(0.2240)	(742)	(0.0000)	(0)
TOTAL CATCH	0.5516	519	1,364	117	0	0	0	0	0	0	2,000	0.5516	2,000	NAN	0
	(0.2641)	(461)	(687)	(167)	(0)	(0)	(0)	(0)	(0)	(0)	(845)	(0.2641)	(845)	(0)	(0)
ANGLER HOURS		374	2,938	315	0	0	0	0	0	0	3,627		3,627		0
		(376)	(686)	(243)	(0)	(0)	(0)	(0)	(0)	(0)	(819)		(819)		(0)
ANGLER TRIPS		102	396	84	0	0	0	0	0	0	581		581		0
		(106)	(172)	(95)	(0)	(0)	(0)	(0)	(0)	(0)	(223)		(223)		(0)

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

Species	C/H	January	February	March	April	May	June	July	August	September	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0.0012 (0.0025)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	41 (81)	41 (81)	0 (0)	0 (0)	0.0016 (0.0032)	41 (81)
Largemouth bass	0.0013 (0.0016)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9 (18)	34 (48)	0 (0)	0 (0)	43 (52)	0 (0)	0 (0)	0.0017 (0.0020)	43 (52)
Smallmouth bass	0.0028 (0.0026)	0 (0)	0 (0)	0 (0)	0 (0)	8 (16)	76 (81)	0 (0)	0 (0)	7 (15)	91 (83)	0 (0)	0 (0)	0.0036 (0.0033)	91 (83)
Yellow Perch	0.0424 (0.0385)	287 (353)	0 (0)	957 (1,170)	31 (46)	24 (38)	0 (0)	64 (96)	0 (0)	20 (41)	1,384 (1,228)	0.1765 (0.1642)	1,244 (1,223)	0.0055 (0.0047)	140 (120)
Bluegill	0.2317 (0.1161)	1,205 (1,012)	0 (0)	2,698 (2,805)	671 (470)	132 (128)	242 (232)	1,463 (1,412)	1,061 (946)	102 (122)	7,574 (3,477)	0.5534 (0.3854)	3,903 (2,982)	0.1432 (0.0708)	3,671 (1,788)
Pumpkinseed	0.0478 (0.0334)	727 (682)	0 (0)	226 (277)	0 (0)	0 (0)	85 (111)	442 (724)	0 (0)	82 (116)	1,561 (1,045)	0.1351 (0.0954)	952 (736)	0.0237 (0.0290)	609 (741)
Rock bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Black crappie	0.3145 (0.2109)	526 (658)	0 (0)	6,619 (6,414)	2,759 (1,277)	104 (110)	86 (85)	64 (128)	16 (32)	108 (152)	10,282 (6,578)	1.0131 (0.8570)	7,145 (6,448)	0.1223 (0.0518)	3,137 (1,300)
Brown bullhead	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Carp	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
OTH1	0.0010 (0.0019)	0 (0)	0 (0)	0 (0)	31 (62)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	31 (62)	0 (0)	0 (0)	0.0012 (0.0024)	31 (62)
TOTAL HARVEST	0.6426 (0.2663)	2,745 (1,431)	0 (0)	10,500 (7,103)	3,492 (1,363)	268 (173)	498 (283)	2,067 (1,596)	1,077 (946)	360 (245)	21,007 (7,614)	1.8781 (1.9394)	13,245 (7,246)	0.3028 (0.0950)	7,762 (2,339)
RELEASED															
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Northern pike	0.0014 (0.0024)	0 (0)	0 (0)	0 (0)	0 (0)	39 (78)	5 (10)	0 (0)	0 (0)	0 (0)	44 (79)	0 (0)	0 (0)	0.0017 (0.0031)	44 (79)
Largemouth bass	0.0810 (0.0347)	373 (410)	0 (0)	145 (211)	523 (479)	489 (274)	280 (277)	251 (342)	295 (341)	289 (420)	2,646 (1,002)	0.0735 (0.0612)	519 (461)	0.0830 (0.0354)	2,128 (889)

Smallmouth bass	0.0191	0	0	0	0	258	141	81	90	54	624	0	0	0.0243	624
	(0.0123)	(0)	(0)	(0)	(0)	(277)	(167)	(86)	(153)	(105)	(382)	(0)	(0)	(0.0151)	(382)
Yellow Perch	0.2315	411	0	4,553	1,455	57	286	414	215	176	7,567	0.7040	4,965	0.1015	2,602
	(0.1921)	(378)	(0)	(5,998)	(758)	(64)	(327)	(454)	(268)	(214)	(6,093)	(0.8229)	(6,010)	(0.0402)	(1,005)
Bluegill	0.9122	3,750	0	12,921	3,482	644	1,485	2,272	3,003	2,265	29,821	2.3638	16,671	0.5129	13,150
	(0.4693)	(3,547)	(0)	(13,195)	(1,702)	(488)	(795)	(1,415)	(2,146)	(1,537)	(14,121)	(1.7891)	(13,663)	(0.1463)	(3,568)
Pumpkinseed	0.0597	507	0	321	47	50	400	57	502	69	1,952	0.1174	828	0.0438	1,124
	(0.0421)	(588)	(0)	(502)	(57)	(81)	(304)	(106)	(1,005)	(137)	(1,319)	(0.1032)	(773)	(0.0419)	(1,069)
Rock bass	0.0012	0	0	0	0	0	0	0	38	0	38	0	0	0.0015	38
	(0.0023)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(75)	(0)	(75)	(0)	(0)	(0.0029)	(75)
Black crappie	0.5599	134	0	12,027	4,796	451	344	217	0	335	18,304	1.7244	12,161	0.2396	6,143
	(0.6057)	(182)	(0)	(19,279)	(2,417)	(567)	(593)	(260)	(0)	(458)	(19,455)	(2.6795)	(19,280)	(0.1038)	(2,606)
Brown bullhead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Channel catfish	0.0021	0	0	0	0	0	67	0	0	0	67	0	0	0.0026	67
	(0.0031)	(0)	(0)	(0)	(0)	(0)	(101)	(0)	(0)	(0)	(101)	(0)	(0)	(0.0039)	(101)
Carp	0.0132	0	0	0	0	141	220	39	32	0	432	0	0	0.0168	432
	(0.0068)	(0)	(0)	(0)	(0)	(114)	(152)	(57)	(45)	(0)	(203)	(0)	(0)	(0.0081)	(203)
Bowfin	0.0012	0	0	0	0	0	12	29	0	0	41	0	0	0.0016	41
	(0.0019)	(0)	(0)	(0)	(0)	(0)	(24)	(57)	(0)	(0)	(62)	(0)	(0)	(0.0024)	(62)
OTH1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
TOTAL RELEASED	1.8823	5,175	0	29,968	10,303	2,129	3,239	3,359	4,175	3,188	61,535	4.9831	35,143	1.0294	26,392
	(0.8494)	(3,643)	(0)	(24,126)	(3,090)	(861)	(1,149)	(1,554)	(2,415)	(1,681)	(24,859)	(5.5692)	(24,399)	(0.2065)	(4,762)
TOTAL CATCH	2.5249	7,920	0	40,468	13,795	2,397	3,737	5,426	5,252	3,548	82,542	6.8611	48,388	1.3321	34,154
	(0.9435)	(3,914)	(0)	(25,150)	(3,377)	(878)	(1,184)	(2,228)	(2,594)	(1,698)	(25,999)	(7.0097)	(25,452)	(0.2376)	(5,306)
ANGLER HOURS		914	0	6,139	4,117	3,281	5,416	5,999	3,865	2,961	32,691		7,053		25,638
		(647)	(0)	(6,143)	(1,148)	(668)	(1,160)	(903)	(834)	(652)	(6,573)		(6,177)		(2,246)
ANGLER TRIPS		363	0	1,752	1,193	1,123	1,483	3,057	1,134	621	10,727		2,116		8,611
		(265)	(0)	(1,809)	(358)	(286)	(617)	(726)	(558)	(493)	(2,240)		(1,829)		(1,294)

Estimated harvest, catch per hour, and fishing pressure for kent lake. Two standard errors are given in parentheses.

Species	C/H	January	February	March	April	May	June	July	August	September	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST															
Walleye	0.0036 (0.0024)	0 (0)	0 (0)	0 (0)	0 (0)	10 (21)	126 (127)	146 (142)	15 (29)	0 (0)	297 (194)	0 (0)	0 (0)	0.0043 (0.0028)	297 (194)
Northern pike	0.0009 (0.0011)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	32 (44)	0 (0)	41 (81)	72 (92)	0 (0)	0 (0)	0.0010 (0.0013)	72 (92)
Largemouth bass	0.0023 (0.0022)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	21 (30)	85 (87)	86 (158)	0 (0)	191 (183)	0 (0)	0 (0)	0.0028 (0.0026)	191 (183)
Smallmouth bass	0.0015 (0.0011)	0 (0)	0 (0)	0 (0)	0 (0)	8 (16)	90 (86)	0 (0)	10 (19)	17 (26)	125 (93)	0 (0)	0 (0)	0.0018 (0.0013)	125 (93)
Yellow Perch	0.0275 (0.0167)	390 (373)	757 (585)	966 (1,170)	31 (46)	33 (42)	0 (0)	64 (96)	30 (62)	20 (41)	2,291 (1,368)	0.1528 (0.0746)	2,112 (1,361)	0.0026 (0.0020)	179 (136)
Bluegill	0.1260 (0.0478)	1,205 (1,012)	18 (38)	2,815 (2,810)	671 (470)	330 (259)	482 (412)	2,215 (1,674)	1,839 (1,320)	902 (844)	10,479 (3,826)	0.2922 (0.1779)	4,039 (2,987)	0.0928 (0.0353)	6,440 (2,391)
Pumpkinseed	0.0212 (0.0132)	727 (682)	0 (0)	229 (277)	0 (0)	125 (261)	85 (111)	517 (734)	0 (0)	82 (116)	1,765 (1,083)	0.0692 (0.0446)	956 (736)	0.0117 (0.0115)	809 (795)
Rock bass	0.0001 (0.0003)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0.0002 (0.0003)	12 (23)
Black crappie	0.1289 (0.0803)	526 (658)	0 (0)	6,667 (6,415)	2,759 (1,277)	450 (382)	86 (85)	79 (132)	46 (66)	108 (152)	10,721 (6,589)	0.5205 (0.4122)	7,193 (6,449)	0.0509 (0.0200)	3,528 (1,352)
Brown bullhead	0.0001 (0.0003)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0 (0)	12 (23)	0 (0)	0 (0)	0.0002 (0.0003)	12 (23)
Carp	0.0001 (0.0003)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (24)	0 (0)	0 (0)	0 (0)	12 (24)	0 (0)	0 (0)	0.0002 (0.0003)	12 (24)
OTH1	0.0004 (0.0007)	0 (0)	0 (0)	0 (0)	31 (62)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	31 (62)	0 (0)	0 (0)	0.0004 (0.0009)	31 (62)
TOTAL HARVEST	0.3126 (0.0994)	2,848 (1,436)	775 (586)	10,677 (7,106)	3,492 (1,363)	956 (532)	925 (464)	3,137 (1,843)	2,026 (1,333)	1,170 (870)	26,008 (7,822)	1.0347 (0.7068)	14,300 (7,273)	0.1688 (0.0439)	11,708 (2,879)
RELEASED															
Walleye	0.0051 (0.0026)	0 (0)	0 (0)	0 (0)	61 (104)	115 (85)	153 (136)	50 (59)	30 (58)	10 (19)	420 (209)	0 (0)	0 (0)	0.0061 (0.0031)	420 (209)
Northern pike	0.0056 (0.0025)	0 (0)	0 (0)	0 (0)	110 (97)	193 (146)	66 (54)	49 (57)	25 (35)	21 (43)	464 (199)	0 (0)	0 (0)	0.0067 (0.0029)	464 (199)
Largemouth bass	0.2077 (0.0482)	373 (410)	0 (0)	168 (214)	1,821 (1,003)	7,720 (2,937)	3,180 (1,326)	1,344 (683)	1,624 (655)	1,052 (614)	17,282 (3,588)	0.0392 (0.0292)	542 (463)	0.2413 (0.0552)	16,741 (3,558)

Smallmouth bass	0.0722	0	16	0	318	2,912	1,050	729	570	410	6,005	0.0011	16	0.0863	5,989
	(0.0205)	(0)	(21)	(0)	(247)	(1,333)	(598)	(382)	(339)	(259)	(1,589)	(0.0014)	(21)	(0.0240)	(1,589)
Yellow Perch	0.1256	993	1,523	4,759	1,455	57	440	700	305	216	10,447	0.5264	7,275	0.0457	3,172
	(0.0758)	(621)	(1,037)	(6,001)	(758)	(64)	(440)	(485)	(301)	(219)	(6,214)	(0.3837)	(6,121)	(0.0159)	(1,071)
Bluegill	0.4874	4,004	191	16,702	3,604	1,834	2,316	3,440	3,913	4,544	40,547	1.5120	20,896	0.2833	19,651
	(0.1899)	(3,554)	(216)	(13,803)	(1,706)	(1,849)	(1,032)	(1,654)	(2,301)	(3,651)	(15,230)	(0.8126)	(14,255)	(0.0809)	(5,362)
Pumpkinseed	0.0357	728	9	368	47	50	987	182	531	69	2,971	0.0799	1,105	0.0269	1,866
	(0.0203)	(619)	(18)	(506)	(57)	(81)	(1,016)	(202)	(1,006)	(137)	(1,659)	(0.0471)	(800)	(0.0211)	(1,454)
Rock bass	0.0006	0	0	0	0	0	0	0	47	0	47	0	0	0.0007	47
	(0.0009)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(78)	(0)	(78)	(0)	(0)	(0.0011)	(78)
Black crappie	0.2238	134	3	12,131	4,808	461	356	370	19	335	18,617	0.8876	12,267	0.0915	6,350
	(0.2350)	(182)	(4)	(19,280)	(2,417)	(567)	(593)	(306)	(38)	(458)	(19,457)	(1.3443)	(19,280)	(0.0384)	(2,612)
Brown bullhead	0.0002	0	0	0	0	0	0	17	0	0	17	0	0	0.0002	17
	(0.0004)	(0)	(0)	(0)	(0)	(0)	(0)	(33)	(0)	(0)	(33)	(0)	(0)	(0.0005)	(33)
Channel catfish	0.0008	0	0	0	0	0	67	0	0	0	67	0	0	0.0010	67
	(0.0012)	(0)	(0)	(0)	(0)	(0)	(101)	(0)	(0)	(0)	(101)	(0)	(0)	(0.0015)	(101)
Carp	0.0052	0	0	0	0	141	220	39	32	0	432	0	0	0.0062	432
	(0.0025)	(0)	(0)	(0)	(0)	(114)	(152)	(57)	(45)	(0)	(203)	(0)	(0)	(0.0030)	(203)
Bowfin	0.0006	0	0	0	0	0	12	29	10	0	50	0	0	0.0007	50
	(0.0008)	(0)	(0)	(0)	(0)	(0)	(24)	(57)	(19)	(0)	(65)	(0)	(0)	(0.0009)	(65)
OTH1	0.0001	0	0	0	0	0	0	0	0	11	11	0	0	0.0002	11
	(0.0003)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(21)	(21)	(0)	(0)	(0.0003)	(21)
TOTAL RELEASED	1.1705	6,231	1,742	34,128	12,225	13,482	8,848	6,948	7,106	6,668	97,378	3.0462	42,100	0.7968	55,278
	(0.3332)	(3,688)	(1,060)	(24,465)	(3,228)	(3,767)	(2,194)	(1,932)	(2,637)	(3,748)	(25,835)	(2.2673)	(24,764)	(0.1255)	(7,359)
TOTAL CATCH	1.4831	9,080	2,517	44,804	15,717	14,439	9,774	10,086	9,132	7,838	123,386	4.0810	56,401	0.9656	66,986
	(0.3588)	(3,958)	(1,211)	(25,476)	(3,504)	(3,805)	(2,242)	(2,671)	(2,955)	(3,848)	(26,993)	(2.6365)	(25,810)	(0.1399)	(7,903)
ANGLER HOURS		1,915	4,618	7,287	8,469	16,808	13,996	15,350	8,568	6,183	83,195		13,820		69,374
		(862)	(1,049)	(6,154)	(2,050)	(4,322)	(2,114)	(1,831)	(1,584)	(916)	(8,589)		(6,302)		(5,836)
ANGLER TRIPS		687	666	1,971	2,034	3,456	3,332	5,083	1,987	1,250	20,468		3,324		17,143
		(326)	(270)	(1,814)	(501)	(800)	(752)	(837)	(622)	(514)	(2,506)		(1,863)		(1,675)