

Survey Report for NAWAKWA LAKE, Alger, Summer, 2008

Waterbody	NAWAKWA_LAKE
Year	Summer, 2008
County	Alger
Sites	Nawakwa Lake
Survey period	May 15 to October 31
Survey design	Roving-access (roving counts and access interviews)
Interview type/mode	access/boat, shore
Count type/mode	roving/boat and shore
Clerk time	1/2 time
Survey purpose	Characterize general effort and catch aspects of the fishery

Notes

Survey followed a roving-access (roving counts and access interviews) design. All funding was provided through Fisheries Division. One clerk worked 1/2 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 boat and shore anglers were made once per day. Survey period for both counts and interviews was May 15 to October 31. Months were estimated separately. Estimates are given in Tables xxx.

GRAND MARAIS and SUCKER RIVER/NAWAKWA LAKE 2008 Creel Census Schedule Eastern Lake Superior Management Unit

Work shifts for Grand Marais

A: May through June	5:00am to 1:30pm
July through October	6:00am to 2:30pm
B: April and October	11:30am to 8:00pm
May and September	1:30pm to 10:00pm
June and August	2:00pm to 10:30pm
July	2:30pm to 11:00pm
C: April, May, and June	4:00pm to 12:30am

Work shifts for Sucker River

A: April 15 th – May 14 th	6:00am to 2:30pm
B: April	11:30am to 8:00pm
May	12:30pm to 9:00pm

Work shifts for Nawakwa Lake

A: May 15th through October	6:00am to 2:30pm
B: October	11:30am to 8:00pm
May and September	1:30pm to 10:00pm
June and August	2:00pm to 10:30pm
July	2:30pm to 11:00pm

NOTE: 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.

NOTE: **1)** The 5:00am start time for Grand Marais in April, May, and June is to interview an early morning whitefish fishery as they finish their trips. Ask your supervisor to show you where to find these fishers first thing in the morning and make it a priority to get these interviews. **2)** The C-shifts scattered in April, May, and June is to cover the late night whitefish fishery. **3)** Due to the distance from your official work station to the Nawakwa Lake and Sucker River sites, 30 minutes will be allotted at the beginning and end these shifts for travel.

INTERVIEW SITES & COUNT INSTRUCTIONS

AREA 1: Grand Marais (April 15th – October 31st)

Site 197

This site includes all anglers accessing or fishing Lake Superior in the direct vicinity of Grand Marais (See map w/ your schedule).

Instantaneous Counts:

- 1) Pier Anglers – Count all anglers fishing from the pier. Record as “Pie” mode.
- 2) Trailer – Count all boat trailers attached to vehicles in the launch ramp parking lot(s). Also, keep tract of the number of fishing boats w/ seasonal docks at the public marina. For each count add any vacant seasonal fishing boat slips to the trailer count. Record as “Tra” mode. Do not count charter boat trailers or empty boat slips.

NOTE: For all counts for each area be consistent throughout the season. For example do not count pier and trailers one day and then just trailers the next. At each count time, you are to record the appropriate count for each of the modes you are required to make (pier and trailer). If there are no anglers for a particular mode, then "000" is the count number that should be recorded for that mode on the count data form.

AREA 2: Sucker River (April 15th – May 14th)

This site includes all anglers fishing the river from the mouth upstream to Whitewash. You will travel along the river by vehicle to collect angler count and interview data. Access interviews will be collected anglers or angler parties complete their fishing trip and return to the specified locations.

Count Instructions: At the time of the scheduled time, perform a count beginning at you current interview location and making a loop hitting all access points in the direction scheduled for that day (up or down). If there are many shore/wading anglers and/or fishing boats INVISIBLE from the access sites, then count all “trailers” (vehicles with trailers, boat racks) and “cars” (vehicles transporting wading/shore anglers). If you can see almost all “shore” anglers (shore and wade fishers) and fishing boats, then count the “shore” and fishing boats directly. Be consistent when making counts. Count “trailers” only when boats are hard to see. Count cars only when shore/wading anglers are hard to see. When the count is of shore angler, it is of individual anglers. When counting boats, it is the number of boats regardless of the number of fishers in each boat. All count data should be recorded on the PDA. Counts should be made as quickly as possible. After the count is completed, return to the site you were interviewing at when the count started and continue taking interviews. No interviews are collected while making a count.

Area 3: Nawakwa Lake (May 15th – October 31st)

This site will include the surface area of Nawakwa Lake (see map included w/ your schedule).

At the times scheduled, perform a count beginning from where ever you are currently interviewing at on the lake. Follow the mapped route around the lake counting all fishing boats and shore anglers. When you have completed your count continue interviewing where you left off. Record all count information for Nawakwa Lake on your PDA

INTERVIEW INSTRUCTIONS

Area 1 - Grand Marias: Interview as many anglers at the end of their fishing trip as possible (only collect completed trip interviews) and record the data on the PDA. Anglers must be fishing for a minimum of 30 minutes before conducting interview. Check any shore anglers and boats coming back to the launch ramps and marinas. Do not forget to record non-fishing boats (pleasure boaters). Do not include sailboats as non-fishing boats. For non-fishing boats record date, mode, fishing & interview site. Record data for the entire fishing party as one interview. Do not interview charter boat anglers. However, please remember that biological data can be collected from charter boats. Make sure you ask the angler(s) where they were fishing and record the appropriate fishing site. Fishing site may vary from actual interview site. Be sure to record fat lake trout (siscowets) as "Fat Lake Tr." on the PDA.

In April, May, and June make sure to get interviews from the early morning whitefish fishery when scheduled for an A shift and from the late night fishery when a C-shift is scheduled

Area 2 - Sucker River: Interview as many anglers at the end of their trips as possible. Shore/wading anglers are to be interviewed as individual anglers. Boat anglers are to be interviewed as part entries. Start from the Downstream (D) or upstream (U) end of the river.

Move to an access site and look for any signs of fishing activities, such as shore/wading anglers and/or vehicles with trailers or boat racks. Remain at an access site for 1 hour and interview anglers or angler parties completing their fishing trips. Then move on to the next access site. In the event you interview the entire length of river, you may start over.

Take biodata on all Sucker River RBT.

Area 3 - Nawakwa Lake: Start your interviews each day at the assigned location (1 or 2) and follow the mapped route conducting as many incomplete boat interviews as possible along the way. Boat anglers must be fishing for a minimum of one hour before being interviewed. There will be no need to conduct non-fishing interviews. When you have completed the entire loop do another loop updating interviews with boats contacted earlier in the day or take new interviews from anglers not previously contacted.

BIODATA collection from Nawakwa Lake – dorsal spines should be collected from:

- all smallmouth bass,
- all yellow perch,
- all northern pike over 30 inches, and
- all walleye over 24 inches.

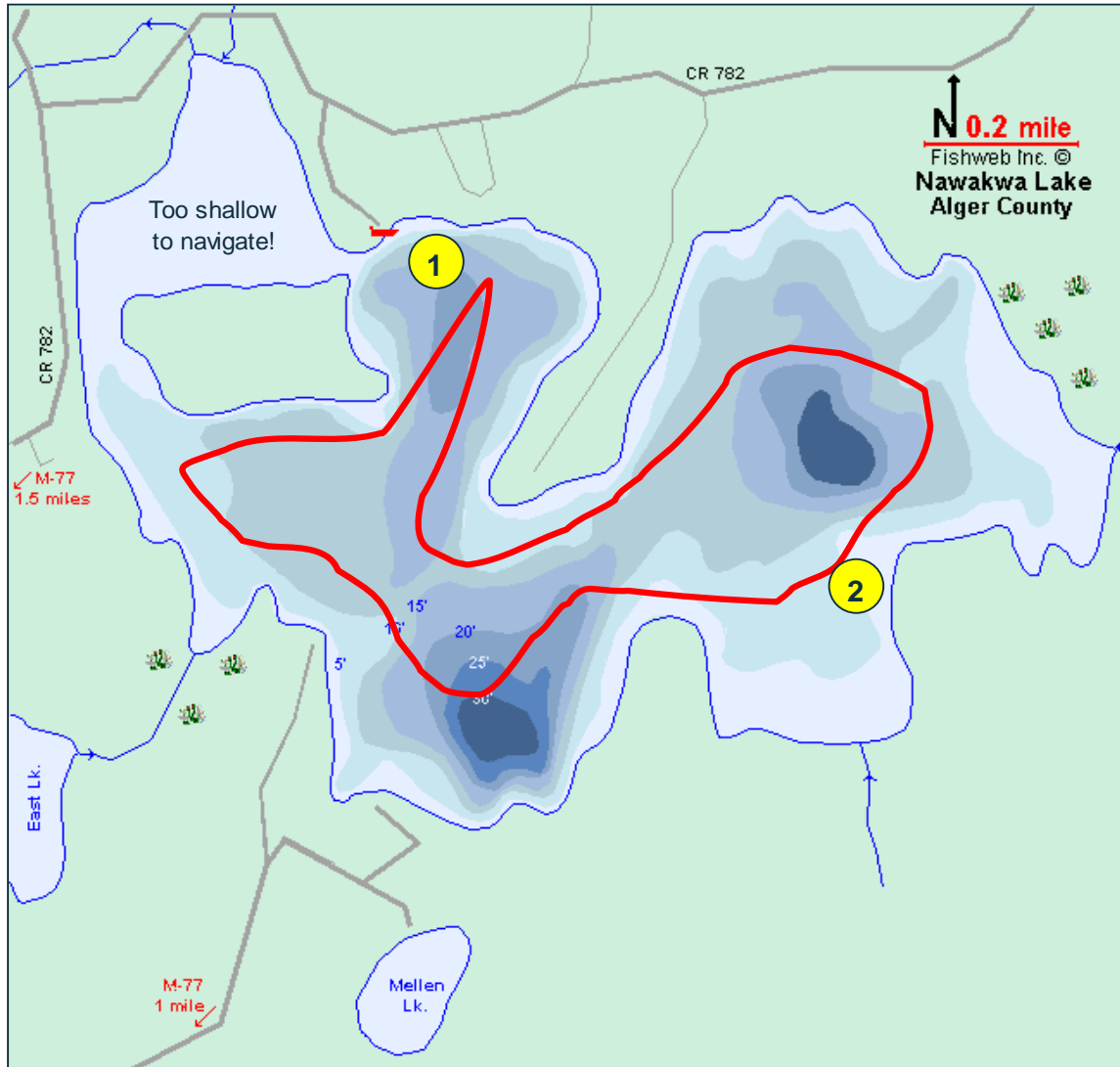


Table –Work shifts used to estimate catch and effort at SUCKER_NAWAKWA_LAKE, May 15 to October 31, Summer, 2008

	Year	Month	F
1	2008	4	14
2	2008	5	16
3	2008	6	17
4	2008	7	17
5	2008	8	16
6	2008	9	16
7	2008	10	14

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

Species	C/H	May	June	July	August	September	October	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST												
Walleye	0.0565 (0.0367)	59 (56)	148 (138)	0 (0)	111 (117)	21 NAN	0 (0)	339 (189)	NAN (0)	0 (0)	0.0565 (0.0367)	339 (189)
Northern pike	0.0935 (0.0535)	70 (93)	123 (92)	26 (37)	318 (225)	24 NAN	0 (0)	560 (263)	NAN (0)	0 (0)	0.0935 (0.0535)	560 (263)
Smallmouth bass	0.0019 (0.0028)	0 (0)	0 (0)	0 (0)	7 (15)	4 (6)	0 (0)	11 (16)	NAN (0)	0 (0)	0.0019 (0.0028)	11 (16)
Yellow Perch	0.0928 (0.0710)	0 (0)	117 (140)	7 (14)	408 (358)	24 NAN	0 (0)	556 (384)	NAN (0)	0 (0)	0.0928 (0.0710)	556 (384)
Pumpkinseed	0.0006 (0.0012)	0 (0)	0 (0)	3 (7)	0 (0)	0 (0)	0 (0)	3 (7)	NAN (0)	0 (0)	0.0006 (0.0012)	3 (7)
Brown bullhead	0.0062 (0.0126)	0 (0)	0 (0)	0 (0)	37 (75)	0 (0)	0 (0)	37 (75)	NAN (0)	0 (0)	0.0062 (0.0126)	37 (75)
TOTAL HARVEST	0.2515 (0.1183)	129 (109)	387 (217)	36 (40)	881 (445)	73 NAN	0 (0)	1,507 (508)	NAN (0.0000)	0 (0)	0.2515 NAN	1,507 NAN
RELEASED												
Walleye	0.1397 (0.0914)	47 (39)	321 (327)	10 (15)	405 (340)	55 NAN	0 (0)	837 (474)	NAN (0)	0 (0)	0.1397 (0.0914)	837 (474)
Northern pike	0.2270 (0.1190)	310 (208)	383 (328)	16 (24)	573 (379)	78 (119)	0 (0)	1,360 (556)	NAN (0)	0 (0)	0.2270 (0.1190)	1,360 (556)
Smallmouth bass	0.0008 (0.0018)	0 (0)	5 (11)	0 (0)	0 (0)	0 (0)	0 (0)	5 (11)	NAN (0)	0 (0)	0.0008 (0.0018)	5 (11)
Yellow Perch	0.2390 (0.1779)	11 (18)	168 (175)	21 (31)	1,164 (935)	67 (96)	0 (0)	1,432 (957)	NAN (0)	0 (0)	0.2390 (0.1779)	1,432 (957)
Pumpkinseed	0.0325 (0.0491)	0 (0)	0 (0)	3 (7)	191 (287)	0 (0)	0 (0)	195 (287)	NAN (0)	0 (0)	0.0325 (0.0491)	195 (287)
Rock bass	0.0018 (0.0028)	0 (0)	0 (0)	3 (7)	7 (15)	0 (0)	0 (0)	11 (17)	NAN (0)	0 (0)	0.0018 (0.0028)	11 (17)
Brown bullhead	0.0121 (0.0102)	14 (22)	0 (0)	7 (11)	44 (49)	8 (16)	0 (0)	73 (56)	NAN (0)	0 (0)	0.0121 (0.0102)	73 (56)
TOTAL RELEASED	0.6530 (0.2966)	382 (213)	877 (496)	60 (45)	2,385 (1,104)	209 NAN	0 (0)	3,913 (1,230)	NAN (0.0000)	0 (0)	0.6530 NAN	3,913 NAN
TOTAL CATCH	0.9045 (0.3705)	511 (239)	1,264 (541)	96 (60)	3,266 (1,190)	282 NAN	0 (0)	5,420 (1,331)	NAN (0)	0 (0)	0.9045 NAN	5,420 NAN

ANGLER HOURS	911	1,382	232	2,973	495	0	5,992	0	5,992
	(639)	(810)	(303)	(1,645)	NAN	(0)	(1,965)	(0)	(NAN)
ANGLER TRIPS	174	293	61	920	124	0	1,572	0	1,572
	(137)	(178)	(83)	(543)	NAN	(0)	(594)	(0)	(NAN)

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

Species	C/H	May	June	July	August	September	October	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)	NAN (0)	0 (0)	0 (0)	0 (0)
Northern pike	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Pumpkinseed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Brown bullhead	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 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
RELEASED												
Walleye	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Northern pike	0.2810 (0.2658)	0 (0)	0 (0)	0 (0)	77 NAN	6 NAN	0 (0)	83 (0)	NAN (0)	0 (0)	0.2810 (0.2658)	83 (0)
Smallmouth bass	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Yellow Perch	0.0519 (0.0491)	0 (0)	15 NAN	0 (0)	0 (0)	0 (0)	0 (0)	15 (0)	NAN (0)	0 (0)	0.0519 (0.0491)	15 (0)
Pumpkinseed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	NAN (0)	0 (0)	0 (0)	0 (0)
Rock bass	0.0519 (0.0491)	0 (0)	15 NAN	0 (0)	0 (0)	0 (0)	0 (0)	15 (0)	NAN (0)	0 (0)	0.0519 (0.0491)	15 (0)
Brown bullhead	0.0519 (0.0491)	0 (0)	15 NAN	0 (0)	0 (0)	0 (0)	0 (0)	15 (0)	NAN (0)	0 (0)	0.0519 (0.0491)	15 (0)
TOTAL RELEASED	0.4368 (0.4132)	0 (0)	46 NAN	0 (0)	77 NAN	6 NAN	0 (0)	129 (0)	NAN (0.0000)	0 (0)	0.4368 NAN	129 NAN
TOTAL CATCH	0.4368 (0.4132)	0 (0)	46 NAN	0 (0)	77 NAN	6 NAN	0 (0)	129 (0)	NAN (0)	0 (0)	0.4368 NAN	129 NAN

ANGLER HOURS	96 (192)	61 (122)	53 (107)	48 (96)	36 (72)	0 (0)	295 (279)	0 (0)	295 (279)
ANGLER TRIPS	23 (46)	15 (29)	13 (26)	11 (23)	9 (17)	0 (0)	70 (67)	0 (0)	70 (67)

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

Species	C/H	May	June	July	August	September	October	Season	Win C/H	Win Season	Sum C/H	Sum Season
HARVEST												
Walleye	0.0539 (0.0346)	59 (56)	148 (138)	0 (0)	111 (117)	21 NAN	0 (0)	339 (189)	NAN (0)	0 (0)	0.0539 (0.0346)	339 (189)
Northern pike	0.0891 (0.0504)	70 (93)	123 (92)	26 (37)	318 (225)	24 NAN	0 (0)	560 (263)	NAN (0)	0 (0)	0.0891 (0.0504)	560 (263)
Smallmouth bass	0.0018 (0.0026)	0 (0)	0 (0)	0 (0)	7 (15)	4 (6)	0 (0)	11 (16)	NAN (0)	0 (0)	0.0018 (0.0026)	11 (16)
Yellow Perch	0.0885 (0.0672)	0 (0)	117 (140)	7 (14)	408 (358)	24 NAN	0 (0)	556 (384)	NAN (0)	0 (0)	0.0885 (0.0672)	556 (384)
Pumpkinseed	0.0006 (0.0011)	0 (0)	0 (0)	3 (7)	0 (0)	0 (0)	0 (0)	3 (7)	NAN (0)	0 (0)	0.0006 (0.0011)	3 (7)
Brown bullhead	0.0059 (0.0120)	0 (0)	0 (0)	0 (0)	37 (75)	0 (0)	0 (0)	37 (75)	NAN (0)	0 (0)	0.0059 (0.0120)	37 (75)
TOTAL HARVEST	0.2397 (0.1107)	129 (109)	387 (217)	36 (40)	881 (445)	73 NAN	0 (0)	1,507 (508)	NAN (0.0000)	0 (0)	0.2397 NAN	1,507 NAN
RELEASED												
Walleye	0.1332 (0.0863)	47 (39)	321 (327)	10 (15)	405 (340)	55 NAN	0 (0)	837 (474)	NAN (0)	0 (0)	0.1332 (0.0863)	837 (474)
Northern pike	0.2296 (0.0953)	310 (208)	383 (328)	16 (24)	650 NAN	84 NAN	0 (0)	1,443 (389)	NAN (0)	0 (0)	0.2296 (0.0953)	1,443 (389)
Smallmouth bass	0.0008 (0.0017)	0 (0)	5 (11)	0 (0)	0 (0)	0 (0)	0 (0)	5 (11)	NAN (0)	0 (0)	0.0008 (0.0017)	5 (11)
Yellow Perch	0.2302 (0.1664)	11 (18)	184 NAN	21 (31)	1,164 (935)	67 (96)	0 (0)	1,447 (941)	NAN (0)	0 (0)	0.2302 (0.1664)	1,447 (941)
Pumpkinseed	0.0309 (0.0467)	0 (0)	0 (0)	3 (7)	191 (287)	0 (0)	0 (0)	195 (287)	NAN (0)	0 (0)	0.0309 (0.0467)	195 (287)
Rock bass	0.0042 (0.0029)	0 (0)	15 NAN	3 (7)	7 (15)	0 (0)	0 (0)	26 (17)	NAN (0)	0 (0)	0.0042 (0.0029)	26 (17)
Brown bullhead	0.0140 (0.0100)	14 (22)	15 NAN	7 (11)	44 (49)	8 (16)	0 (0)	88 (56)	NAN (0)	0 (0)	0.0140 (0.0100)	88 (56)
TOTAL RELEASED	0.6428 (0.2057)	382 (213)	923 NAN	60 (45)	2,462 NAN	215 NAN	0 (0)	4,041 (218)	NAN (0.0000)	0 (0)	0.6428 NAN	4,041 NAN
TOTAL CATCH	0.8825 (0.2920)	511 (239)	1,310 NAN	96 (60)	3,343 NAN	288 NAN	0 (0)	5,548 (553)	NAN (0)	0 (0)	0.8825 NAN	5,548 NAN

ANGLER HOURS	1,007	1,443	285	3,021	531	0	6,287	0	6,287
	(667)	(819)	(321)	(1,647)	NAN	(0)	(1,983)	(0)	(NAN)
ANGLER TRIPS	197	308	74	931	132	0	1,643	0	1,643
	(145)	(180)	(87)	(544)	NAN	(0)	(597)	(0)	(NAN)