

SUMMARY RESULTS 1979 PIGEON RIVER FISHING

Overall, about 22% of the anglers in 1979 were fly fishermen or fly and lure fishing. The 1965 catch of 1,220 represented about 4% of the spring population of 29,091 in the experimental sections..

	<u>1979</u>	<u>1965</u>
Catch per hour	.13	.17
Brook Trout	304	1049
Brown Trout	420	168
Rainbow Trout	29	3
Hours Fished	5824	6339
Fishing Trips	2458	3016

<u>Fishing Days</u>	<u>Lure & Fly Fishing(%)</u>	<u>Average Fly Fisherman Per Day</u>
April - 3	117 - 10%	3.9
May - 31	738 - 7%	1.7
June - 30	232 - 20%	1.5
July - 31	777 - 36%	9.0
August - 31	541 - 21%	3.7
September - 30	102 - 27%	.9

The season average for 1979 was 3.5 fly or fly and lure fishermen per day in the experimental sections. Based on the estimated 22% fly fishing, they caught about 165 trout during the 1979 fishing season.

Since the biologists and the DNR population models recognize the effects of a catch-and-release fishery, the question becomes one of assessing the biological conditions of particular rivers to determine if they are being over-fished. Then the question becomes one of predicting the angler response over time to the change in regulations and then comparing the actual response to our predicted angler behavior.

PIGEON RIVER - 1979 EXPERIMENTAL SECTION

Estimates are Given with 2 Standard Errors in Parenthesis

Percentage of Anglers by Bait Type

Bait Used	April	May	June	July	August	September	Season
Lures	0% (0%)	9.30% (6.26%)	15.00% (7.98%)	16.04% (7.13%)	18.75% (6.17%)	16.13% (9.34%)	14.95% (3.14%)
Flies	9.52% (12.81%)	6.98% (5.49%)	16.25% (8.25%)	33.01% (9.13%)	20.00% (6.32%)	20.97% (10.34%)	19.61% (3.50%)
Live	76.19% (18.59%)	59.30% (10.60%)	51.25% (11.18%)	18.87% (7.60%)	43.13% (7.84%)	45.16% (12.64%)	43.69% (4.37%)
Flies & Lures	0% (0%)	0% (0%)	3.75% (4.25%)	2.83% (3.22%)	1.25% (1.76%)	6.45% (6.24%)	2.33% (1.33%)
Live & Lures	14.29% (15.27%)	4.65% (4.54%)	6.25% (5.41%)	18.87% (7.60%)	6.87% (4.00%)	6.45% (6.24%)	9.13% (2.54%)
Live & Flies	0% (0%)	0% (0%)	7.50% (5.89%)	10.38% (5.92%)	10.00% (4.74%)	4.84% (5.45%)	6.99% (2.25%)
Live, Lures & Flies	0% (0%)	19.77% (8.59%)	0% (0%)	0% (0%)	0% (0%)	0% (0%)	3.30% (1.57%)

PIGEON RIVER - 1979 EXPERIMENTAL SECTION

Estimates by Month and Season with 2 Standard Errors in Parenthesis

Estimated Total Catch and Fishing Pressure

Species	Total C/H	April 28-30	May	June	July	August	Sept.	Season
Rainbow	.0048 (.0036)	0 (0)	2 (5)	1 (1)	9 (14)	6 (9)	11 (10)	29 (20)
Brown Trout	.0699 (.0403)	28 (38)	100 (134)	112 (97)	29 (33)	41 (33)	110 (116)	420 (211)
Brook Trout	.0506 (.0483)	0 (0)	123 (239)	35 (48)	47 (53)	76 (114)	23 (43)	304 (277)
W. Sucker	.0013 (.0030)	0 (0)	8 (18)	0 (0)	0 (0)	0 (0)	0 (0)	8 (18)
Chub	.0020 (.0006)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	12 (0)	12 (0)
Total	.1286 (.0685)	28 (38)	233 (274)	148 (108)	85 (64)	123 (118)	156 (124)	773 (349)
Angler Hours		448 (218)	2161 (877)	533 (239)	1059 (504)	1400 (1315)	411 (216)	6012 (1704)
Angler Trips		117 (61)	738 (335)	232 (102)	777 (496)	541 (424)	102 (52)	2507 (746)
% Interviewed		17.95 (9.36)	11.65 (5.29)	32.76 (14.40)	13.64 (8.71)	29.57 (23.18)	60.78 (30.99)	20.38 (6.07)

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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

September 8, 1980

TO: Steve C. Swan, District Biologist, Gaylord

FROM: James Ryckman, Biometrician, Ann Arbor

SUBJECT: Additional Information on 1979 Pigeon River Fishing

The Pigeon River experimental areas listed in the September 4, 1980 letter as one through five correspond to the 1965 and earlier experimental sections E through A, respectively. Site 1 would be from below the Lansing Club Dam to Vanderbilt Road (1.17 miles). Site 2 runs from Vanderbilt Road to the Pigeon River - "D" Trail intersection (1.18 miles). Site 3 runs from the above intersection to about 1/16 of a mile above the Pigeon River Headquarter Station (1.13 miles). Site 4 runs downstream to the campground (1.19 miles); and Site 5 starts at the campground and continues to Elk Point (1.13 miles). Sites 6 and 7 were new downstream areas that have not been previously surveyed before 1979. Site 6 runs downstream from Tin Shanty Bridge to Grindstone Creek, and Site 7 runs from Grindstone Creek to the Red Bridge. These last two sites run through sections 21, 18, 16, 17 and 8 of T. 33N R. 1W., Cheboygan County.

I have included maps of the sites sampled in 1979. I have also included a summary table of comparisons of Sites A through E for the 1965 complete census (I.F.R. Report 1734) and the 1979 partial census. Some of the conclusions are:

- 1) The brook trout and brown trout catches and angling pressure in Site A were not significantly different.
- 2) The catch of brook trout in Sites B through E were significantly less. The catch of brown trout in Sites B through D were not significantly different in 1965 and 1979. The brown trout catch in Site E was significantly higher in 1979 than in 1965.
- 3) The fishing pressure in hours and trips for Sites B through E was significantly different only in Site C. In this site the 1979 estimates were significantly less than the 1965 estimates.
- 4) The brook trout catch for combined Sites A - E were significantly less in 1979 than 1965 (304 compared to 1,047). The brown trout catch for these sites in 1979 was significantly higher in 1979 than 1965 (420 compared to 168). The rainbow catch for Sites A - E in 1979 was significantly higher than the catch in 1965 (29 compared to 3).

- 5) The fishing pressure for the combined Sites A through E in hours and trips was not significantly different in 1965 and 1979. The total trout catch rates for these areas was not significantly different between the two years.

JRR:td
Enclosure

- cc: M.H. Patriarche
- J.V. Manz
- M.F. Shouder
- W.D. Alward
- W. McClay
- G. Alexander

James Ryeleman

Year	Site	Trips	Hours	Catch	Catch Rate
1965	A	101	2	0	0.00
	B	139	23	0	0.00
	C	23	20	0	0.00
	D	333	11	0	0.00
	E	319	4	3	0.75
A-E		1049	60	3	0.05
1979	A	313	30	5	0.16
		(237)	(30)	(7)	(0.23)
	B	29	31	2	0.06
		(45)	(45)	(31)	(0.69)
	C	57	31	5	0.16
		(71)	(95)	(13)	(0.14)
D	81	55	7	0.13	
	(35)	(36)	(9)	(0.25)	
E	142	233	104	0.45	
	(133)	(177)	(11)	(0.16)	
A-E		324	436	29	0.13
		(277)	(223)	(20)	(0.07)

✓ The catch per hour per trip for the 1965 data is the actual weight for all angler trips with the number of fishermen as 1. The catch per hour per trip for the 1979 data is the quotient of total estimated fish divided by the total number of angler hours (Total Hours and Fish in 1965 are statistics and not precise numbers).

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WISCONSIN DEPARTMENT OF CONSERVATION
FISH DIVISION
PIGEON RIVER TROUT RESEARCH AREA
OTTAWA AND CHEBOYGAN COUNTIES

Comparison of 1965 and 1980
Pigeon River Trout Catches

(1979 Estimates are Given with Two Standard Errors in Parenthesis)

Year & Site	Brook	Brown	Rainbow	Hours	Trout Catch per Hour	Trips
1965						
A	102	36	0	925.0	0.13	378
B	139	43	0	1456.0	0.11	612
C	234	20	0	999.0	0.24	999
D	233	27	0	1580.5	0.15	596
E	339	42	3	1379.0	0.24	431
A-E	1049	168	3	6339.5	0.17	3016
1979						
A	115 (237)	30 (30)	5 (6)	913 (707)	0.16 (0.13)	368 (281)
B	29 (45)	31 (45)	2 (3)	1344 (1249)	0.05 (0.05)	506 (382)
C	57 (71)	51 (98)	5 (13)	664 (240)	0.17 (0.19)	247 (148)
D	61 (55)	55 (36)	7 (9)	1614 (614)	0.08 (0.05)	892 (490)
E	42 (102)	253 (175)	10 (11)	1289 (614)	0.24 (0.16)	445 (259)
	304 (277)	420 (211)	29 (20)	5824 (1695)	0.13 (0.07)	2458 (744)
	339	694 709	103 107	7379 9005	0.21 0.18	3097 3555
				6012	0.13 · 128	2507 (18)
						3097 (shore)
						3555 (total)

∇ The catch per hour per trip for the 1965 data is the actual mean for all angler trips with the entire universe of fishermen sampled. The catch per hour per trip for the 1980 data is the quotient of total estimated fish divided by the total estimated angler hours (Total Hours and Fish in 1980 are statistics and not finite numbers).

what's one "trip":