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WALLEYE ANGLING IN THE CEDED TERRITORY, WISCONSIN, 1980-87

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PUBLICATION NOTE: This Fish Management Report is an edited version of evidence presented in October 1988 litigation between the State of Wisconsin and the six bands of Wisconsin Chippewa Indians. This trial in the U.S. District Court for the Western District of Wisconsin sought to define state authority in regulating off-reservation fishing allowed under 1837 and 1842 treaties between the Chippewa Indian nation and the U.S. government. The report is based on creel surveys and resource classifications available at the time of the trial.

Abstract

The annual effort and harvest of the walleye (Stizostedion vitreum) hook-and-line fishery in the ceded territory of Wisconsin were estimated by summarizing creel surveys conducted between 1980 and 1987. During those years, there were 69 creel surveys on 45 lakes, including 50 on walleye lakes. Surveyed lakes were not randomly selected, but seemed to comprise a representative sample. Annually, anglers fished 32.9-million hours on lakes in the ceded territory, including 16.2-million hours on walleye lakes. Effort per unit area was nearly double for lakes <500 acres compared to larger lakes. Anglers overall harvested 0.042 walleye/hour, but anglers specifically fishing for walleye harvested 0.104 walleye/hour. Of the 672,303 walleye harvested annually, 65% were <15 inches and only 5% were ≥20 inches. The harvest averaged 1.92 walleye/acre. Although 93% of all fishing trips were unsuccessful, reductions in the daily bag limit would produce harvest reductions of up to 51%. Results suggested that walleye populations on lakes <500 acres are being heavily utilized and should be closely monitored; improvements in the size structure of the walleye catch are possible; and changes in the daily bag limit will be an effective way to reduce angler harvest if necessary.

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INTRODUCTION

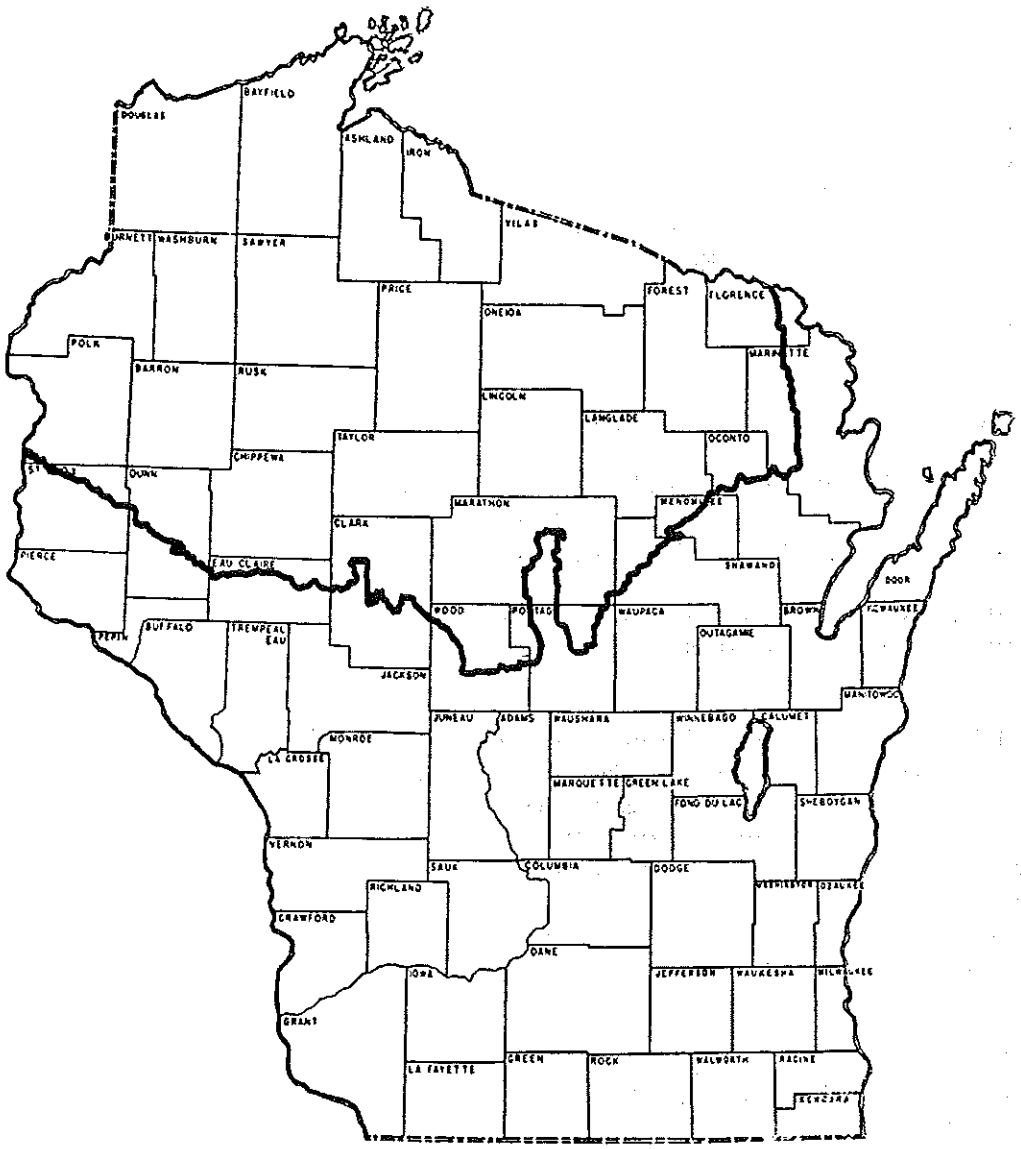
Recently, the federal court affirmed more extensive Chippewa off-reservation fishing rights than state laws had allowed -- legalizing increased harvests and efficient fishing methods in territory the Indians had ceded under 1837 and 1842 treaties. Now, state and tribal agencies are attempting to develop management plans to accommodate this off-reservation fishing.

The principal tribal harvest is walleye, Stizostedion vitreum, which are speared during spawning runs. Some tribal harvest of other species (e.g., muskellunge and largemouth bass) will occur, and other methods (e.g., gill nets, trap nets, and seines) may become more popular. The primary non-tribal use of the fishery resource is sport angling, with limited netting and seining for rough fish and some other non-game species.

While legal questions remain concerning the allocation of the fishery resource between tribal and non-tribal users, the Wisconsin Department of Natural Resources (WDNR) plans to optimize concurrent use by sufficiently restricting the angling harvest to accommodate the realistic needs of the tribal fishery. Developing a concurrent use management plan, therefore, will require a thorough knowledge of angling in the ceded territory.

The objective of this study was to characterize the walleye hook-and-line fishery in the ceded territory including annual estimates of effort and harvest. Information was obtained by statistically summarizing creel surveys on lakes in the ceded territory during the period 1980-87. The study was restricted to this period to avoid bias caused by long-term changes in angler use patterns, angler efficiency or fish populations.

STUDY AREA



The ceded territory in northern Wisconsin.

METHODS

The WDNR maintains a computer file containing the name, location, and size (acres) of all lakes ≥2 acres that appear on U.S. Geological Survey 7.5′ topographic maps of Wisconsin (Fago 1986). The WDNR also maintains maps showing the specific boundaries of the ceded territory, which currently follow roads and streams as agreed to by both parties during litigation. Cross referencing these sources produced a catalog of lakes in the ceded territory. Lakes were then stratified into two groups -- lakes <500 acres and lakes ≥500 acres. When the boundary line of the ceded territory bisected a lake, then its full acreage determined its size group, but only lake acreage actually in the ceded territory was used for total area summations. The walleye lakes in the ceded territory were identified using a 1975 survey of WDNR fish managers for lakes <500 acres (WDNR 1975) and a similar 1986 survey for lakes ≥500 acres (GLIFWC 1988).

During 1980-87, the WDNR annually conducted creel surveys on selected lakes in the ceded territory. No overall design was used to choose lakes for sampling. Most surveys began in early May with the first day of legal open-season walleye angling and continued until ice-up in early November, but several surveys also covered the ice-fishing season. Surveys were conducted on both walleye and non-walleye lakes.

All creel surveys were done using standard WDNR procedures. Sampled days were stratified by month and weekday/weekend. Instantaneous counts of anglers were made at random times, and average counts were multiplied by the fishing day length and survey period length to estimate total fishing effort. Clerks interviewed anglers to obtain catch (including released fish), harvest, fishing time, lengths of harvested fish and species sought. Catch and harvest rates based on all hours of fishing were multiplied by the fishing effort to estimate catch and harvest. Species-specific catch and harvest rates were based only on interviews of anglers seeking that species. For this study estimates of effort, catch and harvest were divided by lake area.

All surveys were adjusted to cover a complete season on a single lake. Some surveys were run on lake chains with fish populations that frequently intermix. On these, fishing effort, catch, and harvest were apportioned to each lake based on acreage; but catch and harvest rates were assumed to be the same on all lakes in a chain. Some surveys covered only partial months. Typically angler effort and harvest were expanded to cover the entire month using the ratio of total days to days in the survey period. Estimates were not expanded when a partial month coincided with the opening or closing of the walleye season, or ice formation since no walleye fishing was expected outside surveyed periods.

All surveys were used to calculate total fishing effort, but only surveys on walleye lakes were used for calculation of walleye fishery estimates. Weighted averages of individual survey estimates were made for each month and for the two lake size strata. Lake area was the weighting factor for effort, catch and harvest; while estimated angler effort provided the weighting factor for all-hours and species-specific catch and harvest rates. Using monthly averages provided comparability among surveys that spanned different time periods and also improved precision because all parameters varied significantly month-to-month.

Estimates of total effort on all lakes, effort on walleye lakes, and walleye catch and harvest were calculated by multiplying month and lake size strata averages by the corresponding total lake acreage. Annual estimates were obtained by summing individual strata estimates. Total effort was based on all ceded territory lake acreage, while walleye fishery estimates were based only on acreage of walleye lakes. In April, the acreage used to expand the estimates included only those few waters legally open to walleye harvest. No expansions were appropriate for the catch and harvest rates, but month and lake size strata estimates were combined using a weighted average. The estimated total effort for each strata was used as the weighting factor.

The assumption that the realized sample of surveyed lakes is representative of all ceded territory walleye lakes is needed to generalize these estimates. Comparative distributions of lake sizes and walleye reproduction codes (WDNR 1975) between all walleye lakes and surveyed lakes was used to critically examine this assumption. Completed trip interviews were used to study the distribution of number of fish caught per trip.

RESULTS

There are 11,240 lakes wholly or partly in the ceded territory; 8,880 are <25 acres (Table 1). Altogether, lakes cover 530,818 acres in the ceded territory; lakes ≥25 acres cover 484,262 acres.

Only 861 of the lakes were reported to contain walleye, but these walleye lakes cover 350,129 acres, 65.5% of the total. During most of March and April, walleye angling is allowed only on 14,568 acres, including the following lakes: Alice, Cornell, Dells Pond, Escanaba, Grandfather, Grandmother, Hat Rapids, Mohawksin, Old Abe, Wausau, and Wissota.

Table 1. Number and size of walleye lakes vs. all lakes in the ceded territory.

Lakes	Acreage <25	Acreage 25-499	Acreage ≥500	Total
No Walleye				
Number	8,840	1,513	26	10,379
Acres	45,903	112,899	21,886	180,688
Walleye				
Number	40	650	171	861
Acres	652	107,968	241,509	350,129
All				
Number	8,880	2,163	197	11,240
Acres	46,556	220,867	263,395	530,818

During 1980-87, creel surveys on 45 lakes in the ceded territory spanned 69 time periods, including 34 walleye lakes surveyed for 50 time periods (Appendix A).

The size distribution of all walleye lakes was compared to the size distribution of those surveyed (Table 2). For walleye lakes <500 acres, the most serious bias was an underrepresentation of those <100 acres, which numerically were 42% of all walleye lakes but only 13% those surveyed. For walleye lakes ≥500 acres, survey distribution approximated walleye lake distribution.

Table 2. Size distribution of surveyed walleye lakes vs. all walleye lakes.

Acreage	Not Surveyed No.	Not Surveyed %	Surveyed No.	Surveyed %	All No.	All %
<500	675	100	15	100	690	100
0-99	289	43	2	13	291	42
100-199	179	27	5	33	184	27
200-299	106	16	5	33	111	16
300-399	66	10	1	7	67	10
400-499	35	5	2	13	37	5
>500	152	100	19	100	171	100
500-599	28	18	1	5	29	17
600-699	16	11	1	5	17	10
700-799	18	12	1	5	19	11
800-899	13	9	1	5	14	8
900-999	10	7	2	11	12	7
1000-1999	47	31	8	42	55	32
2000-2999	5	3	3	16	8	5
3000-3999	8	5	2	11	10	6
4000-4999	1	1	0	0	1	1
≥5000	6	4	0	0	6	4

Also, the distribution of different walleye reproduction codes among all walleye lakes was compared to the distribution among surveyed walleye lakes (Table 3). In both lake size groups, the distribution of natural reproduction only (Class A), stocking plus natural reproduction (Class B), and stocking only (Class C) among surveyed lakes closely approximated overall distribution.

Table 3. Distribution of walleye reproduction codes among surveyed walleye lakes vs. all walleye lakes.

Acreage and Code	Not Surveyed No.	Not Surveyed %	Surveyed No.	Surveyed %	All No.	All %
<500	675	100	15	100	690	100
A	310	46	9	60	319	46
B	321	48	5	33	326	47
C	44	7	1	7	45	7
>500	152	100	19	100	171	100
A	85	56	13	68	98	57
B	59	39	6	32	65	38
C	8	5	0	0	8	5

During 1980-87, anglers spent an estimated 32.9-million hours annually fishing on lakes in the ceded territory, including 16.2-million hours on walleye lakes (Table 4). Overall fishing effort per unit area was higher on smaller lakes, but on walleye lakes this difference diminished. May-September fishing pressure was >70%; winter fishing pressure, 18%. Walleye fishing pressure followed a similar seasonal pattern, subsiding significantly during the closed March-April seasons.

Table 4. Mean annual fishing effort on all lakes and on walleye lakes (rounding error may occur in totals).

	<500 Acres		>500 Acres		Total		% of Annual
	Angler Hours	/Acre	Angler Hours	/Acre	Angler Hours	/Acre	Effort
Jan							
all lakes	854,168	3.2	581,518	2.2	1,435,686	2.7	4.4
walleye lakes	203,261	1.9	533,199	2.2	736,460	2.1	4.6
Feb							
all lakes	1,581,322	5.9	508,603	1.9	2,089,925	3.9	6.4
walleye lakes	639,973	5.9	466,342	1.9	1,106,315	3.2	6.8
Mar							
all lakes	1,039,810	3.9	166,016	0.6	1,205,826	2.3	3.7
walleye lakes	9,048	0.1	12,781	0.1	21,829	0.1	0.1
Apr							
all lakes	330,773	1.2	1,224,969	4.7	1,555,743	2.9	4.7
walleye lakes	0	0.0	64,375	4.7	64,375	4.4	0.4
May							
all lakes	4,056,638	15.2	2,028,681	7.7	6,085,319	11.5	18.5
walleye lakes	1,091,238	10.0	1,754,231	7.3	2,845,469	8.1	17.6
Jun							
all lakes	3,727,892	13.9	1,899,569	7.2	5,627,460	10.6	17.1
walleye lakes	1,284,952	11.8	1,784,664	7.4	3,069,617	8.8	19.0
Jul							
all lakes	3,558,542	13.3	1,945,322	7.4	5,503,864	10.4	16.8
walleye lakes	1,248,798	11.5	1,824,070	7.6	3,072,868	8.8	19.0
Aug							
all lakes	2,828,716	10.6	1,536,863	5.8	4,365,579	8.2	13.3
walleye lakes	985,336	9.1	1,460,163	6.0	2,445,499	7.0	15.1
Sep							
all lakes	1,532,675	5.7	989,821	3.8	2,522,496	4.8	7.7
walleye lakes	590,408	5.4	936,646	3.9	1,527,054	4.4	9.5
Oct							
all lakes	660,292	2.5	407,444	1.5	1,067,736	2.0	3.3
walleye lakes	228,708	2.1	378,990	1.6	607,697	1.7	3.8
Nov							
all lakes	102,461	0.4	24,991	0.1	127,453	0.2	0.4
walleye lakes	4,850	0.0	22,707	0.1	27,556	0.1	0.2
Dec							
all lakes	818,617	3.1	447,530	1.7	1,266,147	2.4	3.9
walleye lakes	215,630	2.0	410,344	1.7	625,974	1.8	3.9
Total							
all lakes	21,091,905	78.9	11,761,327	44.7	32,853,232	61.9	100.0
walleye lakes	6,502,202	59.9	9,648,511	44.3	16,150,713	50.4	100.0

Based on all hours of fishing, catch rates averaged 0.063 walleye/hour and harvest rates averaged 0.042 walleye/hour (Table 5). While catch rates averaged higher for lakes ≥500 acres, harvest rates were similar for both lake size groups. Catch and harvest rates were highest in April, reflecting angler success on dam tailwaters when few waters are open. When most waters are open, catch and harvest rates were highest in October and November. The 95th percentile of observed catch and harvest rates was 3 times higher than the mean, indicating that anglers were much more successful on some lakes (Appendix B).

Table 5. Catch (including released fish) and harvest rates based on all hours of fishing on walleye lakes.

	<500 Acres			>500 Acres			All	
	Walleye /Hour	95th Percentile	Surveyed Lakes	Walleye /Hour	95th Percentile	Surveyed Lakes	Walleye /Hour	95th Percentile
Jan								
catch	0.108867	0.350732	3	0.028898	0.040584	6	0.050969	0.126184
harvest	0.105355	0.350732	3	0.022421	0.032719	6	0.045311	0.120489
Feb								
catch	0.024853	0.029309	2	0.024458	0.064154	6	0.024687	0.043997
harvest	0.021229	0.024369	2	0.016548	0.043761	6	0.019256	0.032543
Mar								
catch	0.002343	0.002700	2	0.025652	0.218623	6	0.015990	0.129124
harvest	0.000000	0.000000	2	0.022998	0.194332	6	0.013465	0.113782
Apr								
catch	--	--	--	0.579749	0.579749	1	0.579749	0.579749
harvest	--	--	--	0.287845	0.287845	1	0.287845	0.287845
May								
catch	0.102571	0.302998	15	0.110860	0.287163	25	0.107681	0.293236
harvest	0.064549	0.176289	17	0.070437	0.204908	25	0.068179	0.193933
Jun								
catch	0.031516	0.122453	15	0.058976	0.171758	24	0.047481	0.151119
harvest	0.033185	0.105989	17	0.033377	0.116647	24	0.033297	0.112185
Jul								
catch	0.039392	0.143474	15	0.047843	0.122604	24	0.044408	0.131085
harvest	0.030865	0.122524	17	0.027484	0.094630	24	0.028858	0.105966
Aug								
catch	0.026512	0.116551	15	0.057618	0.182794	24	0.045085	0.156103
harvest	0.022191	0.055065	17	0.029303	0.102430	24	0.026437	0.083346
Sep								
catch	0.034016	0.171417	15	0.085258	0.280472	27	0.065446	0.238308
harvest	0.046563	0.262537	17	0.046672	0.146988	27	0.046630	0.191663
Oct								
catch	0.099007	0.246515	10	0.137347	0.500051	25	0.122917	0.404632
harvest	0.088632	0.225907	12	0.076041	0.238560	25	0.080780	0.233798
Nov								
catch	0.030166	0.123862	6	0.184441	0.994197	16	0.157288	0.841019
harvest	0.000000	0.000000	6	0.070816	0.321083	16	0.058352	0.264573
Dec								
catch	0.039733	0.049505	4	0.051019	0.097122	7	0.047131	0.080719
harvest	0.030599	0.035284	4	0.046442	0.092593	7	0.040985	0.072851
Total								
catch	0.048789	0.160089	--	0.071785	0.197662	--	0.062527	0.182536
harvest	0.040425	0.128725	--	0.042260	0.126657	--	0.041521	0.127489

Catch and harvest rates based only on time spent fishing for walleyes were higher than during overall-fishing hours. Catch rates averaged 0.169 walleye/hour and harvest rates averaged 0.104 walleye/hour (Table 6). Again, catch rates averaged higher on larger lakes, and harvest rates were similar for both lake size groups. Walleye anglers were most successful in March, April, October, and November. The average 95th percentile catch and harvest rates were 2 1/2 times the mean.

Table 6. Catch (including released fish) and harvest rates based only on hours spent fishing for walleyes on walleye lakes.

	<500 Acres			>500 Acres			All	
	Walleye /Hour	95th Percentile	Surveyed Lakes	Walleye /Hour	95th Percentile	Surveyed Lakes	Walleye /Hour	95th Percentile
Jan								
catch	0.057952	0.111874	3	0.052119	0.111874	6	0.053729	0.111874
harvest	0.049509	0.098449	3	0.042501	0.098449	6	0.044435	0.098449
Feb								
catch	0.052597	0.059018	2	0.061967	0.213317	6	0.056546	0.124059
harvest	0.045224	0.047668	2	0.046487	0.151387	6	0.045756	0.091388
Mar								
catch	--	--	--	1.124825	1.443869	3	1.124825	1.443869
harvest	--	--	--	1.069222	1.371675	3	1.069222	1.371675
Apr								
catch	--	--	--	0.630376	0.630376	1	0.630376	0.630376
harvest	--	--	--	0.326019	0.326019	1	0.326019	0.326019
May								
catch	0.203576	0.435004	13	0.205675	0.620955	24	0.204870	0.549642
harvest	0.120048	0.251948	15	0.128407	0.442305	24	0.125201	0.369303
Jun								
catch	0.109432	0.204922	13	0.173094	0.312902	23	0.146445	0.267701
harvest	0.091564	0.174787	15	0.094484	0.199560	23	0.093262	0.189190
Jul								
catch	0.206827	0.294964	11	0.162981	0.289946	23	0.180800	0.291986
harvest	0.128892	0.251799	13	0.092360	0.200140	23	0.107207	0.221134
Aug								
catch	0.143607	0.370180	12	0.201661	0.466372	23	0.178270	0.427614
harvest	0.109730	0.285714	14	0.103850	0.284995	23	0.106219	0.285285
Sep								
catch	0.135502	0.359164	14	0.261634	0.728637	26	0.212867	0.585787
harvest	0.110911	0.370000	16	0.125694	0.274497	26	0.119978	0.311421
Oct								
catch	0.246165	0.393490	9	0.273936	0.771473	24	0.263485	0.629219
harvest	0.160210	0.290000	11	0.155110	0.373459	24	0.157030	0.342049
Nov								
catch	0.094637	0.094637	4	0.523259	1.599999	9	0.447822	1.335057
harvest	0.000000	0.000000	4	0.187844	0.423529	9	0.154784	0.348989
Dec								
catch	0.067554	0.073385	3	0.075083	0.157590	7	0.072490	0.128584
harvest	0.053961	0.065660	3	0.069094	0.150663	7	0.063882	0.121382
Total								
catch	0.147743	0.284908	--	0.182896	0.430284	--	0.168744	0.371756
harvest	0.103263	0.222534	--	0.103862	0.263767	--	0.103621	0.247167

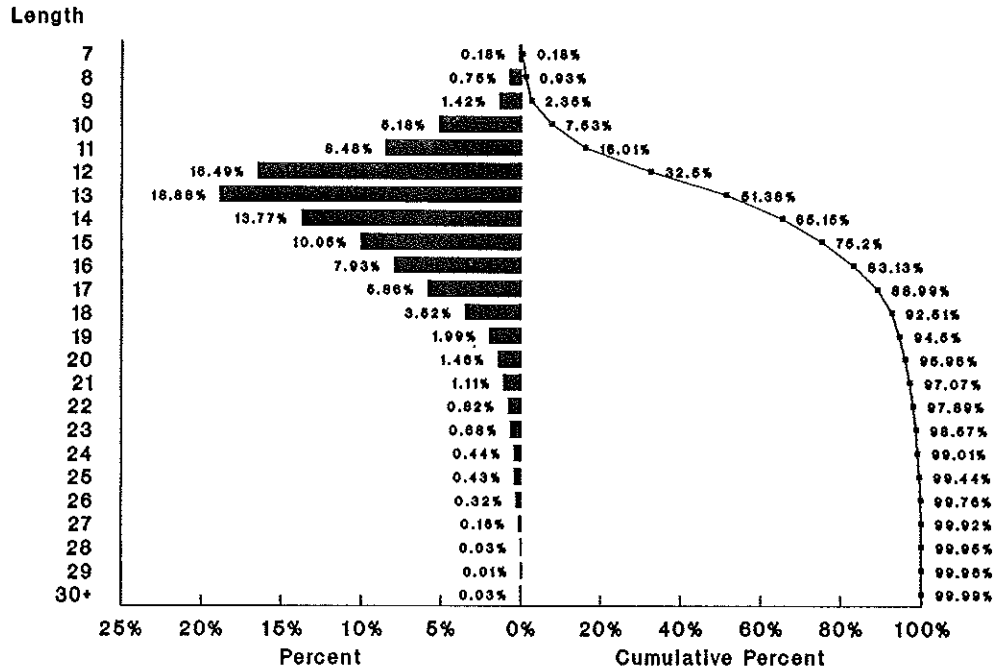
Anglers harvested 672,303 walleye (1.92 walleye/acre) annually but caught 955,900 walleye (2.84 walleye/acre), indicating that 30% of all walleye caught were released (Table 7). May and June tallied >44% of the harvest, and ice fishing accounted for 13%.

Table 7. Mean annual catch and harvest on walleye lakes (rounding errors may occur in totals).

	<500 Acres		>500 Acres		Total		% of Annual
	No. Walleye	/Acre	No. Walleye	/Acre	No. Walleye	/Acre	Harvest
Jan							
catch	26,761	0.25	15,408	0.06	42,170	0.12	4.4
harvest	26,115	0.24	11,955	0.05	38,070	0.11	5.7
Feb							
catch	15,983	0.15	11,406	0.05	27,389	0.08	2.9
harvest	13,641	0.13	7,717	0.03	21,358	0.06	3.2
Mar							
catch	645	0.01	1,517	0.01	2,162	0.01	0.2
harvest	0	0.00	1,360	0.01	1,360	0.00	0.2
Apr							
catch	8	0.01	36,077	2.61	36,086	2.48	3.8
harvest	0	0.00	17,912	1.29	17,912	1.23	2.7
May							
catch	96,559	0.89	194,473	0.81	291,033	0.83	30.4
harvest	70,438	0.65	123,562	0.51	194,001	0.55	28.9
Jun							
catch	33,388	0.31	105,253	0.44	138,641	0.40	14.5
harvest	42,641	0.39	59,567	0.25	102,208	0.29	15.2
Jul							
catch	38,839	0.36	87,269	0.36	126,108	0.36	13.2
harvest	38,545	0.35	50,132	0.21	88,677	0.25	13.2
Aug							
catch	21,954	0.20	84,131	0.35	106,085	0.30	11.1
harvest	21,866	0.20	42,787	0.18	64,652	0.18	9.6
Sep							
catch	14,142	0.13	79,243	0.33	93,384	0.27	9.8
harvest	27,366	0.25	43,409	0.18	70,775	0.20	10.5
Oct							
catch	10,907	0.10	48,099	0.20	59,006	0.17	6.2
harvest	19,023	0.18	27,003	0.11	46,026	0.13	6.8
Nov							
catch	146	0.00	4,188	0.02	4,334	0.01	0.5
harvest	0	0.00	1,608	0.01	1,608	0.00	0.2
Dec							
catch	8,568	0.08	20,935	0.09	29,503	0.08	3.1
harvest	6,598	0.06	19,057	0.08	25,655	0.07	3.8
Total							
catch	267,901	2.47	688,000	2.85	955,900	2.73	100.0
harvest	266,232	2.45	406,071	1.68	672,303	1.92	100.0

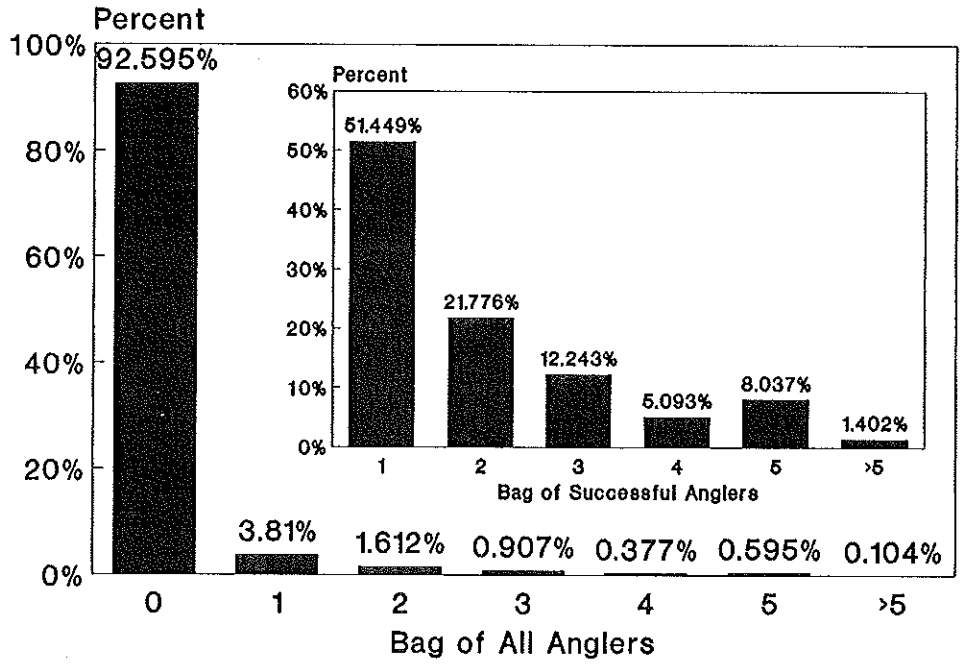
The length distribution of the harvest showed that most walleye were 11-16 inches with a modal length of 13 inches. Over 65% of the harvest was <15 inches while barely 5% was of a quality size of ≥20 inches (Fig. 1).

Figure 1. Length distribution of harvested walleye.



Completed-trip interviews of 28,901 anglers who had been fishing on walleye lakes showed that only 7.4% harvested walleye (Fig. 2). Of 2,140 successful anglers, about half harvested a single walleye while only 8.0% took the legal limit of five. A small proportion reported taking more than five, but these were probably group bags, which were not separated by the clerks. Anglers harvested an average 0.15 walleye/ fishing-trip.

Figure 2. Bag distribution of harvested walleye.



Although nearly 3/4 of the anglers who took walleye bagged only 1 or 2 fish, over 1/2 of the total harvest went to anglers who bagged 3 or more (Table 8).

Table 8. Bag and harvest distribution among anglers who took walleye.

Bag	Percentage of Anglers	Harvest per 100 Anglers*	Percentage of Harvest
1	51.4	51.4	25.3
2	21.8	43.6	21.5
3	12.2	36.6	18.0
4	5.1	20.4	10.0
5	8.0	40.0	19.7
6	0.4	2.4	1.2
7	0.4	2.8	1.4
8	0.4	3.2	1.6
9	0.1	0.9	0.4
10	0.1	1.0	0.5
15	0.05	0.8	0.4

*Total harvest per 100 anglers = 203.1 walleye

The bag and harvest distribution data can be used to estimate harvest reductions expected from changes in the daily bag limit. For example, changing the daily bag limit from 5 to 4 would reduce the percentage of harvest for anglers catching >4 fish. Thus, anglers who bagged 5 walleye and took 19.7% of the harvest, would have their bag and their percentage of harvest reduced by 1/5, an overall harvest reduction of 3.9%. Altogether, changes in the daily bag limit from 5 to 4 would reduce harvest 5.0%. Similarly a 3-walleye bag limit would reduce harvest 13.7%, a 2-walleye bag limit would reduce harvest 26.9%, and a 1-walleye bag limit would reduce harvest 50.8%.

The frequency distribution of individual harvest rates -- based on interviews of 51,751 anglers who had been fishing on walleye lakes and, at least part of the trip, specifically for walleye --indicate that most walleye anglers were unsuccessful (Table 9). Their mean harvest rate was 0.14 walleye/hour, but >85% harvested nothing.

A similar pattern was observed among the 130,811 anglers who had been fishing in general on walleye lakes except that 94% of the anglers caught nothing and the average harvest rate was only 0.05 walleye/hour. For both specific and general hours, the maximum harvest rate was 65.5 walleye/hour, but the 99th percentiles were only 2.3 and 1.3 walleye/hour respectively.

Table 9. Distribution of individual angler harvest rates based on hours fishing specifically for walleyes and on all fishing hours.

	Walleye Fishing Hours		All Fishing Hours	
Fish/Hour	%	Cumulative %	%	Cumulative %
0.0	85.18	85.18	93.94	93.94
0.1	0.67	85.85	0.30	94.24
0.2	1.32	87.17	0.58	94.82
0.3	1.75	88.92	0.76	95.58
0.4	1.50	90.42	0.63	96.21
0.5	1.52	91.94	0.61	96.82
0.6	0.87	92.81	0.35	97.17
0.7	1.03	93.84	0.42	97.59
0.8	0.89	94.73	0.36	97.95
0.9	0.71	95.44	0.28	98.23
1.0	0.80	96.24	0.33	98.56
1.1	0.41	96.66	0.16	98.72
1.2	0.30	96.95	0.11	98.83
1.3	0.46	97.41	0.18	99.01
1.4	0.16	97.57	0.06	99.06
1.5	0.29	97.86	0.11	99.17
1.6	0.18	98.04	0.06	99.24
1.7	0.20	98.23	0.08	99.32
1.8	0.13	98.37	0.05	99.37
1.9	0.08	98.44	0.03	99.40
2.0	0.43	98.87	0.17	99.56
2.1	0.06	98.93	0.03	99.59
2.2	0.04	98.98	0.02	99.60
2.3	0.06	99.03	0.02	99.62
2.4	0.09	99.13	0.04	99.66
2.5	0.02	99.14	0.01	99.67
2.6	0.02	99.17	0.01	99.68
2.7	0.09	99.25	0.04	99.72
2.8	0.04	99.30	0.02	99.74
2.9	0.04	99.34	0.02	99.75
≥3.0	0.66	100.00	0.25	100.00
Total Interviews		51,751		130,811

DISCUSSION

Although this analysis of walleye angling in the ceded territories was not based on a random sample of lakes, a comparison of size and reproduction status between all walleye lakes and those surveyed suggested the sample was representative except for an undersampling of the smallest lakes. Since these lakes were <10% of total lake acreage, any resulting bias was minimal.

Anglers fished more hours/acre on lakes <500 acres though harvest rates were similar to larger lakes. As a result, smaller lakes had 46% more walleye/acre removed than larger lakes -- 2.45 vs. 1.68 walleye/acre. Proportionately smaller walleye habitat areas in larger lakes (i.e. large, deep basins) or actual differences in walleye populations may account for some harvest disparity, but it is likely that smaller lakes are more heavily exploited.

There were no surprises in seasonal patterns of the walleye fishery. Over 70% of the angling pressure occurred during the summer months of May through September, but the best catch rates were in the early spring and late fall. More fish were harvested in May than any other month, 194,001 walleyes or 29% of the total. The ice fishery was significant, accounting for 18% of the effort and 13% of the harvest, but catch rates were low.

Although the total number of walleyes harvested by anglers appears high (672,303), average harvest rates were low. Each walleye taken required 10 hours of directed effort or 24 hours of general effort. Anglers released 30% of walleye caught, which may in part reflect length limits or angler reporting bias, but may also indicate a catch-and-release trend that could mitigate increasing angling demand. The overall walleye catch rate (including released fish) was 1 walleye every 6 hours of walleye fishing, which exceeds the current WDNR management goal of 1 walleye per 8 hours of fishing (WDNR 1984).

The WDNR is almost meeting its management goals for the size distribution of harvested fish. The actual length distribution of harvested walleye included 35% ≥15 inches and 32.5% <13 inches, close to management goals of 40% ≥15 inches and ≤33% <13 inches (WDNR 1984). There is room for improvement in the harvest proportion of 15 inch fish and in the harvest of quality (≥20 inches) and trophy (≥30 inches) sized walleyes. Only 1 in 20 harvested walleye (5%) was >20 inches, and only 1 in 3,600 (0.03%) was ≥30 inches. The paucity of trophy walleye in the harvest may be due in part to high exploitation of smaller fish, but many lakes in the ceded territory exhibit slow growth and may be unable to produce large fish. Lakes that are known to produce trophy fish must be protected.

Most fishermen, whether targeting walleye or not, did not catch any walleye. Almost 93% of all trips resulted in a zero walleye bag and <1% resulted in a bag of >3. Even among anglers who did catch walleyes, only 13% of trips resulted in a bag of >3. Although the proportion of anglers catching several fish is low, the proportion of the harvest caught by these fishermen is substantial. Almost 25% of the harvest was caught by fishermen catching (or exceeding) a legal bag limit. This indicated that reductions in the daily bag limit may be an effective way to reduce angler harvest if needed.

MANAGEMENT RECOMMENDATIONS

1. Increase monitoring of walleye lakes <500 acres.

Smaller lakes may be more susceptible to overexploitation not only because of higher fishing effort and harvest levels, but also because total populations are lower.

2. Monitor catch-and-release patterns.

Walleye anglers catch 1 walleye/6 hours fishing, but harvest 1 walleye/10 hours fishing. The reasons for walleye catch and release should be determined (e.g. size or bag limits, contaminants, or undesirable sized fish) and if catch and release patterns change as the treaty harvest increases.

3. Improve the size structure of fish harvested by anglers and protect trophy-producing lakes.

The large harvest of walleye <15 inches and <12 inches suggests that minimum length limits could effectively lower the short-term harvest and eventually increase the numbers of larger walleye available to be caught. Probably few lakes in the ceded territory can consistently produce ≥30-inch walleye so these waters should be managed for trophy fisheries.

4. Consider daily bag limit and season changes for regulating angler harvest if necessary.

A bag limit of 3 walleye/day could reduce angler harvest 13.7%, while a bag limit of 2 walleye/day could reduce angler harvest 26.9%. Season regulations could also reduce angler harvest -- eliminating ice fishing could reduce angler harvest 13%, while a later opening could may save the 29% of fish harvested in May.

Appendix A. Creel surveys conducted on all lakes in the ceded territory, Wisconsin, during 1980-87.

COUNTY=ASHLAND

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
DAY L	2430300	02	0157	05/02/81	11/19/81	641	NO WALLEYE

COUNTY=BARRON

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
HEMLOCK L	2109800	03	0042	05/03/80	09/30/80	357	WALLEYE
RED CEDAR L	2109600	03	0088	05/03/80	09/30/80	1841	WALLEYE

COUNTY=BAYFIELD

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BUSKEY BAY	2903800	04	0046	05/03/86	11/02/86	100	WALLEYE
HART L	2903200	04	0019	05/03/86	11/02/86	259	WALLEYE
L MILLICENT	2903700	04	0180	05/03/86	11/02/86	183	WALLEYE
LONG L	2767100	04	0169	05/01/82	09/27/82	263	WALLEYE
LONG L	2767100	04	0169	12/09/82	12/19/82	263	WALLEYE
TWIN BEAR L	2903100	04	0302	05/03/86	11/02/86	172	WALLEYE

COUNTY=BURNETT

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BIG MCKENZIE L	2706800	07	0025	05/02/81	11/19/81	1185	WALLEYE
BIG MCKENZIE L	2706800	07	0025	12/11/81	12/30/81	1185	WALLEYE
BIG MCKENZIE L	2706800	07	0025	11/26/86	03/01/87	1185	WALLEYE
BIG MCKENZIE L	2706800	07	0025	05/02/87	10/31/87	1185	WALLEYE
YELLOW L	2675200	07	0215	09/06/80	10/15/80	2287	WALLEYE
YELLOW L	2675200	07	0215	09/05/81	10/15/81	2287	WALLEYE
YELLOW L	2675200	07	0215	09/04/82	10/15/82	2287	WALLEYE
YELLOW L	2675200	07	0215	05/03/86	11/17/86	2287	WALLEYE
YELLOW L	2675200	07	0215	11/21/86	03/01/87	2287	WALLEYE

COUNTY=CHIPPEWA

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
L HALLIE	2150200	09	0084	10/09/81	11/28/81	79	NO WALLEYE
L HALLIE	2150200	09	0084	12/10/81	03/31/82	79	NO WALLEYE
L HALLIE	2150200	09	0084	04/23/82	09/29/82	79	NO WALLEYE
OLD ABE L	2174700	09	0123	04/07/83	05/02/83	1072	WALLEYE

COUNTY=EAU CLAIRE

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
HALFMOON L	2125400	18	0008	10/11/81	11/29/81	132	WALLEYE
HALFMOON L	2125400	18	0008	12/06/81	03/30/82	132	WALLEYE
HALFMOON L	2125400	18	0008	04/22/82	09/30/82	132	WALLEYE

COUNTY=FOREST

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
L GORDON	501800	21	0057	05/22/80	09/01/80	54	NO WALLEYE
L LAURA	501900	21	0084	05/22/80	09/01/80	110	NO WALLEYE
LUNA L	1606700	21	0106	05/25/80	08/31/80	67	NO WALLEYE
LUNA L	1606700	21	0106	05/02/81	08/21/81	67	NO WALLEYE
LUNA L	1606700	21	0106	05/03/82	09/06/82	67	NO WALLEYE
WHITE DEER L	1606600	21	0184	05/25/80	08/31/80	62	NO WALLEYE
WHITE DEER L	1606600	21	0184	05/02/81	08/21/81	62	NO WALLEYE
WHITE DEER L	1606600	21	0184	05/07/82	08/21/82	62	NO WALLEYE

COUNTY=LANGLADE

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
MUELLER L	194000	34	0133	05/07/83	11/10/83	88	WALLEYE
SAWYER L	198100	34	0176	05/07/83	11/13/83	168	WALLEYE

COUNTY=LINCOLN

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
L NOKOMIS	1516500	44	0257	05/03/86	03/27/87	2433	WALLEYE
RICE R FL	1516400	44	0293	05/03/86	03/27/87	920	WALLEYE

COUNTY=MARATHON

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
L WAUSAU	1437500	37	0016	04/02/84	05/18/84	1918	WALLEYE

COUNTY=MARINETTE

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
CALDRON FALLS RESERVOIR	545400	38	0029	05/01/82	11/30/82	1018	WALLEYE

COUNTY=OCONTO

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BASS L	417900	43	0007	12/13/81	09/30/82	149	WALLEYE
BOOT L	418700	43	0017	12/13/81	09/30/82	263	WALLEYE

COUNTY=ONEIDA

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BRIDGE L	1516800	35	0020	05/03/86	03/27/87	411	WALLEYE
KAWAGUESAGA L	1542300	44	0171	05/02/87	11/08/87	670	WALLEYE
MINOCQUA L	1542400	44	0241	05/02/87	11/08/87	1360	WALLEYE
SQUIRREL L	1536300	44	0340	05/03/86	03/01/87	1317	WALLEYE
SQUIRREL L	1536300	44	0340	05/02/87	11/08/87	1317	WALLEYE
TOMAHAWK L	1542700	44	0371	05/02/87	11/08/87	3392	WALLEYE

COUNTY=POLK

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BALSAM L	2620600	49	0015	05/02/87	10/31/87	2054	WALLEYE
BONE L	2628100	49	0037	05/01/82	10/31/82	1781	WALLEYE
BONE L	2628100	49	0037	05/04/85	10/30/85	1781	WALLEYE

COUNTY=SAWYER

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
CONNORS L	2275100	58	0048	05/07/83	10/31/83	429	WALLEYE
L OF THE PINES	2275300	58	0175	05/07/83	10/31/83	273	WALLEYE
ROUND L	2395600	58	0188	05/02/87	11/20/87	3054	WALLEYE
SAND L	2393200	58	0193	05/02/81	09/29/81	928	WALLEYE
SISSABAGAMA L	2393500	58	0197	05/03/80	11/15/80	719	WALLEYE

COUNTY=VILAS

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BIG ARBOR VITAE L	1545600	64	0019	05/08/82	10/21/82	1090	WALLEYE
BIG ARBOR VITAE L	1545600	64	0019	12/11/82	03/01/83	1090	WALLEYE
BIG L	2334700	64	0053	05/02/81	11/20/81	850	WALLEYE
BIG L	2334700	64	0053	05/05/84	11/07/84	850	WALLEYE
ERICKSON L	983600	64	0177	05/03/86	11/08/86	106	WALLEYE
ERICKSON L	983600	64	0177	05/02/87	10/14/87	106	WALLEYE
LITTLE ARBOR VITAE L	1545300	64	0020	05/03/80	11/12/80	534	WALLEYE
LITTLE ARBOR VITAE L	1545300	64	0020	05/05/84	10/31/84	534	WALLEYE
LITTLE ARBOR VITAE L	1545300	64	0020	05/03/87	10/28/87	534	WALLEYE
LITTLE JOHN L	2332300	64	0262	05/03/86	01/22/87	166	WALLEYE
LITTLE JOHN L	2332300	64	0262	05/02/87	10/14/87	166	WALLEYE

COUNTY=VILAS

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
STAR L	1593100	64	0467	05/03/86	11/08/86	1206	WALLEYE
STAR L	1593100	64	0467	05/02/87	10/31/87	1206	WALLEYE
WABASSO L	2045000	64	0526	05/05/84	09/30/84	49	WALLEYE

COUNTY=WASHBURN

LAKE NAME	MASTER WATERBODY CODE	COUNTY	WATER	SURVEY START	SURVEY END	ACRES	WALLEYE CLASSIFICATION
BALSAM L	2112800	66	0005	05/03/80	09/30/80	295	WALLEYE

Appendix B. Monthly angler walleye effort, catch, harvest, catch rate, and harvest rate for ceded territory creel surveys, 1980-87. (* = no angling hours directed at walleye during this month)

COUNTY=BARRON LAKE NAME=HEMLOCK L MASTER WATERBODY CODE=2109800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/80	MAY	5,628	36	0.0565771	0.00639642	36	0.0565771	0.00639642
05/03/80	JUNE	3,995	13	0.0461716	0.00325443	13	0.0461716	0.00325443
05/03/80	JULY	4,074	5	0.0894188	0.00122743	5	0.0894188	0.00122743
05/03/80	AUGUST	2,882	0	*	0.00000000	0	*	0.00000000
05/03/80	SEPTEMBER	2,862	8	0.0648158	0.00279542	8	0.0648158	0.00279542

COUNTY=BARRON LAKE NAME=RED CEDAR L MASTER WATERBODY CODE=2109600

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/80	MAY	11,267	887	0.118279	0.0787269	801	0.108043	0.0710938
05/03/80	JUNE	12,220	1,200	0.209788	0.0981971	712	0.115652	0.0582636
05/03/80	JULY	14,596	639	0.156774	0.0437790	465	0.111642	0.0318579
05/03/80	AUGUST	9,842	358	0.183670	0.0363763	358	0.183670	0.0363763
05/03/80	SEPTEMBER	4,901	76	0.060696	0.0155079	76	0.060696	0.0155079

COUNTY=BAYFIELD LAKE NAME=BUSKEY BAY MASTER WATERBODY CODE=2903800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	726	220	0.435004	0.302998	128	0.251948	0.176289
05/03/86	JUNE	712	47	0.131339	0.066034	30	0.083580	0.042150
05/03/86	JULY	708	42	0.259480	0.059345	21	0.125415	0.029672
05/03/86	AUGUST	592	22	0.165587	0.037154	15	0.097847	0.025332
05/03/86	SEPTEMBER	236	14	0.188195	0.059383	10	0.129048	0.042417
05/03/86	OCTOBER	122	14	0.393490	0.114963	10	0.282125	0.082116
05/03/86	NOVEMBER	4	0	0.094637	0.000000	0	0.000000	0.000000

COUNTY=BAYFIELD LAKE NAME=HART L MASTER WATERBODY CODE=2903200

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	1,881	569	0.435004	0.302572	331	0.251948	0.176013
05/03/86	JUNE	1,843	122	0.131339	0.066181	77	0.083580	0.041770
05/03/86	JULY	1,833	110	0.259480	0.060010	55	0.125415	0.030005
05/03/86	AUGUST	1,534	57	0.165587	0.037167	37	0.097847	0.024126
05/03/86	SEPTEMBER	611	38	0.188195	0.062233	25	0.129048	0.040943
05/03/86	OCTOBER	315	37	0.393490	0.117309	27	0.282125	0.085604
05/03/86	NOVEMBER	11	1	0.094637	0.087516	0	0.000000	0.000000

COUNTY=BAYFIELD LAKE NAME=L MILLICENT MASTER WATERBODY CODE=2903700

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	1,329	402	0.435004	0.302546	233	0.251948	0.175356
05/03/86	JUNE	1,303	86	0.131339	0.066027	55	0.083580	0.042226
05/03/86	JULY	1,295	78	0.259480	0.060225	39	0.125415	0.030112
05/03/86	AUGUST	1,084	39	0.158061	0.035991	27	0.090320	0.024917
05/03/86	SEPTEMBER	431	26	0.188195	0.060264	18	0.129048	0.041721
05/03/86	OCTOBER	223	26	0.393490	0.116668	19	0.282125	0.085257
05/03/86	NOVEMBER	8	1	0.094637	0.123862	0	0.000000	0.000000

COUNTY=BAYFIELD LAKE NAME=LONG L MASTER WATERBODY CODE=2767100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/01/82	MAY	1,016	12	0.076677	0.0118133	12	0.076677	0.0118133
05/01/82	JUNE	2,257	21	0.133333	0.0093031	14	0.088889	0.0062021
05/01/82	JULY	2,734	89	0.278422	0.0325507	68	0.208817	0.0248702
05/01/82	AUGUST	2,989	40	0.285714	0.0133824	40	0.285714	0.0133824
05/01/82	SEPTEMBER	1,485	29	0.262295	0.0194596	27	0.196721	0.0179627
12/09/82	DECEMBER	207	0	*	0.0000000	0	*	0.0000000

COUNTY=BAYFIELD LAKE NAME=TWIN BEAR L MASTER WATERBODY CODE=2903100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	1,249	378	0.435004	0.302677	219	0.251948	0.175361
05/03/86	JUNE	1,224	81	0.131339	0.066165	51	0.083580	0.041659
05/03/86	JULY	1,217	74	0.259480	0.060790	37	0.125415	0.030395
05/03/86	AUGUST	1,018	37	0.165587	0.036329	25	0.097847	0.024547
05/03/86	SEPTEMBER	406	25	0.188195	0.061652	17	0.129048	0.041923
05/03/86	OCTOBER	209	25	0.393490	0.119355	18	0.282125	0.085936
05/03/86	NOVEMBER	8	0	0.094637	0.000000	0	0.000000	0.000000

COUNTY=BURNETT LAKE NAME=BIG MCKENZIE L MASTER WATERBODY CODE=2706800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/81	MAY	8,345	426	0.082714	0.051047	363	0.075458	0.0434978
05/02/81	JUNE	10,197	696	0.180185	0.068252	680	0.173778	0.0666834
05/02/81	JULY	9,268	199	0.096458	0.021473	156	0.066984	0.0168328
05/02/81	AUGUST	6,673	70	0.063898	0.010490	59	0.050205	0.0088413
05/02/81	SEPTEMBER	4,364	142	0.189138	0.032535	42	0.054039	0.0096231
05/02/81	OCTOBER	665	4	0.033961	0.006017	4	0.033961	0.0060168
05/02/81	NOVEMBER	128	0	*	0.000000	0	*	0.0000000
12/11/81	DECEMBER	978	12	0.025606	0.012265	15	0.034142	0.0153312
11/26/86	NOVEMBER	165	7	0.046458	0.042450	7	0.046458	0.0424500
11/26/86	DECEMBER	2,739	163	0.062483	0.059522	148	0.056532	0.0540442

COUNTY=BURNETT LAKE NAME=BIG MCKENZIE L MASTER WATERBODY CODE=2706800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
11/26/86	JANUARY	2,390	97	0.037285	0.040584	78	0.030893	0.0326346
11/26/86	FEBRUARY	3,845	61	0.020316	0.015866	15	0.004063	0.0039015
11/26/86	MARCH	22	2	0.088889	0.092166	2	0.088889	0.0921659
05/02/87	MAY	9,769	430	0.061282	0.044016	355	0.048456	0.0363392
05/02/87	JUNE	8,809	150	0.029890	0.017027	74	0.013586	0.0084002
05/02/87	JULY	8,862	295	0.080490	0.033289	228	0.068614	0.0257288
05/02/87	AUGUST	6,026	20	0.005091	0.003319	17	0.002546	0.0028209
05/02/87	SEPTEMBER	6,159	671	0.358265	0.108939	442	0.214488	0.0717604
05/02/87	OCTOBER	909	28	0.153970	0.030805	15	0.076985	0.0165029

COUNTY=BURNETT LAKE NAME=YELLOW L MASTER WATERBODY CODE=2675200

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
09/06/80	SEPTEMBER	4,064	28	0.033364	0.006791	25	0.030331	0.0062004
09/06/80	OCTOBER	2,943	14	0.017046	0.004916	14	0.017046	0.0049164
09/05/81	SEPTEMBER	6,540	488	0.279645	0.074624	248	0.152306	0.0379296
09/05/81	OCTOBER	3,202	161	0.124987	0.050349	124	0.088701	0.0387297
09/04/82	SEPTEMBER	5,655	158	0.145112	0.027901	142	0.130355	0.0251503
09/04/82	OCTOBER	2,291	134	0.219632	0.058627	124	0.206713	0.0541174
05/03/86	MAY	14,461	758	0.077770	0.052417	450	0.046306	0.0311184
05/03/86	JUNE	14,945	1,077	0.130900	0.072063	535	0.066489	0.0357972
05/03/86	JULY	10,048	675	0.117890	0.067176	306	0.054166	0.0304532
05/03/86	AUGUST	7,726	375	0.124503	0.048540	206	0.067148	0.0266646
05/03/86	SEPTEMBER	5,017	764	0.370829	0.152294	251	0.111983	0.0500339
05/03/86	OCTOBER	2,190	342	0.267882	0.156136	96	0.071557	0.0438276
05/03/86	NOVEMBER	86	0	*	0.000000	0	*	0.0000000
11/21/86	NOVEMBER	322	20	0.075892	0.062150	20	0.075892	0.0621504
11/21/86	DECEMBER	2,647	140	0.055827	0.052898	130	0.051324	0.0491196
11/21/86	JANUARY	9,424	219	0.029405	0.023240	137	0.018162	0.0145380
11/21/86	FEBRUARY	3,280	113	0.075755	0.034453	73	0.047137	0.0222575
11/21/86	MARCH	100	0	*	0.000000	0	*	0.0000000

COUNTY=EAU CLAIRE LAKE NAME=HALFMOON L MASTER WATERBODY CODE=2125400

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
10/11/81	OCTOBER	589	75	0.167481	0.127820	44	0.111654	0.075188
10/11/81	NOVEMBER	198	15	0.111524	0.075673	7	0.055762	0.035314
12/06/81	DECEMBER	847	27	0.097192	0.031862	14	0.097192	0.016521
12/06/81	JANUARY	1,098	43	0.188088	0.039180	43	0.188088	0.039180
12/06/81	FEBRUARY	911	4	0.000000	0.004548	4	0.000000	0.004548
12/06/81	MARCH	939	9	*	0.009581	0	*	0.000000
04/22/82	APRIL	919	0	*	0.000000	0	*	0.000000
04/22/82	MAY	4,103	666	0.533695	0.162312	618	0.515604	0.150614
04/22/82	JUNE	2,700	268	0.468750	0.099267	198	0.369318	0.073339
04/22/82	JULY	3,153	89	0.251046	0.028224	89	0.251046	0.028224
04/22/82	AUGUST	2,074	102	0.172697	0.049185	87	0.148026	0.041952

COUNTY=EAU CLAIRE LAKE NAME=HALFMOON L MASTER WATERBODY CODE=2125400

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
04/22/82	SEPTEMBER	1,089	123	0.222703	0.112958	112	0.197959	0.102856

COUNTY=LANGLADE LAKE NAME=MUELLER L MASTER WATERBODY CODE=194000

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/07/83	MAY	807	0	*	0.00000000	0	*	0
05/07/83	JUNE	2,464	0	*	0.00000000	0	*	0
05/07/83	JULY	1,894	0	*	0.00000000	0	*	0
05/07/83	AUGUST	762	0	*	0.00000000	0	*	0
05/07/83	SEPTEMBER	643	6	0.0740741	0.00932981	0	0	0
05/07/83	OCTOBER	91	0	*	0.00000000	0	*	0
05/07/83	NOVEMBER	15	0	*	0.00000000	0	*	0

COUNTY=LANGLADE LAKE NAME=SAWYER L MASTER WATERBODY CODE=198100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/07/83	MAY	1,579	107	0.130233	0.067752	84	0.105426	0.053188
05/07/83	JUNE	3,712	146	0.139184	0.039332	145	0.139184	0.039063
05/07/83	JULY	3,656	81	0.145341	0.022158	76	0.136791	0.020790
05/07/83	AUGUST	3,013	125	0.132964	0.041491	115	0.124654	0.038172
05/07/83	SEPTEMBER	1,741	146	0.342968	0.083874	116	0.280611	0.066640
05/07/83	OCTOBER	397	99	0.504555	0.249433	85	0.437281	0.214160
05/07/83	NOVEMBER	87	6	0.184615	0.068886	6	0.184615	0.068886

COUNTY=LINCOLN LAKE NAME=L NOKOMIS MASTER WATERBODY CODE=1516500

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	21,685	3,946	0.351097	0.181969	1,794	0.158830	0.082730
05/03/86	JUNE	16,283	777	0.146939	0.047717	529	0.100186	0.032487
05/03/86	JULY	18,485	2,159	0.270475	0.116796	1,217	0.155322	0.065837
05/03/86	AUGUST	14,577	1,698	0.370180	0.116485	763	0.171869	0.052343
05/03/86	SEPTEMBER	5,802	995	0.359164	0.171501	559	0.201722	0.096351
05/03/86	OCTOBER	2,666	657	0.318347	0.246482	436	0.212231	0.163571
05/03/86	NOVEMBER	0	0	*	*	0	*	*
05/03/86	DECEMBER	6,208	252	0.073385	0.040595	219	0.065660	0.035279
05/03/86	JANUARY	2,908	93	0.107399	0.031980	80	0.093974	0.027509
05/03/86	FEBRUARY	4,890	36	0.028992	0.007362	44	0.036240	0.008998
05/03/86	MARCH	49	0	*	0.000000	0	*	0.000000

COUNTY=LINCOLN LAKE NAME=RICE R FL MASTER WATERBODY CODE=1516400

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	8,200	1,492	0.354232	0.181955	679	0.160920	0.082807
05/03/86	JUNE	6,157	293	0.155844	0.047586	201	0.104638	0.032644
05/03/86	JULY	6,990	817	0.278509	0.116883	461	0.155322	0.065953
05/03/86	AUGUST	5,512	642	0.370180	0.116472	289	0.171869	0.052431
05/03/86	SEPTEMBER	2,194	377	0.359164	0.171846	211	0.201722	0.096179
05/03/86	OCTOBER	1,008	248	0.318347	0.246052	165	0.212231	0.163704
05/03/86	NOVEMBER	0	0	*	*	0	*	*
05/03/86	DECEMBER	2,347	95	0.073385	0.040472	83	0.065660	0.035359
05/03/86	JANUARY	1,100	35	0.111874	0.031828	30	0.098449	0.027281
05/03/86	FEBRUARY	1,849	13	0.028992	0.007031	16	0.036240	0.008653
05/03/86	MARCH	19	0	*	0.000000	0	*	0.000000

COUNTY=MARATHON LAKE NAME=L WAUSAU MASTER WATERBODY CODE=1437500

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
04/02/84	APRIL	8,920	4,999	0.630376	0.560424	2,482	0.326019	0.278250
04/02/84	MAY	6,049	1,764	0.707941	0.291609	1,280	0.509081	0.211598

COUNTY=MARINETTE LAKE NAME=CALDRON FALLS RESERVOIR MASTER WATERBODY CODE=545400

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/01/82	MAY	15,424	0	*	0	0	*	0
05/01/82	JUNE	16,260	0	*	0	0	*	0
05/01/82	JULY	19,249	0	*	0	0	*	0
05/01/82	AUGUST	13,575	0	*	0	0	*	0
05/01/82	SEPTEMBER	6,154	0	*	0	0	*	0
05/01/82	OCTOBER	2,075	0	*	0	0	*	0
05/01/82	NOVEMBER	105	0	*	0	0	*	0

COUNTY=OCONTO LAKE NAME=BASS L MASTER WATERBODY CODE=417900

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
12/13/81	DECEMBER	288	8	0.036225	0.0278261	8	0.036225	0.0278261
12/13/81	JANUARY	280	4	0.047714	0.0142908	0	0.000000	0.0000000
12/13/81	FEBRUARY	543	0	*	0.0000000	0	*	0.0000000
12/13/81	MARCH	429	4	*	0.0093240	0	*	0.0000000
12/13/81	APRIL	70	0	*	0.0000000	0	*	0.0000000
12/13/81	MAY	3,839	122	0.115196	0.0317758	122	0.115196	0.0317758
12/13/81	JUNE	1,071	23	0.031579	0.0214672	23	0.031579	0.0214672
12/13/81	JULY	1,077	78	0.176406	0.0724100	65	0.154355	0.0603416
12/13/81	AUGUST	645	13	0.082588	0.0201707	13	0.082588	0.0201707
12/13/81	SEPTEMBER	276	9	0.049261	0.0326323	9	0.049261	0.0326323

COUNTY=OCONTO LAKE NAME=BOOT L MASTER WATERBODY CODE=418700

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
12/13/81	DECEMBER	828	41	0.064494	0.049505	27	0.041731	0.0326008
12/13/81	JANUARY	570	13	0.028535	0.022791	10	0.019023	0.0175316
12/13/81	FEBRUARY	3,145	92	0.059018	0.029309	77	0.047668	0.0243694
12/13/81	MARCH	48	4	*	0.083705	0	*	0.0000000
12/13/81	APRIL	0	3	*	*	0	*	*
12/13/81	MAY	2,053	268	0.348195	0.130572	67	0.084926	0.0326431
12/13/81	JUNE	5,314	101	0.100788	0.019008	69	0.058793	0.0129855
12/13/81	JULY	3,711	0	*	0.000000	0	*	0.0000000
12/13/81	AUGUST	2,880	41	0.152931	0.014235	41	0.152931	0.0142346
12/13/81	SEPTEMBER	1,029	24	0.182818	0.023319	16	0.142192	0.0155461

COUNTY=ONEIDA LAKE NAME=BRIDGE L MASTER WATERBODY CODE=1516800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	3,663	666	0.354232	0.181809	303	0.160920	0.082715
05/03/86	JUNE	2,751	131	0.155844	0.047624	89	0.104638	0.032355
05/03/86	JULY	3,123	365	0.278509	0.116888	206	0.155322	0.065970
05/03/86	AUGUST	2,462	287	0.370180	0.116551	128	0.171869	0.051981
05/03/86	SEPTEMBER	980	168	0.359164	0.171417	95	0.201722	0.096932
05/03/86	OCTOBER	450	111	0.318347	0.246515	74	0.212231	0.164343
05/03/86	NOVEMBER	0	0	*	*	0	*	*
05/03/86	DECEMBER	1,049	43	0.073385	0.041006	37	0.065660	0.035284
05/03/86	JANUARY	491	15	0.111874	0.030534	13	0.098449	0.026463
05/03/86	FEBRUARY	826	7	0.028992	0.008474	8	0.036240	0.009685
05/03/86	MARCH	8	0	*	0.000000	0	*	0.000000

COUNTY=ONEIDA LAKE NAME=KAWAGUESAGA L MASTER WATERBODY CODE=1542300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/87	MAY	4,072	258	0.096608	0.0633673	217	0.081871	0.0532973
05/02/87	JUNE	5,557	122	0.144121	0.0219563	78	0.091713	0.0140376
05/02/87	JULY	5,346	134	0.062988	0.0250669	90	0.041992	0.0168360
05/02/87	AUGUST	7,762	375	0.165310	0.0483123	322	0.135254	0.0414842
05/02/87	SEPTEMBER	5,120	230	0.222260	0.0449228	134	0.127968	0.0261724
05/02/87	OCTOBER	1,250	100	0.229984	0.0800256	73	0.155239	0.0584187
05/02/87	NOVEMBER	88	0	*	0.0000000	0	*	0.0000000

COUNTY=ONEIDA LAKE NAME=MINOCQUA L MASTER WATERBODY CODE=1542400

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/87	MAY	5,662	489	0.167774	0.0863652	309	0.103860	0.0545744
05/02/87	JUNE	16,652	282	0.066142	0.0169349	78	0.018898	0.0046841
05/02/87	JULY	9,788	12	0.000000	0.0012260	12	0.000000	0.0012260
05/02/87	AUGUST	9,709	203	0.076372	0.0209084	143	0.057279	0.0147286
05/02/87	SEPTEMBER	9,526	126	0.074968	0.0132270	105	0.063434	0.0110225
05/02/87	OCTOBER	4,047	104	0.170238	0.0256980	71	0.120585	0.0175439
05/02/87	NOVEMBER	220	0	*	0.0000000	0	*	0.0000000

COUNTY=ONEIDA LAKE NAME=SQUIRREL L MASTER WATERBODY CODE=1536300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	10,818	1,683	0.28369	0.155568	1,380	0.231901	0.127560
05/03/86	JUNE	7,268	550	0.25565	0.075679	375	0.152008	0.051600
05/03/86	JULY	8,426	161	0.16890	0.019108	108	0.116121	0.012818
05/03/86	AUGUST	7,628	1,204	0.48061	0.157848	738	0.300767	0.096754
05/03/86	SEPTEMBER	4,822	1,354	0.52996	0.280802	657	0.257588	0.136253
05/03/86	OCTOBER	3,324	1,780	0.80574	0.535483	804	0.372501	0.241870
05/03/86	NOVEMBER	259	257	1.27059	0.994197	83	0.423529	0.321083
05/03/86	DECEMBER	794	48	0.05549	0.060476	43	0.047567	0.054177
05/03/86	JANUARY	1,681	60	0.03791	0.035693	55	0.033985	0.032719
05/03/86	FEBRUARY	1,609	62	0.05009	0.038524	44	0.036004	0.027339
05/03/86	MARCH	52	2	0.04167	0.038462	2	0.041667	0.038462
05/02/87	MAY	10,304	1,360	0.21619	0.131990	879	0.140307	0.085308
05/02/87	JUNE	7,220	108	0.06527	0.014958	85	0.055232	0.011773
05/02/87	JULY	7,532	124	0.05166	0.016463	109	0.043048	0.014472
05/02/87	AUGUST	7,812	1,493	0.40943	0.191109	815	0.221904	0.104323
05/02/87	SEPTEMBER	10,405	1,236	0.39724	0.118786	1,576	0.221074	0.151461
05/02/87	OCTOBER	3,002	1,253	0.66869	0.417375	693	0.373778	0.230838
05/02/87	NOVEMBER	22	6	0.25000	0.271493	6	0.250000	0.271493

COUNTY=ONEIDA LAKE NAME=TOMAHAWK L MASTER WATERBODY CODE=1542700

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/87	MAY	6,388	92	0.025935	0.0144029	76	0.020748	0.0118981
05/02/87	JUNE	16,894	1,042	0.147623	0.0616783	835	0.118099	0.0494255
05/02/87	JULY	15,871	193	0.052135	0.0121605	166	0.045183	0.0104593
05/02/87	AUGUST	11,062	154	0.062381	0.0139222	114	0.041587	0.0103060
05/02/87	SEPTEMBER	6,921	46	0.041723	0.0066464	33	0.031292	0.0047681
05/02/87	OCTOBER	1,552	19	0.041531	0.0122431	11	0.024919	0.0070881
05/02/87	NOVEMBER	152	2	0.106195	0.0131752	2	0.106195	0.0131752

COUNTY=POLK LAKE NAME=BALSAM L MASTER WATERBODY CODE=2620600

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/87	MAY	39,485	2,986	0.158676	0.075623	877	0.050234	0.0222109
05/02/87	JUNE	27,626	2,186	0.294538	0.079130	333	0.046604	0.0120541
05/02/87	JULY	32,175	2,296	0.259036	0.071360	710	0.082747	0.0220670
05/02/87	AUGUST	26,015	1,454	0.238292	0.055891	247	0.055705	0.0094945
05/02/87	SEPTEMBER	20,316	1,671	0.348696	0.082251	364	0.100089	0.0179170
05/02/87	OCTOBER	2,404	288	0.249949	0.119825	90	0.107821	0.0374454

COUNTY=POLK LAKE NAME=BONE L MASTER WATERBODY CODE=2628100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/01/82	MAY	15,354	0	*	0	0	*	0
05/01/82	JUNE	12,100	0	*	0	0	*	0
05/01/82	JULY	10,992	0	*	0	0	*	0
05/01/82	AUGUST	7,802	0	*	0	0	*	0
05/01/82	SEPTEMBER	4,464	0	*	0	0	*	0
05/01/82	OCTOBER	2,114	0	*	0	0	*	0
05/04/85	MAY	8,035	0	*	0	0	*	0
05/04/85	JUNE	9,067	0	*	0	0	*	0
05/04/85	JULY	10,508	0	*	0	0	*	0
05/04/85	AUGUST	6,162	0	*	0	0	*	0
05/04/85	SEPTEMBER	4,198	0	*	0	0	*	0
05/04/85	OCTOBER	2,737	0	*	0	0	*	0

COUNTY=SAWYER LAKE NAME=CONNORS L MASTER WATERBODY CODE=2275100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/07/83	MAY	1,786	*	*	*	211	0.13	0.118141
05/07/83	JUNE	1,937	*	*	*	128	0.11	0.066082
05/07/83	JULY	3,375	*	*	*	235	0.12	0.069630
05/07/83	AUGUST	2,379	*	*	*	131	0.11	0.055065
05/07/83	SEPTEMBER	2,034	*	*	*	534	0.37	0.262537
05/07/83	OCTOBER	965	*	*	*	218	0.29	0.225907

COUNTY=SAWYER LAKE NAME=L OF THE PINES MASTER WATERBODY CODE=2275300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/07/83	MAY	3,299	*	*	*	224	0.08	0.0678994
05/07/83	JUNE	5,717	*	*	*	503	0.16	0.0879832
05/07/83	JULY	5,544	*	*	*	146	0.06	0.0263348
05/07/83	AUGUST	2,958	*	*	*	119	0.13	0.0402299
05/07/83	SEPTEMBER	3,830	*	*	*	98	0.04	0.0255875
05/07/83	OCTOBER	1,469	*	*	*	44	0.05	0.0299523

COUNTY=SAWYER LAKE NAME=ROUND L MASTER WATERBODY CODE=2395600

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/87	MAY	7,288	772	0.145622	0.105929	500	0.094075	0.068607
05/02/87	JUNE	6,188	1,001	0.266081	0.161770	447	0.117954	0.072239
05/02/87	JULY	6,059	662	0.195785	0.109252	331	0.099673	0.054626
05/02/87	AUGUST	6,214	326	0.163887	0.052459	108	0.053578	0.017379
05/02/87	SEPTEMBER	5,339	580	0.196573	0.108633	390	0.128789	0.073046
05/02/87	OCTOBER	3,270	563	0.234733	0.172182	344	0.159776	0.105205
05/02/87	NOVEMBER	228	143	0.935673	0.626369	43	0.350877	0.188349

COUNTY=SAWYER LAKE NAME=SAND L MASTER WATERBODY CODE=2393200

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/81	MAY	3,160	297	0.119759	0.093990	269	0.111459	0.085129
05/02/81	JUNE	4,364	764	0.271729	0.175088	530	0.193894	0.121462
05/02/81	JULY	6,200	772	0.292158	0.124511	646	0.174435	0.104189
05/02/81	AUGUST	5,180	529	0.175068	0.102129	455	0.148694	0.087843
05/02/81	SEPTEMBER	3,280	128	0.100155	0.039105	72	0.058272	0.022075

COUNTY=SAWYER LAKE NAME=SISSABAGAMA L MASTER WATERBODY CODE=2393500

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/80	MAY	7,088	868	0.180962	0.122464	261	0.053926	0.0368238
05/03/80	JUNE	8,149	438	0.126861	0.053746	163	0.039211	0.0200014
05/03/80	JULY	8,073	355	0.163157	0.043973	95	0.038750	0.0117674
05/03/80	AUGUST	6,821	821	0.367807	0.120372	158	0.061579	0.0231654
05/03/80	SEPTEMBER	4,187	1,088	0.824913	0.259825	179	0.160554	0.0427470
05/03/80	OCTOBER	1,827	112	0.268803	0.061287	20	0.016291	0.0109440
05/03/80	NOVEMBER	144	0	*	0.000000	0	*	0.0000000

COUNTY=VILAS LAKE NAME=BIG ARBOR VITAE L MASTER WATERBODY CODE=1545600

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/08/82	MAY	15,195	2,109	0.27178	0.138797	1,477	0.19428	0.097204
05/08/82	JUNE	18,179	1,393	0.27310	0.076629	982	0.19979	0.054020
05/08/82	JULY	20,442	1,436	0.28110	0.070249	1,119	0.20657	0.054741
05/08/82	AUGUST	11,751	350	0.12143	0.029784	291	0.09762	0.024764
05/08/82	SEPTEMBER	6,692	78	0.04766	0.011656	46	0.02780	0.006874
05/08/82	OCTOBER	4,645	90	0.09525	0.019385	68	0.07257	0.014618
12/11/82	DECEMBER	1,987	193	0.15759	0.097122	184	0.15066	0.092593
12/11/82	JANUARY	2,880	85	0.06841	0.029516	77	0.06341	0.026738
12/11/82	FEBRUARY	2,354	151	0.21332	0.064154	103	0.15139	0.043761
12/11/82	MARCH	247	54	1.44387	0.218623	48	1.37168	0.194332

COUNTY=VILAS LAKE NAME=BIG L MASTER WATERBODY CODE=2334700

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/02/81	MAY	4,867	553	0.143429	0.113625	519	0.134695	0.106639
05/02/81	JUNE	5,624	475	0.191958	0.084459	376	0.155312	0.066856
05/02/81	JULY	5,742	97	0.079388	0.016892	92	0.076080	0.016021
05/02/81	AUGUST	3,765	58	0.058600	0.015406	46	0.051275	0.012218
05/02/81	SEPTEMBER	3,982	358	0.232423	0.089916	293	0.194878	0.073590
05/02/81	OCTOBER	1,883	90	0.177326	0.047786	54	0.106396	0.028672
05/02/81	NOVEMBER	229	0	*	0.000000	0	*	0.000000
05/05/84	MAY	6,260	1,330	0.242959	0.212460	1,185	0.212507	0.189297
05/05/84	JUNE	4,892	790	0.317493	0.161482	500	0.198629	0.102204
05/05/84	JULY	6,235	282	0.173393	0.045229	140	0.085320	0.022454
05/05/84	AUGUST	5,055	400	0.317569	0.079134	183	0.140003	0.036204
05/05/84	SEPTEMBER	3,436	962	0.549839	0.279977	482	0.283601	0.140279
05/05/84	OCTOBER	2,043	225	0.400199	0.110159	98	0.178812	0.047980
05/05/84	NOVEMBER	81	9	0.355556	0.111248	2	0.088889	0.024722

COUNTY=VILAS LAKE NAME=ERICKSON L MASTER WATERBODY CODE=983600

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	2,923	250	0.219075	0.085537	210	0.181303	0.071851
05/03/86	JUNE	2,317	150	0.204922	0.064728	131	0.174787	0.056529
05/03/86	JULY	1,575	226	0.294964	0.143474	193	0.251799	0.122524
05/03/86	AUGUST	2,093	122	0.120095	0.058295	96	0.101132	0.045872
05/03/86	SEPTEMBER	654	34	0.105649	0.052012	11	0.035216	0.016827
05/03/86	OCTOBER	160	2	0.085258	0.012492	2	0.085258	0.012492
05/03/86	NOVEMBER	20	0	*	0.000000	0	*	0.000000
05/02/87	MAY	1,217	150	0.201859	0.123254	145	0.191235	0.119145
05/02/87	JUNE	972	119	0.180180	0.122453	103	0.156156	0.105989
05/02/87	JULY	1,230	112	0.248804	0.091042	106	0.229665	0.086165
05/02/87	AUGUST	922	28	0.101010	0.030385	28	0.101010	0.030385
05/02/87	SEPTEMBER	1,081	18	0.037383	0.016645	18	0.037383	0.016645
05/02/87	OCTOBER	345	7	0.036364	0.019231	7	0.036364	0.019231

COUNTY=VILAS LAKE NAME=LITTLE ARBOR VITAE L MASTER WATERBODY CODE=1545300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/80	MAY	11,649	947	0.158302	0.081295	896	0.150580	0.076916
05/03/80	JUNE	5,394	88	0.099801	0.016314	76	0.082444	0.014089
05/03/80	JULY	5,654	101	0.122670	0.017863	91	0.111312	0.016094
05/03/80	AUGUST	4,801	26	0.029412	0.005416	24	0.029412	0.004999
05/03/80	SEPTEMBER	3,244	227	0.165472	0.069983	167	0.127813	0.051486
05/03/80	OCTOBER	2,893	150	0.118826	0.051841	132	0.103448	0.045620
05/03/80	NOVEMBER	192	11	0.163823	0.057438	11	0.163823	0.057438
05/05/84	MAY	7,988	2,211	0.359996	0.276790	1,487	0.241977	0.186154
05/05/84	JUNE	5,091	344	0.192926	0.067576	232	0.123933	0.045574
05/05/84	JULY	3,555	62	0.057586	0.017440	39	0.037556	0.010970
05/05/84	AUGUST	3,173	83	0.109682	0.026157	52	0.064997	0.016388

COUNTY=VILAS LAKE NAME=LITTLE ARBOR VITAE L MASTER WATERBODY CODE=1545300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/05/84	SEPTEMBER	2,016	201	0.274558	0.099707	173	0.237950	0.085818
05/05/84	OCTOBER	2,105	202	0.226485	0.095967	180	0.199405	0.085515
05/03/87	MAY	5,749	923	0.216823	0.160558	640	0.152632	0.111330
05/03/87	JUNE	4,683	50	0.042060	0.010676	18	0.016824	0.003844
05/03/87	JULY	3,994	113	0.106022	0.028295	23	0.031807	0.005759
05/03/87	AUGUST	4,209	337	0.188656	0.080061	78	0.039717	0.018530
05/03/87	SEPTEMBER	3,835	660	0.393431	0.172104	179	0.107299	0.046677
05/03/87	OCTOBER	3,199	603	0.341664	0.188640	374	0.215122	0.116991

COUNTY=VILAS LAKE NAME=LITTLE JOHN L MASTER WATERBODY CODE=2332300

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	2,608	156	0.103521	0.059825	127	0.084262	0.048704
05/03/86	JUNE	4,995	217	0.117559	0.043441	139	0.074248	0.027826
05/03/86	JULY	3,513	155	0.153877	0.044122	146	0.144260	0.041560
05/03/86	AUGUST	3,052	37	0.045742	0.012122	20	0.026138	0.006552
05/03/86	SEPTEMBER	899	37	0.125984	0.041175	21	0.075591	0.023370
05/03/86	OCTOBER	517	12	0.084786	0.023229	12	0.084786	0.023229
05/03/86	NOVEMBER	0	0	*	*	0	*	*
05/03/86	DECEMBER	106	3	0.033803	0.028275	3	0.033803	0.028275
05/03/86	JANUARY	510	179	0.031135	0.350732	179	0.031135	0.350732
05/02/87	MAY	3,632	145	0.097191	0.039927	136	0.091116	0.037449
05/02/87	JUNE	2,512	24	0.033613	0.009553	24	0.033613	0.009553
05/02/87	JULY	2,579	62	0.124675	0.024043	51	0.096970	0.019777
05/02/87	AUGUST	3,444	28	0.000000	0.008131	28	0.000000	0.008131
05/02/87	SEPTEMBER	1,141	48	0.132597	0.042076	26	0.066298	0.022791
05/02/87	OCTOBER	311	13	0.112676	0.042735	0	0.000000	0.000000

COUNTY=VILAS LAKE NAME=STAR L MASTER WATERBODY CODE=1593100

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/86	MAY	3,904	358	0.11789	0.091698	424	0.162251	0.108604
05/03/86	JUNE	4,853	186	0.07263	0.038328	79	0.041764	0.016279
05/03/86	JULY	6,673	106	0.06311	0.015884	97	0.057621	0.014535
05/03/86	AUGUST	6,206	198	0.10828	0.031906	163	0.085487	0.026266
05/03/86	SEPTEMBER	3,692	195	0.10462	0.052815	178	0.095250	0.048211
05/03/86	OCTOBER	907	40	0.09166	0.044092	31	0.074470	0.034171
05/03/86	NOVEMBER	81	6	1.60000	0.074257	3	0.000000	0.037129
05/02/87	MAY	4,808	763	0.23034	0.158691	483	0.150819	0.100455
05/02/87	JUNE	6,540	145	0.05618	0.022171	94	0.035111	0.014373
05/02/87	JULY	6,082	48	0.02812	0.007892	42	0.024999	0.006905
05/02/87	AUGUST	5,306	142	0.14795	0.026764	126	0.131507	0.023748
05/02/87	SEPTEMBER	4,929	71	0.07687	0.014405	47	0.056372	0.009536
05/02/87	OCTOBER	1,098	76	0.14440	0.069210	68	0.101083	0.061925

COUNTY=VILAS LAKE NAME=WABASSO L MASTER WATERBODY CODE=2045000

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/05/84	MAY	335	0	*	0	0	*	0
05/05/84	JUNE	490	0	*	0	0	*	0
05/05/84	JULY	666	0	*	0	0	*	0
05/05/84	AUGUST	439	0	*	0	0	*	0
05/05/84	SEPTEMBER	95	0	*	0	0	*	0

COUNTY=WASHBURN LAKE NAME=BALSAM L MASTER WATERBODY CODE=2112800

SURVEY START DATE	MONTH	TOTAL ANGLER HOURS	NUMBER CAUGHT	NUMBER CAUGHT/ SPECIFIC HOUR	NUMBER CAUGHT/ GENERAL HOUR	NUMBER HARVESTED	NUMBER HARVESTED/ SPECIFIC HOUR	NUMBER HARVESTED/ GENERAL HOUR
05/03/80	MAY	2,881	25	0.0341278	0.00857299	8	0.0113759	0.00288083
05/03/80	JUNE	2,802	21	0.0614439	0.00749400	21	0.0614439	0.00749400
05/03/80	JULY	3,307	0	*	0.00000000	0	*	0.00000000
05/03/80	AUGUST	1,948	7	0.0344531	0.00359402	7	0.0344531	0.00359402
05/03/80	SEPTEMBER	1,620	5	0.0449102	0.00308705	5	0.0449102	0.00308705

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ABOUT THE AUTHOR

Currently, I am the Systems Ecologist for the WDNR Bureau of Fisheries Management. At the time this report was prepared my duties included participation on the WDNR/Department of Justice treaty fishery litigation team. As a witness at trial, I presented the original version of this report as evidence. My previous experience with the WDNR includes 4 years as biometrician with the Bureau of Research. I received a B.S. degree in Ecology from the University of Illinois and an M.S. degree in Fishery Science from Cornell University.

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