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1995 SURVEY OF RECREATIONAL FISHING IN CANADA

Selected Results for the Great Lakes Fishery

Economic and Commercial Analysis

Report No. 155

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Selected Results for the Great Lakes Fishery

October 1998

Statistical Services
Economic and Policy Analysis Directorate
Department of Fisheries and Oceans
Ottawa, Ontario
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ABSTRACT

In May, 1995, the Department of Fisheries and Oceans, in cooperation with all federal, provincial and territorial licensing agencies (except Ontario), undertook the 1995 Survey of Recreational Fishing in Canada.

Information on angling in Canada has been collected at five-year intervals since 1975. Since 1980, the Great Lakes Fishery Commission has requested that information specific to the Great Lakes system be developed in order that they could determine the economic importance of this fishery. This request was made of both the Department of Fisheries and Oceans and the Fish and Wildlife Service of the United States Department of the Interior since national surveys were being conducted by both agencies.

The surveys are no longer carried out in the same year. Canada has maintained the original five-year interval whereas in the U.S., the survey is conducted to coincide with census years.

Data has been generated to reflect activity by both residents of the province and visitors who fished in Ontario and, more specifically, on the Great Lakes.

RÉSUMÉ

En mai, 1995, le ministère des Pêches et des Océans, de concert avec tous les organismes fédéraux, provinciaux (à l'exception de l'Ontario) et territoriaux chargés de délivrer les permis, a réalisé l'Enquête sur la pêche récréative au Canada en 1995.

L'information sur la pêche récréative au Canada est recueillie aux cinq ans depuis la première enquête en 1975. La Commission des pêcheries des Grands Lacs a réclamé depuis 1980 des données particulières aux Grands Lacs afin de pouvoir établir l'importance économique de la pêche qui s'y pratique. Cette demande a été faite au ministère des Pêches et des Océans et au Fish and Wildlife Service du Département de l'Intérieur des États-Unis, les deux organismes chargés des enquêtes nationales.

Les enquêtes des deux pays n'ont plus lieu la même année. Le Canada continue de suivre son plan quinquennal tandis qu'aux États-Unis, l'enquête coïncide avec le recensement.

Les résultats reflètent la pêche récréative pratiquée par les Ontariens et les visiteurs en Ontario, et plus spécifiquement, dans les Grands Lacs.

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1. Data Source

The tables and charts presented in this report have been prepared using data from the Ontario component of the 1995 Survey of Recreational Fishing in Canada, a nationally co-ordinated study conducted at five-year intervals in all provinces and territories. The purpose of the survey is to provide data on a wide variety of topics of interest to fisheries managers at the various levels of government. The results presented in this report reflect data specifically defined for the Great Lakes Fishery.

2. Definition of "Great Lakes Areas"

Anglers were asked to provide the name of the lake, river or stream on which they fished, the nearest town or village, the number of days fished, the number of fish caught and kept by species as well as other attitudinal and socio-economic information regarding their fishing activities. Estimates for Great Lakes waters were produced using the geographic coding used to identify each town, grouped according to their proximity to Great Lakes waters. The areas defined by the grouped codes form a continuous border along the system, generally one township deep (8 to 24 kilometres). This definition was used to facilitate comparison with the broader definition used in the United States survey. Individuals fishing tributaries of the Great Lakes further inland than defined by the geographic coding are not included as participants in the Great Lakes fishery.

A map detailing Great Lakes areas is provided in Appendix 1. Specifically, the areas are defined as follows:

- | | |
|---------------------|---|
| St. Lawrence River: | East of Gananoque to the Ontario-Quebec border. |
| Lake Ontario: | West from Gananoque to the Niagara peninsula, including the Niagara River to the eastern edge of the city of Fort Erie. |
| Lake Erie: | West from Fort Erie to Amherstburg. |
| Lake St. Clair: | North from Amherstburg to the southern edge of Sarnia (including the Detroit and St. Clair rivers). |
| Lake Huron: | From Sarnia north to Sault Ste. Marie including the St. Mary's River. |
| Lake Superior: | From north of Sault Ste. Marie to the Ontario-Wisconsin border. |

3. Estimates of Effort and Numbers of Anglers

All estimates of effort and numbers are for adults (18 years of age and over). Averages for each lake are based on the numbers of participants determined for each, while those for the system as a whole are based on the total number of participants on any of the lakes in the system (see Table 1). Information in tables referring to totals for Ontario is based on the activities of Great Lakes anglers only. This information is presented in order to reflect the relative degree of importance associated with the Great Lakes when compared to all fishing activities of Great Lakes anglers in Ontario.

4. Expenditures

Although expenditures were collected on a household basis, allocation for the Great Lakes system was based on the fishing activity of individuals. The following procedure was used:

- if all days were spent on the Great Lakes system, all expenditures were assigned to the system. Expenditures for each water body within the system were allocated on the basis of the proportion of time spent on each water body.
- if the days spent on the Great Lakes system represented only a subset of all days in Ontario, the portion of the expenditures to be assigned to the system was estimated using the proportion of activity on the system. Estimates by water body within the system were then allocated on the basis of the amount of activity on each as a percentage of all days on the Great Lakes system.

5. Major Purchases and Investments, Package Deals

In the 1985 report on the Great Lakes fishery, no attempt was made to allocate expenditures made on major purchases and investments or package deals insofar as such purchases could not be "attributed" to Great Lakes fishing. This position was reconsidered in 1990 and was maintained for this report. Expenditures for major purchases and investments have been provided using the allocation of expenditure dollars described above. This has been done both for expenditures made in whole or in part for recreational fishing and for the estimated amount directly attributable to recreational fishing. Expenses incurred for package deals have been allocated on the basis of only those packages purchased specifically on each of the Great Lakes.

6. Willingness to Pay

In both 1990 and 1995, anglers were asked how much they were willing to pay per day, over and above their direct expenditures, before deciding it would have been too expensive to fish the same number of days. The question was based on increased costs for services required for fishing (accommodation, gasoline, supplies, etc.), not for licence fees or similar access charges. For respondents indicating a willingness to pay additional costs, options on a daily amount were provided for a specified amount under \$10, \$10 per day, amounts in \$10 increments to \$100 and then, a specified amount more than \$100 per day. Since the question covered the entire fishing experience in Ontario, it is recognized that the allocation per day within the Great Lakes system may not reflect the willingness to pay had the question been specific to the Great Lakes. The estimates are being provided in order to give the reader some indication of the additional amounts over and above expenses incurred in 1995 for Great Lakes fishing that anglers might be prepared to pay.

7. Attitudes

In this report two tables are provided which reflect anglers' behavioural predispositions with respect to the choice of a place to fish and the reasons why they fish where they do. Anglers were asked to rate options on a scale of 1 (not important) to 5 (extremely important). As with willingness to pay, these questions were general and did not ask for attitudes with respect to Great Lakes fishing. They are presented solely as indicators of the attitudes of anglers who fished on the Great Lakes.

8. Data Processing and Data Availability

Standard coding and editing procedures used in the 1995 Survey of Recreational Fishing in Canada were used to prepare the data in this report. Data was analysed using SPSS/PC Version 8.0. System files and raw data files can be generated for analysis.

9. Reliability

Because the information provided in this report is a subset of a larger survey, the reliability of the data should be considered when making statements with respect to the data. It should be noted that all data are presented without rounding to the nearest hundred or thousand. This is not intended to reflect the degree of reliability of the data but was done in this way to facilitate production of tables to reflect data generated from the system. A table indicating the reliability of key variables (as coefficients of variation) is provided in Appendix 3. The sampling methodology had to be modified in 1995. Anglers were chosen from the "Outdoors Card" database instead of the usual telephone interview method. **This no longer permits comparisons with previous reports.**

10. Contact - Further Information

Additional information or clarification of the results presented in this report may be obtained by contacting the individuals identified below. Copies of the data can be provided. Detailed information on your requirements should be made, in writing, to the Department of Fisheries and Oceans.

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HIGHLIGHTS

- an estimated 552,710 anglers fished on the Great Lakes in 1995; 485,096 residents of Ontario and 67,614 visitors to Ontario, primarily from the United States
- Great Lake anglers were primarily male (85%), between 35 and 44 years of age (26.8%), with a college education (36.9%), employed full-time (70.1%) and with personal income between \$20,000-49,999 (51.8%) and household incomes between \$40,000-59,999 (30.9 %)
- Great Lake anglers fished for over 7 million days, with residents averaging 12.0 days and non-residents 7.1 days
- most days were spent fishing on Lake Huron (2.6 million) followed by Lake Ontario (2.1 million)
- Great Lakes anglers caught a total of 47.3 million fish of all species of which 32.6 million were in the Great Lakes System
- of all fish retained on the Great Lakes, perch ranked first in terms of numbers at 13.5 million, followed in order by smelt (7.7 million), walleye (5.3 million) and smallmouth bass (5.2 million)
- on average anglers retained 22 fish each from the Great Lakes of which 62% were smelt and perch. This amounts to 41% of all fish caught
- Great Lakes anglers kept over 50% of only three species: smelt (77%), splake (72%) and Coho salmon (65%)
- Great Lakes anglers spent an estimated \$284 million on durable goods used in whole or in part for recreational fishing, allocated on the basis of their Great Lakes fishing activity
- of this amount, they attributed \$142 million (50%) wholly to their recreational fishing activities
- Great Lakes anglers spent \$220 million on goods and services directly related to their fishing activities, averaging almost \$397 per angler
- these anglers further indicated they were willing to pay an additional \$131 million, had costs been higher for service-related expenses, before they would have stopped fishing
- these additional costs averaged \$238 per year, or \$19 per day

TABLES AND FIGURES

TABLE 1
Summary of Participation in the Great Lakes Fishery
All Anglers

	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System ¹
Residents							
Number of anglers	178,118	90,691	28,691	197,488	31,912	18,702	485,096
Male	153,954	71,822	22,814	172,464	26,178	13,680	404,748
Days of effort	1,719,910	686,485	511,183	2,107,903	283,437	234,293	5,543,211
Female	23,745	18,596	5,877	24,058	5,461	5,022	78,417
Days of effort	256,283	178,630	104,604	276,769	48,331	134,074	998,691
Unknown	420	273	0	966	273	0	1,931
Days of effort	420	4,096	0	11,971	1,638	0	18,125
Days of effort - total	1,976,612	869,211	615,787	2,396,643	333,407	368,366	6,560,025
% effort	30.1	13.3	9.4	36.5	5.1	5.6	100.0
Nonresidents							
Number of anglers	20,191	4,890	1,553	21,427	9,942	12,108	67,614
Male	18,466	4,604	1,553	17,578	9,457	11,151	60,455
Days of effort	120,632	33,789	15,981	132,679	39,372	106,465	448,918
Female	1,582	286	0	3,849	485	957	7,016
Days of effort	8,304	1,144	0	29,624	2,110	10,014	51,196
Unknown	143	0	0	0	0	0	143
Days of effort	858	0	0	0	0	0	858
Days of effort - total	129,794	34,933	15,981	162,303	41,483	116,479	500,972
% effort	25.9	7.0	3.2	32.4	8.3	23.3	100.0
All anglers							
Number of anglers	198,309	95,581	30,243	218,914	41,854	30,810	552,710
Male	172,420	76,426	24,367	190,042	35,635	24,831	465,203
Days of effort	1,840,542	720,273	527,164	2,240,582	322,810	340,757	5,992,128
Female	25,327	18,882	5,877	27,907	5,946	5,979	85,433
Days of effort	264,587	179,774	104,604	306,393	50,441	144,088	1,049,887
Unknown	563	273	0	966	273	0	2,074
Days of effort	1,278	4,096	0	11,971	1,638	0	18,983
Days of effort - total	2,106,406	904,143	631,768	2,558,946	374,889	484,845	7,060,998
% effort	29.8	12.8	8.9	36.2	5.3	6.9	100.0

¹ Refer to Estimate of Effort and Number of Anglers, Subject #3, page vi

FIGURE 1

NUMBER OF ANGLERS WHO FISHED
IN THE GREAT LAKES AREAS

RESIDENT ANGLERS

NONRESIDENT ANGLERS

ALL ANGLERS

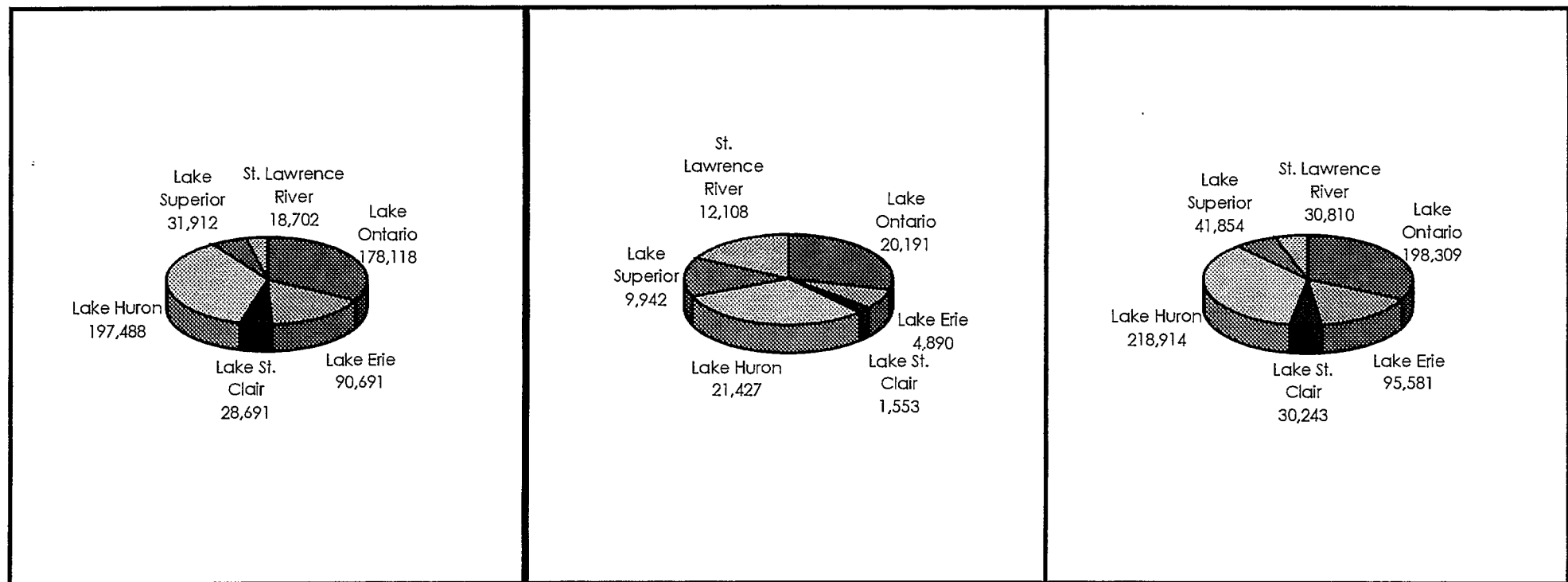


FIGURE 2.

DISTRIBUTION OF EFFORT OF ANGLERS WHO FISHED IN THE GREAT LAKES AREAS

RESIDENT ANGLERS

NONRESIDENT ANGLERS

ALL ANGLERS

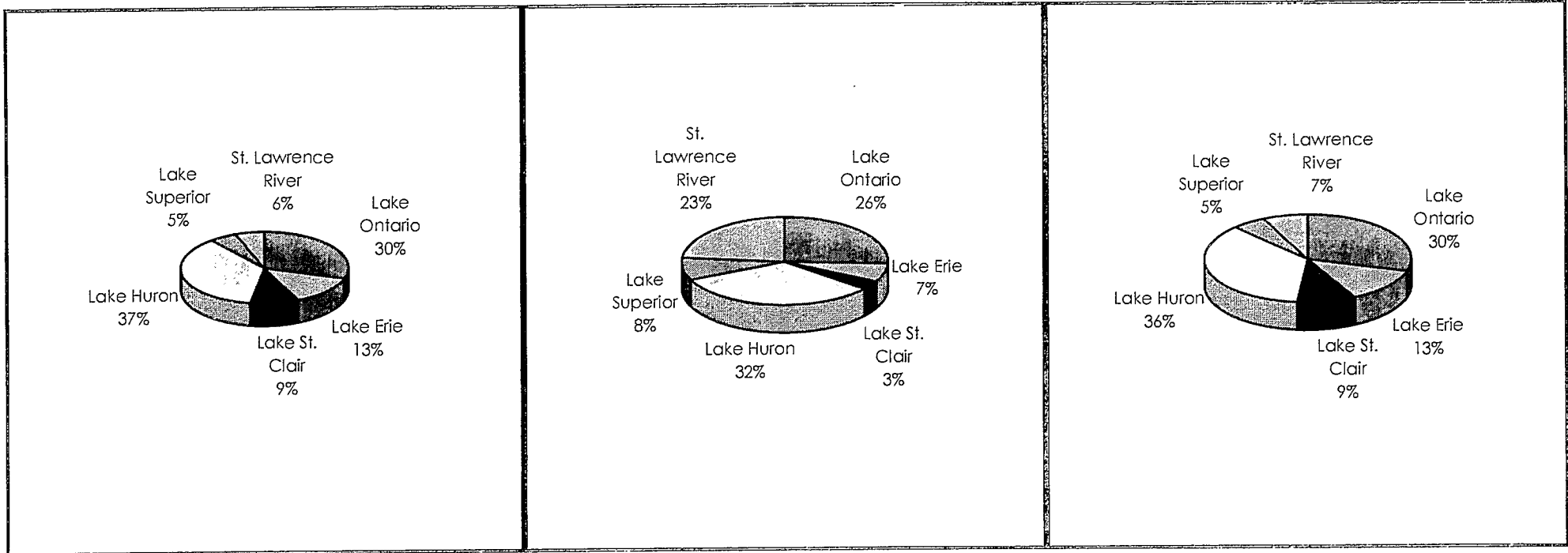


TABLE 2
Number of Fish Caught by Species in the Great Lakes Fishery
Resident Anglers

Species	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Caught	Percent in Great Lakes
Walleye	927,357	508,091	169,238	360,280	360,621	73,224	2,398,811	4,429,423	54.2
Pike	238,798	210,751	55,682	681,601	142,326	120,892	1,450,049	2,463,110	58.9
Perch	1,246,001	1,206,018	3,999,612	1,660,681	81,144	1,789,077	9,982,534	12,413,441	80.4
Brook trout	129,987	5,429	676	83,001	69,224	0	288,317	626,504	46.0
Lake trout	151,251	41,261	0	244,805	67,413	3,533	508,263	802,154	63.4
Rainbow trout	251,853	89,044	4,638	267,873	41,793	55	655,255	1,028,676	63.7
Brown trout	99,199	94,701	218	25,660	0	0	219,778	310,348	70.8
Splake	16,011	427	0	56,119	7,253	0	79,810	186,240	42.9
Maskinonge	20,764	1,364	2,300	28,634	0	1,236	54,298	168,396	32.2
Smallmouth bass	625,634	414,311	234,233	1,224,880	96,364	116,482	2,711,904	4,481,037	60.5
Largemouth bass	425,836	152,153	229,971	442,407	7,312	32,306	1,289,985	2,333,844	55.3
Whitefish	39,350	31,640	84	52,377	12,645	1,966	138,063	207,255	66.6
Chinook salmon	187,189	23,298	13,712	204,374	7,326	888	436,789	668,522	65.3
Coho salmon	44,929	6,689	4,701	17,250	8,666	317	82,551	131,900	62.6
Smelt	1,363,037	36,905	1,175,324	3,550,504	40,708	0	6,166,478	7,627,111	80.8
Panfish	539,507	398,758	200,980	386,542	34,247	36,351	1,596,384	3,123,156	51.1
Other fish	391,904	173,934	57,946	276,249	7,354	92,512	999,899	1,698,941	58.9
Total fish	6,698,606	3,394,775	6,149,315	9,563,236	984,398	2,268,839	29,059,169	42,700,058	68.1

FIGURE 3

DISTRIBUTION OF FISH CAUGHT BY SPECIES BY
RESIDENT ANGLERS IN THE GREAT LAKES AREA

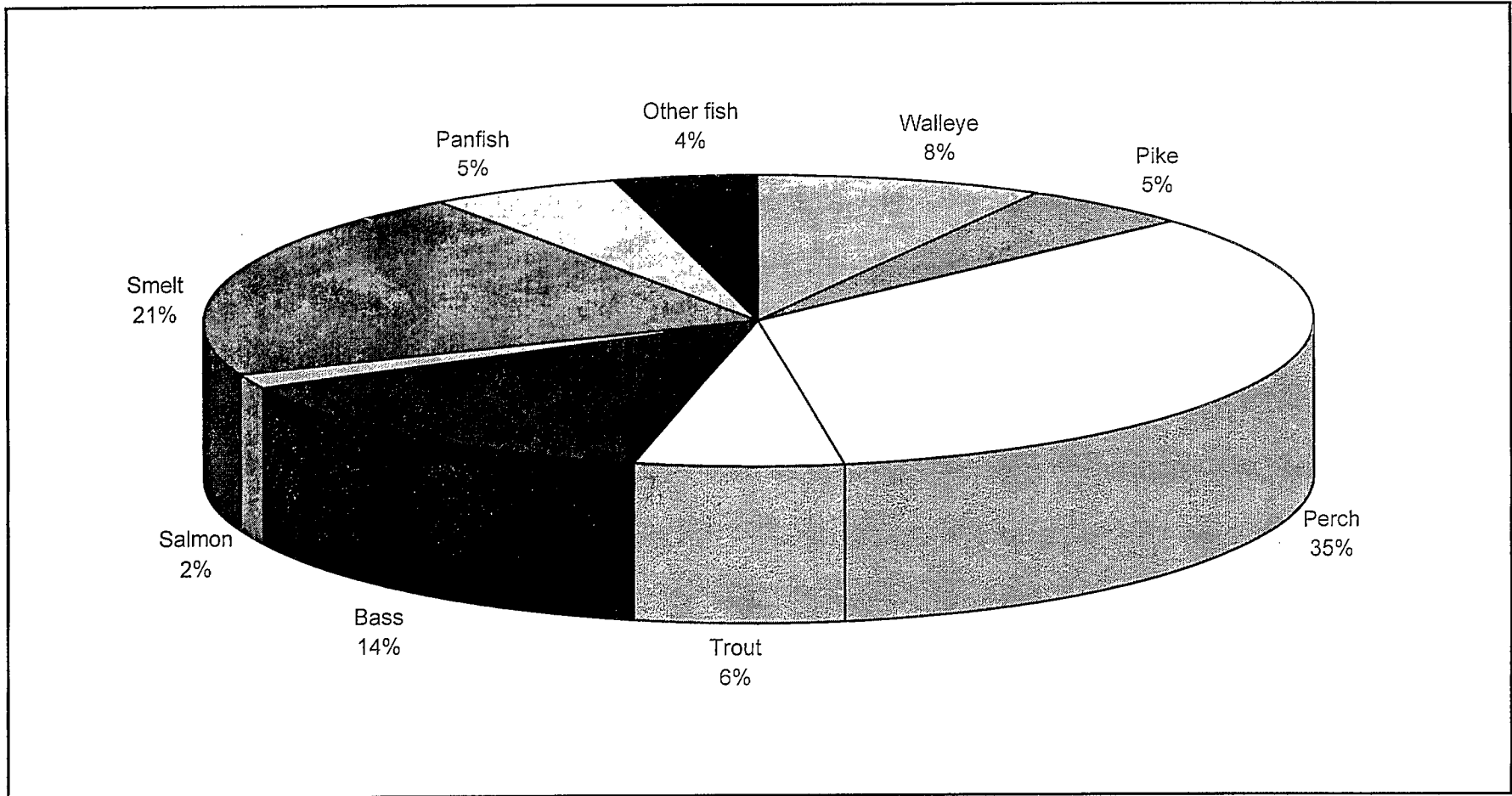


TABLE 3
Number of Fish Caught by Species in the Great Lakes Fishery
Nonresident Anglers

Species	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Caught	Percent in Great Lakes
Walleye	163,427	109,142	37,766	69,197	174,523	12,739	566,793	898,429	63.1
Pike	100,361	47,648	12,294	117,492	70,080	205,952	553,827	754,174	73.4
Perch	233,619	21,396	116,041	195,628	77,472	314,293	958,450	1,129,482	84.9
Brook trout	0	100	0	4,150	19,212	358	23,820	24,471	97.3
Lake trout	10,582	1,914	57	10,623	6,205	7,117	36,498	44,053	82.8
Rainbow trout	12,668	3,071	743	7,679	6,842	0	31,003	36,212	85.6
Brown trout	3,138	2,712	0	1,427	49	0	7,326	8,639	84.8
Splake	0	0	0	3,003	0	0	3,003	3,003	100.0
Maskinonge	3,303	833	262	8,702	187	2,009	15,296	17,664	86.6
Smallmouth bass	155,508	57,280	13,367	161,703	3,229	199,912	590,999	688,965	85.8
Largemouth bass	51,608	13,283	150	30,628	1,153	67,141	163,964	200,144	81.9
Whitefish	1,243	939	1,337	5,230	637	734	10,119	13,460	75.2
Chinook salmon	11,466	2,499	0	12,154	0	0	26,118	31,944	81.8
Coho salmon	1,445	60	0	956	0	0	2,460	3,533	69.6
Smelt	2,842	0	7,106	19,265	0	0	29,213	55,242	52.9
Panfish	149,177	13,786	25,625	93,882	265	143,286	426,020	639,928	66.6
Other fish	27,174	10,562	0	19,073	0	4,671	61,480	82,886	74.2
Total fish	927,560	285,224	214,748	760,790	359,855	958,212	3,506,389	4,632,229	75.7

FIGURE 4

DISTRIBUTION OF FISH CAUGHT BY SPECIES BY
NONRESIDENT ANGLERS IN THE GREAT LAKES AREA

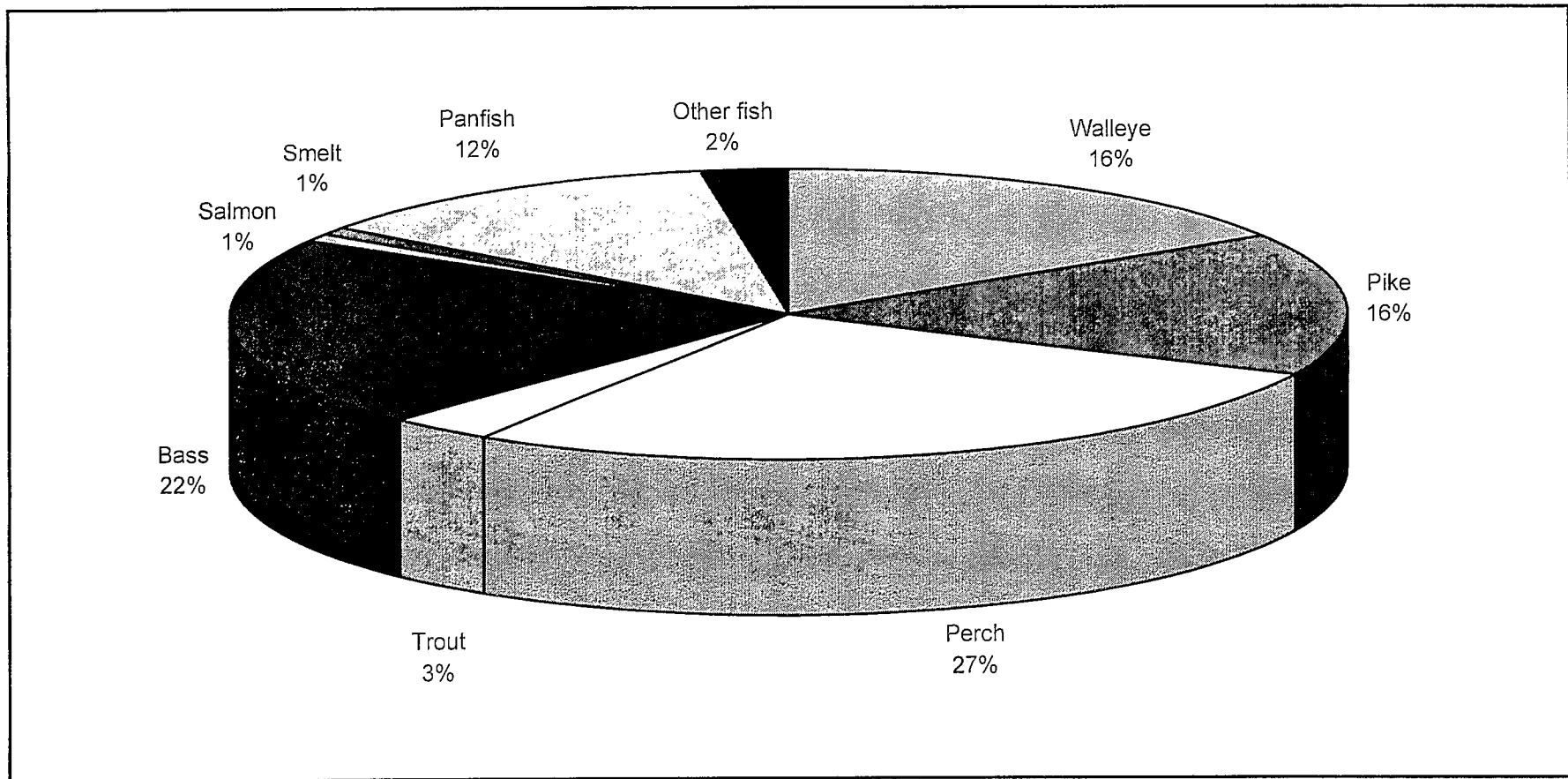


TABLE 4
Number of Fish Caught by Species in the Great Lakes Fishery
All Anglers

Species	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Caught	Percent in Great Lakes
Walleye	1,090,784	617,233	207,003	429,477	535,144	85,963	2,965,605	5,327,851	55.7
Pike	339,159	258,398	67,975	799,093	212,406	326,844	2,003,876	3,217,284	62.3
Perch	1,479,620	1,227,415	4,115,653	1,856,309	158,617	2,103,371	10,940,984	13,542,923	80.8
Brook trout	129,987	5,529	676	87,151	88,436	358	312,137	650,975	47.9
Lake trout	161,833	43,176	57	255,427	73,617	10,650	544,760	846,207	64.4
Rainbow trout	264,520	92,115	5,382	275,552	48,635	55	686,258	1,064,887	64.4
Brown trout	102,337	97,414	218	27,086	49	0	227,104	318,987	71.2
Splake	16,011	427	0	59,122	7,253	0	82,813	186,240	44.5
Maskinonge	24,067	2,197	2,562	37,335	187	3,245	69,594	186,060	37.4
Smallmouth bass	781,142	471,591	247,600	1,386,583	99,593	316,394	3,302,903	5,170,003	63.9
Largemouth bass	477,444	165,436	230,121	473,036	8,465	99,448	1,453,949	2,533,989	57.4
Whitefish	40,593	32,578	1,421	57,607	13,283	2,700	148,182	220,715	67.1
Chinook salmon	198,655	25,797	13,712	216,528	7,326	888	462,906	700,466	66.1
Coho salmon	46,374	6,749	4,701	18,206	8,666	317	85,012	135,433	62.8
Smelt	1,365,879	36,905	1,182,430	3,569,768	40,708	0	6,195,691	7,682,353	80.6
Panfish	688,683	412,543	226,605	480,424	34,513	179,636	2,022,405	3,763,084	53.7
Other fish	419,078	184,496	57,946	295,322	7,354	97,183	1,061,379	1,781,828	59.6
Total fish	7,626,165	3,679,999	6,364,064	10,324,026	1,344,253	3,227,051	32,565,559	47,332,287	68.8

FIGURE 5

DISTRIBUTION OF FISH CAUGHT BY SPECIES BY
ALL ANGLERS IN THE GREAT LAKES AREA

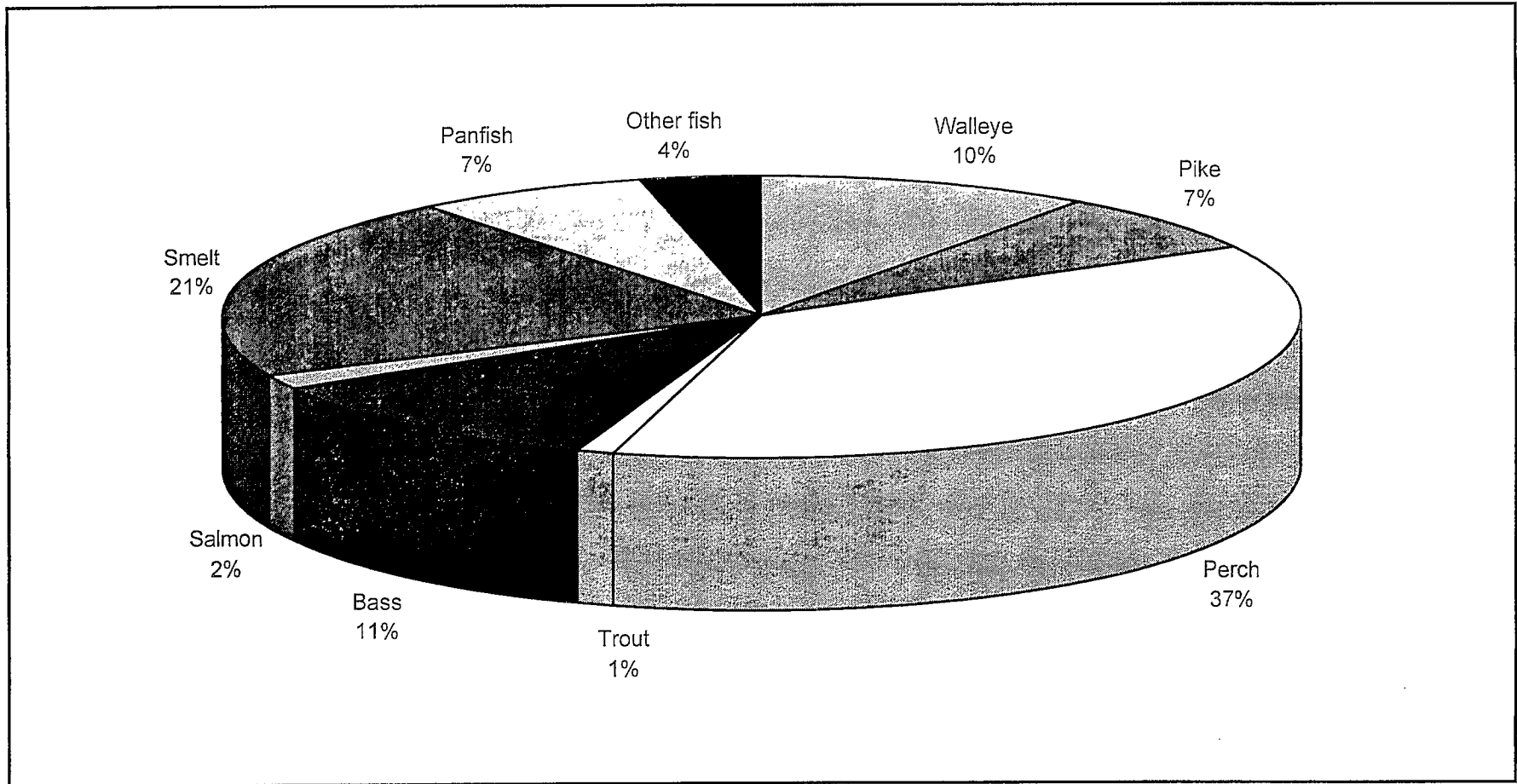


TABLE 5
Number of Fish Kept by Species in the Great Lakes Fishery
Resident Anglers

Species	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Kept	Percent in Great Lakes
Walleye	401,944	288,272	138,438	177,239	172,434	30,971	1,209,298	2,057,092	58.8
Pike	38,122	26,164	13,488	115,188	18,866	10,095	221,922	387,622	57.3
Perch	209,687	543,666	1,352,587	509,841	22,659	1,475,823	4,114,263	4,967,318	82.8
Brook trout	31,778	140	21	51,628	26,620	0	110,186	228,126	48.3
Lake trout	54,245	6,021	0	114,883	26,531	1,375	203,055	342,301	59.3
Rainbow trout	54,740	40,803	3,056	160,189	7,720	0	266,509	393,737	67.7
Brown trout	10,515	39,965	0	13,150	0	0	63,630	79,609	79.9
Splake	9,840	0	0	41,378	5,836	0	57,054	111,700	51.1
Maskinonge	450	0	0	24,331	0	396	25,177	119,598	21.1
Smallmouth bass	114,426	93,626	57,582	273,005	24,786	26,120	589,547	899,789	65.5
Largemouth bass	79,324	48,008	14,616	64,284	3,473	11,170	220,875	388,182	56.9
Whitefish	20,215	1,175	84	28,219	8,685	874	59,252	103,625	57.2
Chinook salmon	38,246	12,027	2,742	104,439	5,180	255	162,890	244,960	66.5
Coho salmon	32,066	4,302	1,175	11,593	5,313	0	54,449	87,178	62.5
Smelt	152,820	36,905	1,175,324	3,374,500	13,403	0	4,752,953	5,871,849	80.9
Panfish	53,921	105,469	30,161	103,905	397	12,643	306,497	532,262	57.6
Other fish	54,593	22,722	63	29,374	1,447	40,385	148,584	209,739	70.8
Total fish	1,356,934	1,269,266	2,789,338	5,197,146	343,350	1,610,106	12,566,139	17,024,687	73.8

FIGURE 6

NUMBER OF FISH KEPT BY SPECIES BY
RESIDENT ANGLERS IN THE GREAT LAKES AREA

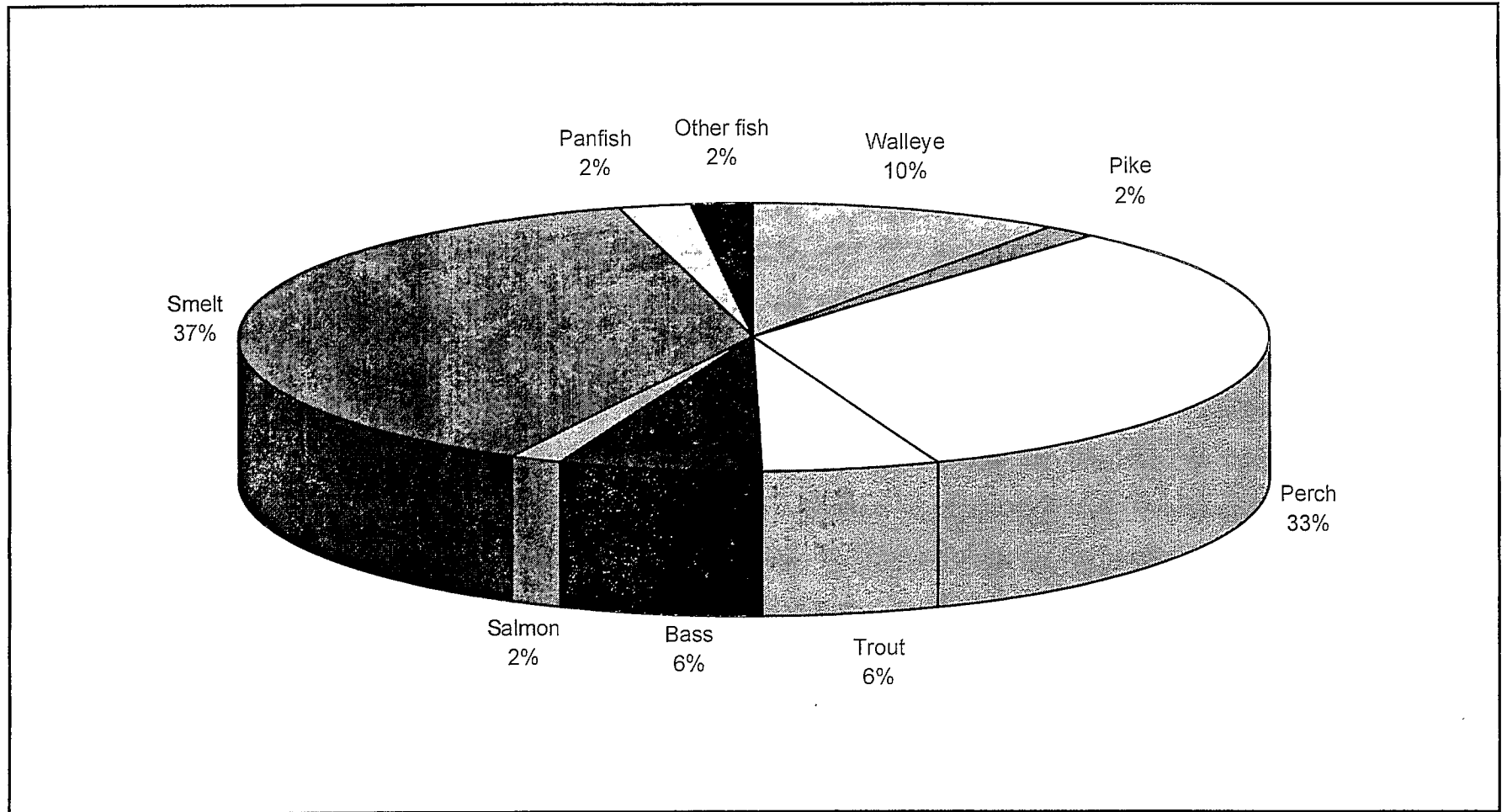


TABLE 6
Number of Fish Kept by Species in the Great Lakes Fishery
Nonresident Anglers

Species	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Kept	Percent in Great Lakes
Walleye	59,588	18,050	15,535	25,904	35,207	3,917	158,200	212,472	74.5
Pike	8,527	2,055	2,126	23,896	8,466	23,652	68,722	82,297	83.5
Perch	112,078	12,553	89,420	98,453	56,306	90,642	459,452	535,885	85.7
Brook trout	0	0	0	3,071	16,922	358	20,351	20,662	98.5
Lake trout	1,683	603	0	8,541	1,903	37	12,766	15,502	82.4
Rainbow trout	1,805	179	743	3,113	863	0	6,704	7,860	85.3
Brown trout	269	0	0	1,205	0	0	1,475	1,505	98.0
Splake	0	0	0	2,574	0	0	2,574	2,574	100.0
Maskinonge	0	0	0	6,864	0	0	6,864	6,864	100.0
Smallmouth bass	23,037	2,624	10,276	37,498	381	63,435	137,252	151,837	90.4
Largemouth bass	4,243	0	0	5,837	998	3,568	14,646	19,578	74.8
Whitefish	0	10	870	5,187	77	0	6,143	6,706	91.6
Chinook salmon	1,934	2,499	0	4,646	0	0	9,078	9,540	95.2
Coho salmon	1,198	0	0	0	0	0	1,198	1,198	100.0
Smelt	2,842	0	7,106	19,265	0	0	29,213	55,242	52.9
Panfish	32,004	7,342	14,165	21,496	0	9,613	84,620	221,337	38.2
Other fish	1,200	2,246	0	1,249	0	1,326	6,021	6,236	96.5
Total fish	250,407	48,160	140,241	268,799	121,123	196,549	1,025,279	1,357,296	75.5

FIGURE 7

DISTRIBUTION OF FISH KEPT BY SPECIES BY
NONRESIDENT ANGLERS IN THE GREAT LAKES AREAS

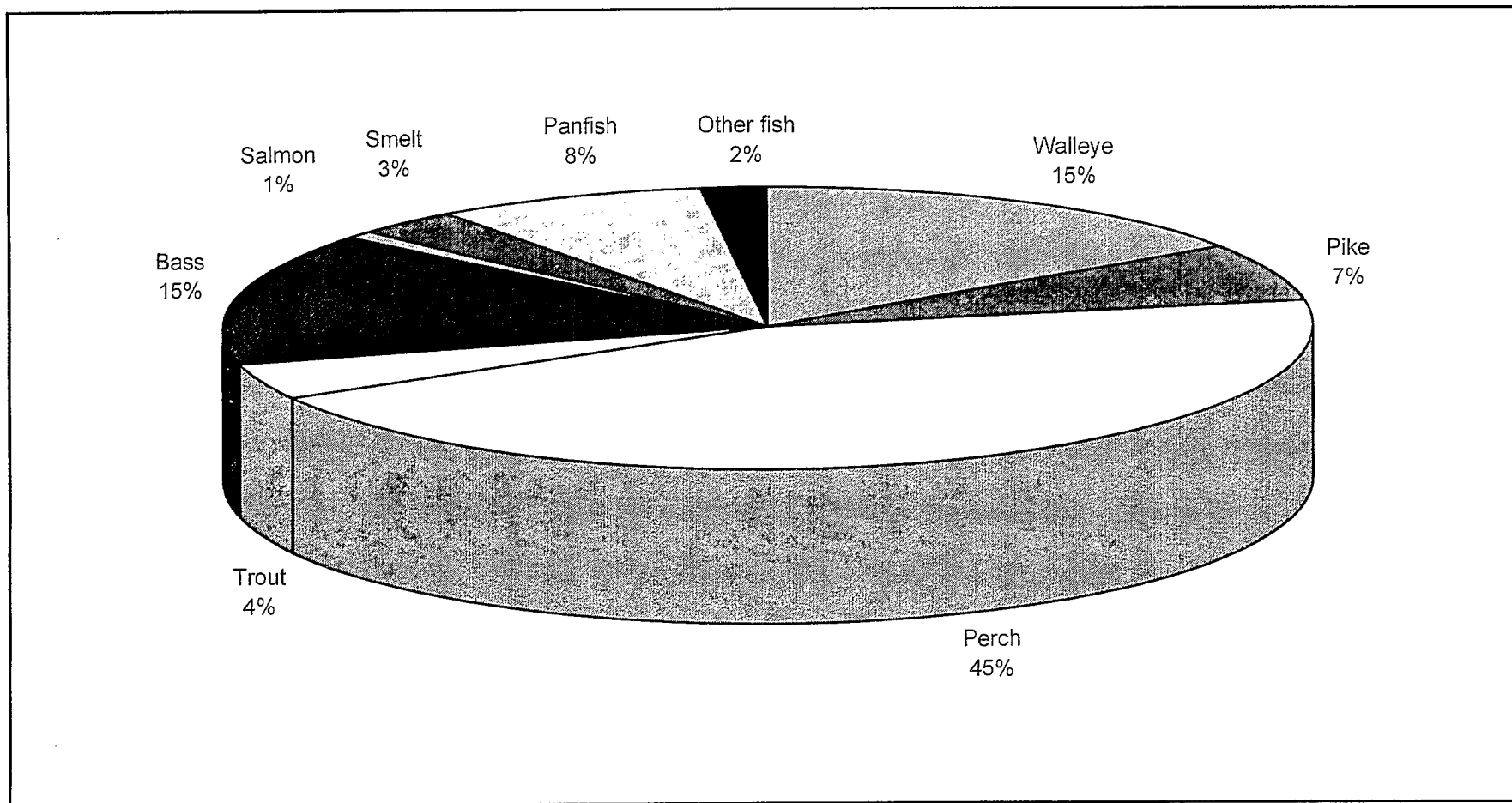


TABLE 7
Number of Fish Kept by Species in the Great Lakes Fishery
All Anglers

Species	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Fish Kept	Percent in Great Lakes
Walleye	461,531	306,322	153,973	203,143	207,641	34,888	1,367,499	2,269,564	60.3
Pike	46,649	28,219	15,614	139,084	27,331	33,746	290,644	469,920	61.8
Perch	321,765	556,219	1,442,007	608,294	78,965	1,566,465	4,573,714	5,503,202	83.1
Brook trout	31,778	140	21	54,699	43,542	358	130,538	248,787	52.5
Lake trout	55,928	6,623	0	123,423	28,434	1,412	215,822	357,804	60.3
Rainbow trout	56,545	40,983	3,799	163,302	8,583	0	273,212	401,597	68.0
Brown trout	10,785	39,965	0	14,355	0	0	65,104	81,114	80.3
Splake	9,840	0	0	43,952	5,836	0	59,628	114,274	52.2
Maskinonge	450	0	0	31,195	0	396	32,041	126,463	25.3
Smallmouth bass	137,463	96,250	67,859	310,503	25,167	89,556	726,799	1,051,626	69.1
Largemouth bass	83,567	48,008	14,616	70,121	4,471	14,738	235,521	407,761	57.8
Whitefish	20,215	1,185	954	33,406	8,762	874	65,395	110,331	59.3
Chinook salmon	40,179	14,526	2,742	109,084	5,180	255	171,968	254,500	67.6
Coho salmon	33,264	4,302	1,175	11,593	5,313	0	55,647	88,376	63.0
Smelt	155,663	36,905	1,182,430	3,393,765	13,403	0	4,782,165	5,927,091	80.7
Panfish	85,925	112,811	44,326	125,401	397	22,256	391,116	753,599	51.9
Other fish	55,793	24,968	63	30,624	1,447	41,711	154,605	215,975	71.6
Total fish	1,607,341	1,317,426	2,929,579	5,465,945	464,473	1,806,655	13,591,418	18,381,983	73.9

FIGURE 8

DISTRIBUTION OF FISH KEPT BY SPECIES BY
ALL ANGLERS IN THE GREAT LAKES AREA

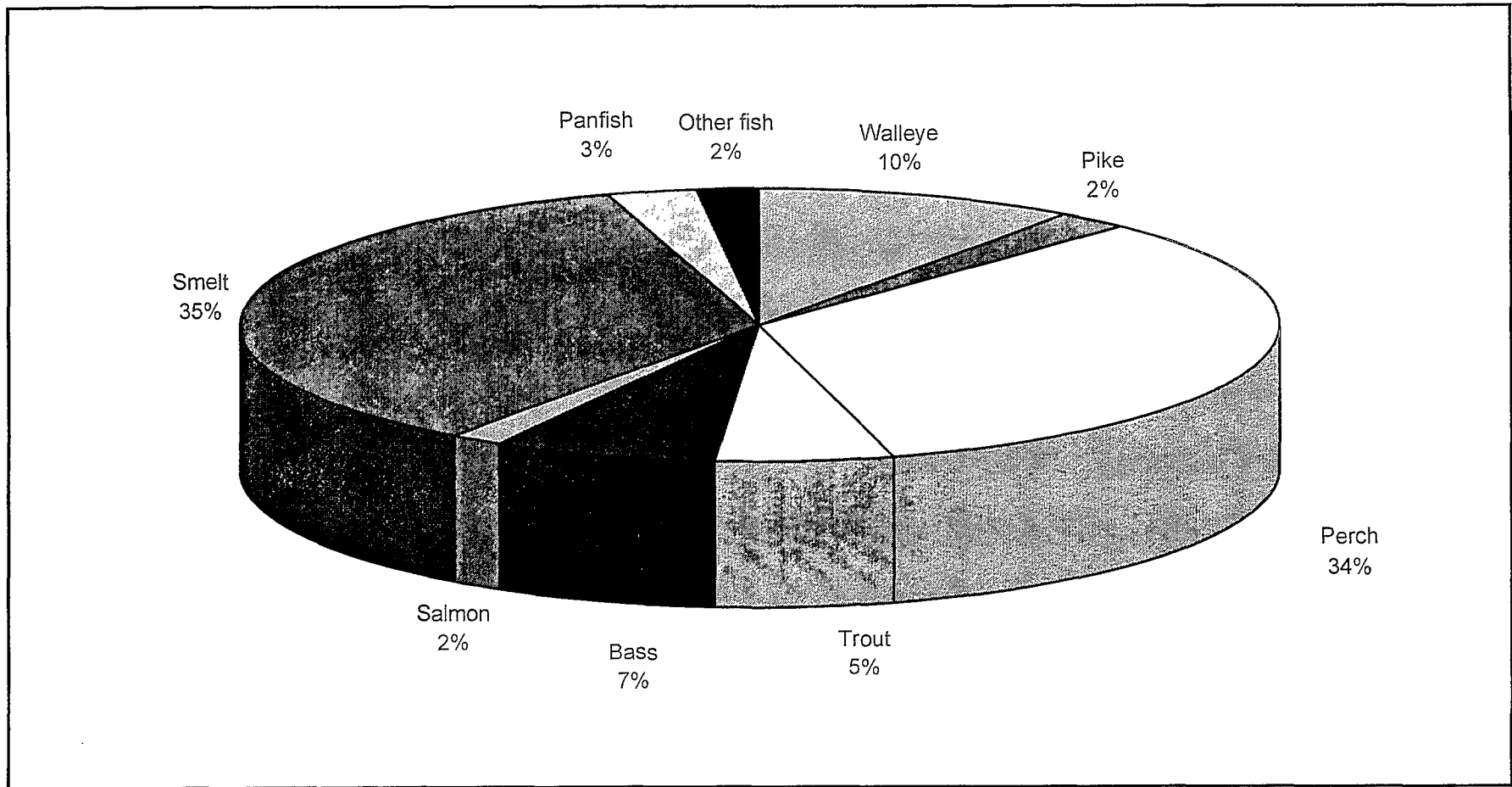


TABLE 8
Investment Expenses Allocated to the Great Lakes Fishing Activities
Resident Anglers

Investment Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
All Investment Expenses									
Fishing equipment	7,529,957	3,069,169	1,493,402	7,645,535	1,042,020	1,528,033	22,308,115	39,119,517	57.0%
Boating equipment	28,332,534	15,262,732	3,415,492	44,683,406	2,128,476	6,697,535	100,520,176	175,187,912	57.4%
Camping equipment	12,330,607	2,176,038	501,086	5,786,592	543,663	578,456	21,916,442	40,009,939	54.8%
Vehicles purchased	24,281,921	0	11,753,242	18,874,670	13,749,311	205,894	68,865,038	120,338,176	57.2%
Land and buildings	2,174,242	0	0	18,224,860	3,563,662	32,454,248	56,417,011	61,478,017	91.8%
Other investments	2,586,961	1,412,730	237,338	2,609,646	491,232	401,576	7,739,484	14,515,340	53.3%
Total expenditures	77,236,221	21,920,669	17,400,561	97,824,709	21,518,365	41,865,742	277,766,266	450,648,901	61.6%
Average per angler	\$433.62	\$241.71	\$606.48	\$495.35	\$674.30	\$2,238.57	\$572.60	\$928.99	
Attributable to Recreational Fishing									
Fishing equipment	7,529,957	3,069,169	1,493,402	7,645,535	1,042,020	1,528,033	22,308,115	39,119,517	57.0%
Boating equipment	23,434,818	8,697,430	2,533,999	23,250,305	1,399,757	5,134,768	64,451,077	128,922,551	50.0%
Camping equipment	5,113,330	829,775	264,527	2,155,647	378,239	292,710	9,034,227	16,136,088	56.0%
Vehicles purchased	7,906,578	0	1,175,324	9,190,029	4,284,349	83,613	22,639,893	44,857,204	50.5%
Land & buildings	561,285	0	0	8,980,989	484,266	2,555,082	12,581,622	14,302,144	88.0%
Other investments	2,148,664	760,951	237,030	2,173,795	397,734	335,173	6,053,347	11,722,678	51.6%
Total attributable	46,694,632	13,357,325	5,704,281	53,396,300	7,986,364	9,929,379	137,068,281	255,060,182	53.7%
Average per angler	\$262.16	\$147.28	\$198.82	\$270.38	\$250.26	\$530.93	\$282.56	\$525.79	
Percent attributed to recreational fishing	60.5%	60.9%	32.8%	54.6%	37.1%	23.7%	49.3%	56.6%	

FIGURE 9

INVESTMENT EXPENSES ALLOCATED TO
GREAT LAKES AREAS FISHING ACTIVITIES
BY RESIDENT ANGLERS

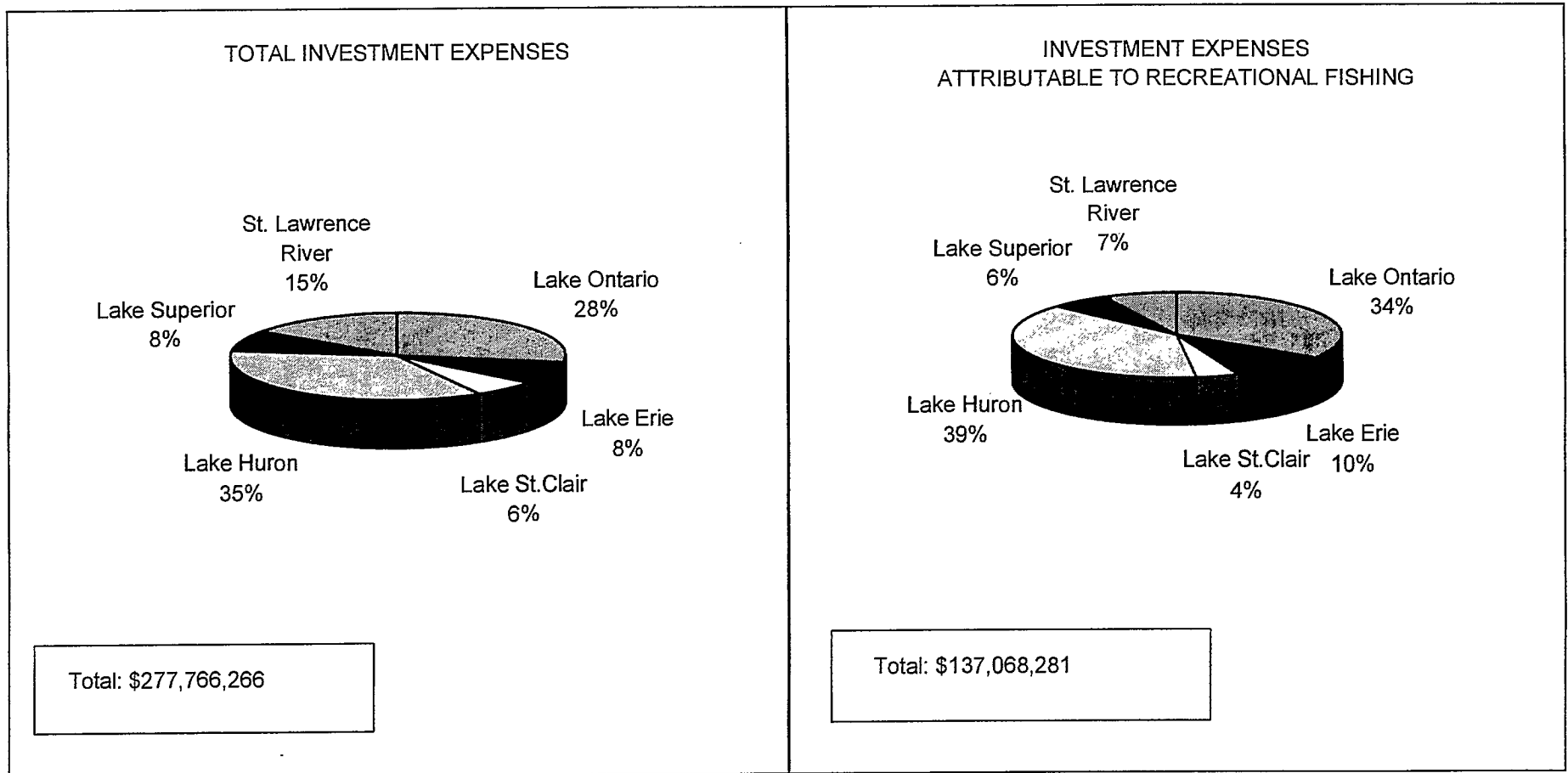


TABLE 9
Investment Expenses Allocated to the Great Lakes Fishing Activities
Nonresident Anglers

Investment Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
All Investment Expenses									
Fishing equipment	78,702	10,780	9,562	91,095	31,438	62,273	283,850	403,250	70.4%
Boating equipment	433,036	119,771	4,737	458,168	0	2,738,659	3,754,371	3,810,513	98.5%
Camping equipment	37,897	8,218	95,970	14,264	0	0	156,348	165,259	94.6%
Vehicles purchased	0	0	0	0	0	0	0	0	
Land and buildings	55,112	0	143,877	799,471	32,101	590,997	1,621,559	7,334,879	22.1%
Other investments	23,159	11,570	29,419	164,189	681	12,488	241,506	303,195	79.7%
Total expenditures	627,906	150,338	283,566	1,527,187	64,221	3,404,416	6,057,634	12,017,096	50.4%
Average per angler	\$31.10	\$30.74	\$182.59	\$71.27	\$6.46	\$281.17	\$89.59	\$177.73	
Attributable to Recreational Fishing									
Fishing equipment	78,702	10,780	9,562	91,095	31,438	62,273	283,850	403,250	70.4%
Boating equipment	433,036	119,771	4,737	393,814	0	2,734,916	3,686,274	3,731,188	98.8%
Camping equipment	37,897	8,218	95,970	14,264	0	0	156,348	165,259	94.6%
Vehicles purchased	0	0	0	0	0	0	0	0	
Land & buildings	36,164	0	96,507	414,690	32,101	381,082	960,544	3,875,694	24.8%
Other investments	21,708	9,705	29,419	107,375	681	2,158	171,046	216,406	79.0%
Total attributable	607,507	148,473	236,195	1,021,239	64,221	3,180,428	5,258,063	8,391,796	62.7%
Average per angler	\$30.09	\$30.36	\$152.09	\$47.66	\$6.46	\$262.67	\$77.77	\$124.11	
Percent attributed to recreational fishing	96.8%	98.8%	83.3%	66.9%	100.0%	93.4%	86.8%	69.8%	

FIGURE 10

INVESTMENT EXPENSES ALLOCATED TO
GREAT LAKES FISHING ACTIVITIES
BY NONRESIDENT ANGLERS

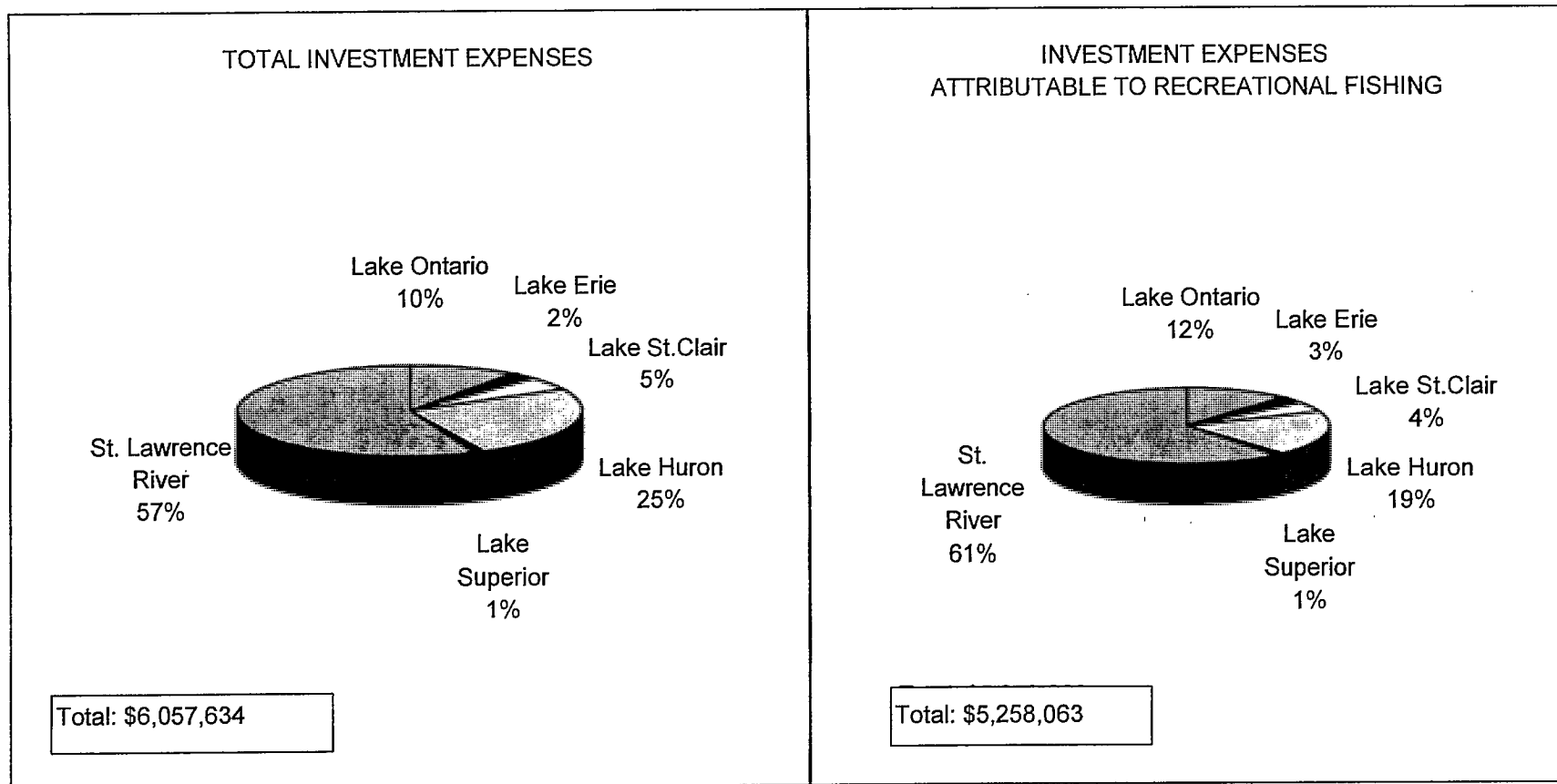


TABLE 10
Investment Expenses Allocated to the Great Lakes Fishing Activities
All Anglers

Investment Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
All Investment Expenses									
Fishing Equipment	7,608,659	3,079,948	1,502,964	7,736,631	1,073,458	1,590,305	22,591,965	39,522,767	57.2%
Boating Equipment	28,765,570	15,382,503	3,420,229	45,141,574	2,128,476	9,436,194	104,274,547	178,998,425	58.3%
Camping Equipment	12,368,503	2,184,256	597,056	5,800,856	543,663	578,456	22,072,791	40,175,198	54.9%
Vehicles Purchased	24,281,921	0	11,753,242	18,874,670	13,749,311	205,894	68,865,038	120,338,176	57.2%
Land and Buildings	2,229,354	0	143,877	19,024,331	3,595,763	33,045,245	58,038,570	68,812,896	84.3%
Other Investments	2,610,120	1,424,299	266,758	2,773,835	491,914	414,064	7,980,990	14,818,536	53.9%
Total Expenditures	77,864,127	22,071,007	17,684,127	99,351,896	21,582,585	45,270,158	283,823,900	462,665,997	61.3%
Average per angler	\$392.64	\$230.91	\$584.73	\$453.84	\$515.66	\$1,469.33	\$513.51	\$837.09	
Attributable to Recreational Fishing									
Fishing Equipment	7,608,659	3,079,948	1,502,964	7,736,631	1,073,458	1,590,305	22,591,965	39,522,767	57.2%
Boating Equipment	23,867,854	8,817,201	2,538,736	23,644,119	1,399,757	7,869,684	68,137,351	132,653,739	51.4%
Camping Equipment	5,151,227	837,993	360,497	2,169,910	378,239	292,710	9,190,575	16,301,346	56.4%
Vehicles Purchased	7,906,578	0	1,175,324	9,190,029	4,284,349	83,613	22,639,893	44,857,204	50.5%
Land & Buildings	597,449	0	96,507	9,395,679	516,367	2,936,164	13,542,166	18,177,837	74.5%
Other Investments	2,170,372	770,656	266,449	2,281,170	398,415	337,331	6,224,393	11,939,084	52.1%
Total Attributable	47,302,140	13,505,797	5,940,477	54,417,538	8,050,585	13,109,807	142,326,344	263,451,978	54.0%
Average per angler	\$238.53	\$141.30	\$196.42	\$248.58	\$192.35	\$425.50	\$257.51	\$476.65	
Percent attributed to recreational fishing	60.7%	61.2%	33.6%	54.8%	37.3%	29.0%	50.1%	56.9%	

FIGURE 11

INVESTMENT EXPENSES ALLOCATED TO
GREAT LAKES AREAS FISHING ACTIVITIES
BY ALL ANGLERS

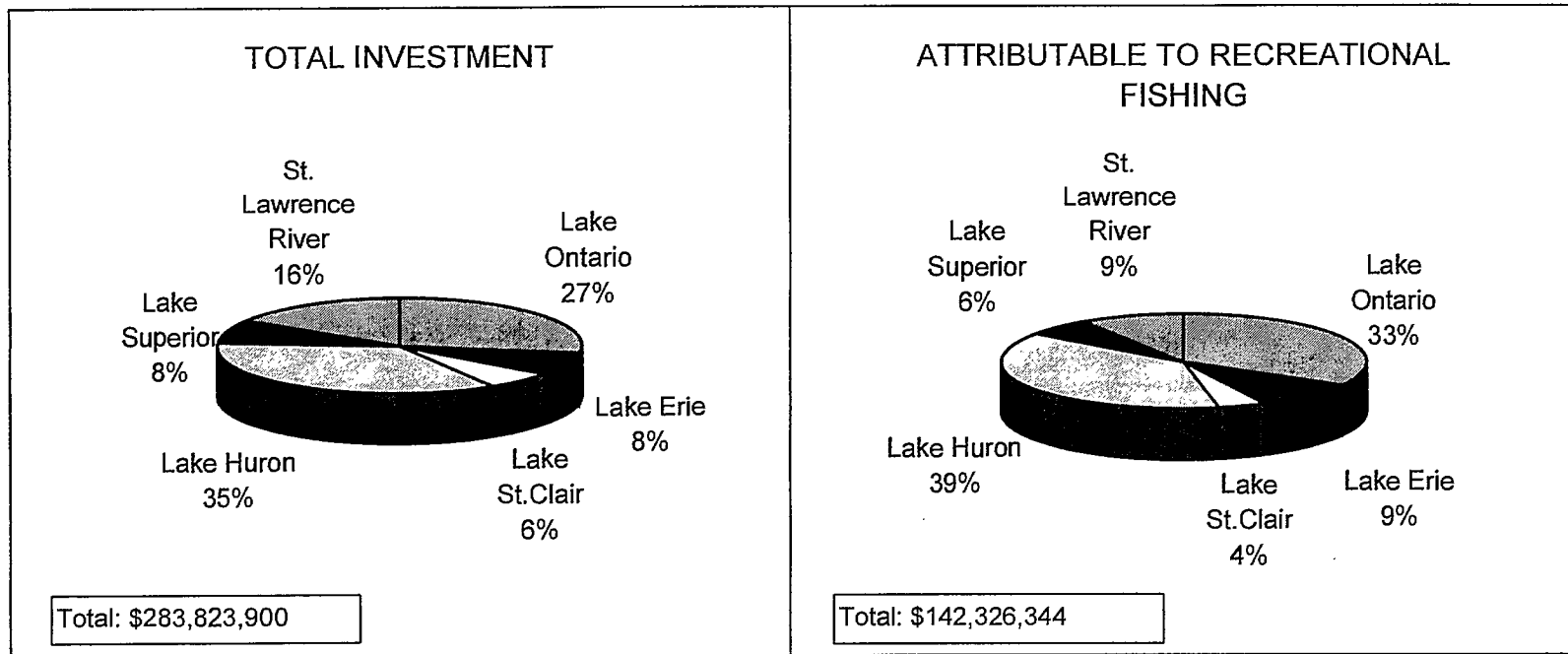


TABLE 11
Direct Expenditures Allocated to the Great Lakes Fishing Activities
Resident Anglers

Expenditure Category	Lake Ontario	Lake Erie	Lake St.Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
Package Deals	616,038	40,958	0	10,961,839	523,176	0	12,142,012	18,919,994	64.2%
Accommodation	4,989,082	2,685,593	1,323,396	5,043,707	336,908	256,497	14,635,182	24,814,282	59.0%
Campsite Fees	2,487,534	3,029,314	171,597	4,909,628	1,006,047	394,363	11,998,484	16,709,292	71.8%
Food	10,503,494	6,435,118	1,325,466	15,870,281	4,389,220	1,154,962	39,678,540	65,436,755	60.6%
Travel Costs	9,911,067	7,093,357	2,870,308	16,604,640	4,322,205	1,271,254	42,072,831	68,392,602	61.5%
Household Boat Costs	5,846,832	10,864,179	2,478,478	10,648,787	2,303,534	1,920,636	34,062,447	49,240,694	69.2%
Boat Rentals	1,573,822	1,088,953	431,214	2,087,616	123,089	322,316	5,627,010	8,431,032	66.7%
Fishing Supplies	5,202,615	2,986,125	1,193,624	5,725,510	1,312,300	827,850	17,248,023	27,225,489	63.4%
Access Fees	135,087	20,116	0	302,940	3,727	101,508	563,379	1,130,452	49.8%
Guide Costs	242,610	144,157	22,478	118,345	99,802	27,877	655,268	1,072,298	61.1%
Licence Fees	1,345,196	923,320	342,498	1,709,295	301,411	219,633	4,841,353	6,975,591	69.4%
Other Costs	501,524	302,284	32,059	630,621	51,742	25,510	1,543,740	2,205,297	70.0%
Total Expenditures	43,354,900	35,613,472	10,191,117	74,613,211	14,773,162	6,522,406	185,068,269	290,553,777	63.7%
Average per angler	\$243.41	\$392.69	\$355.20	\$377.81	\$462.93	\$348.75	\$381.51	\$598.96	

FIGURE 12

Proportion of Expenditures Attributable to
Recreational Fishing in the Great Lakes Areas
By Resident Anglers

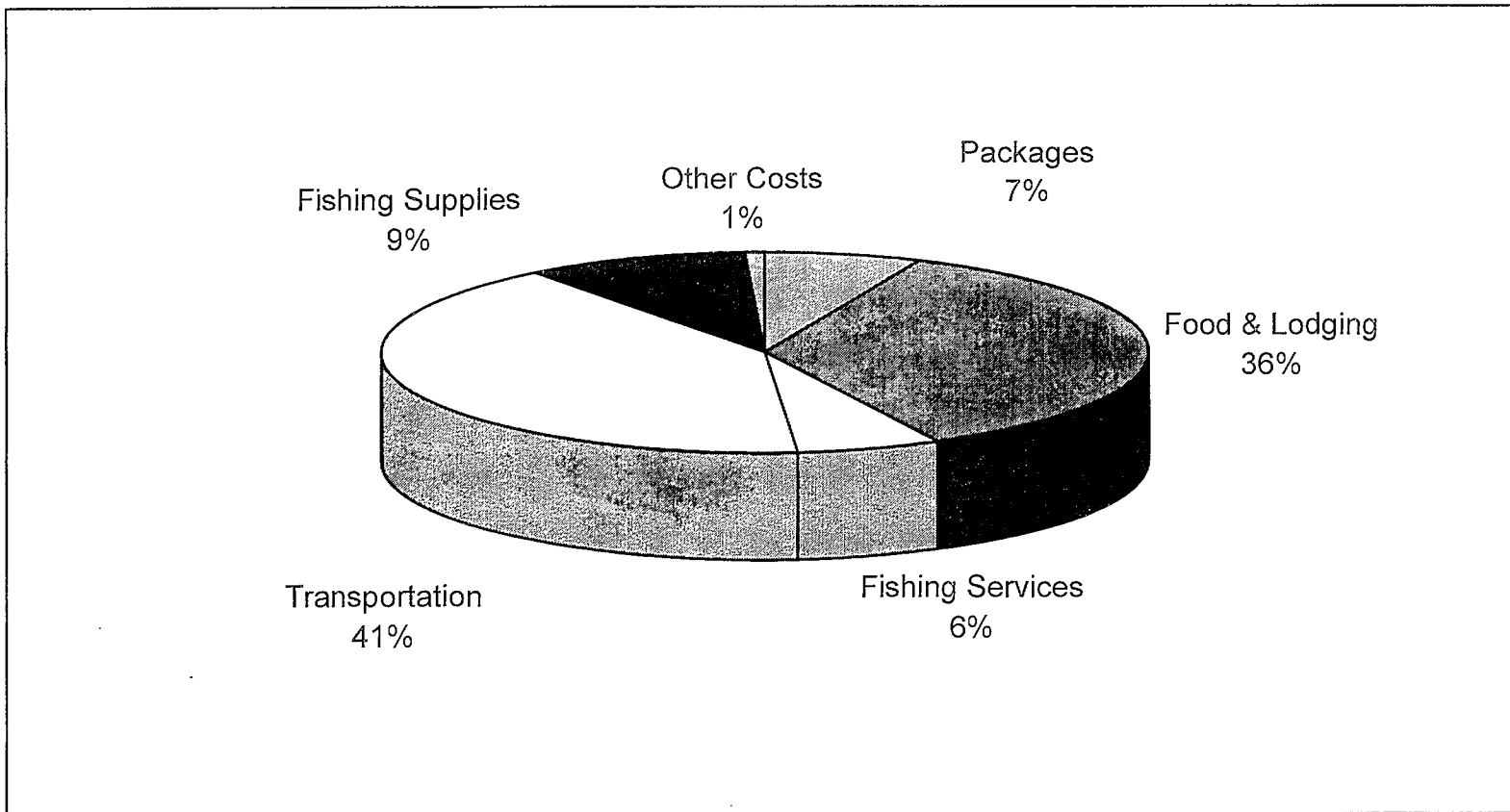


FIGURE 13

Average Amount Spent by Resident Anglers
in the Great Lakes Areas

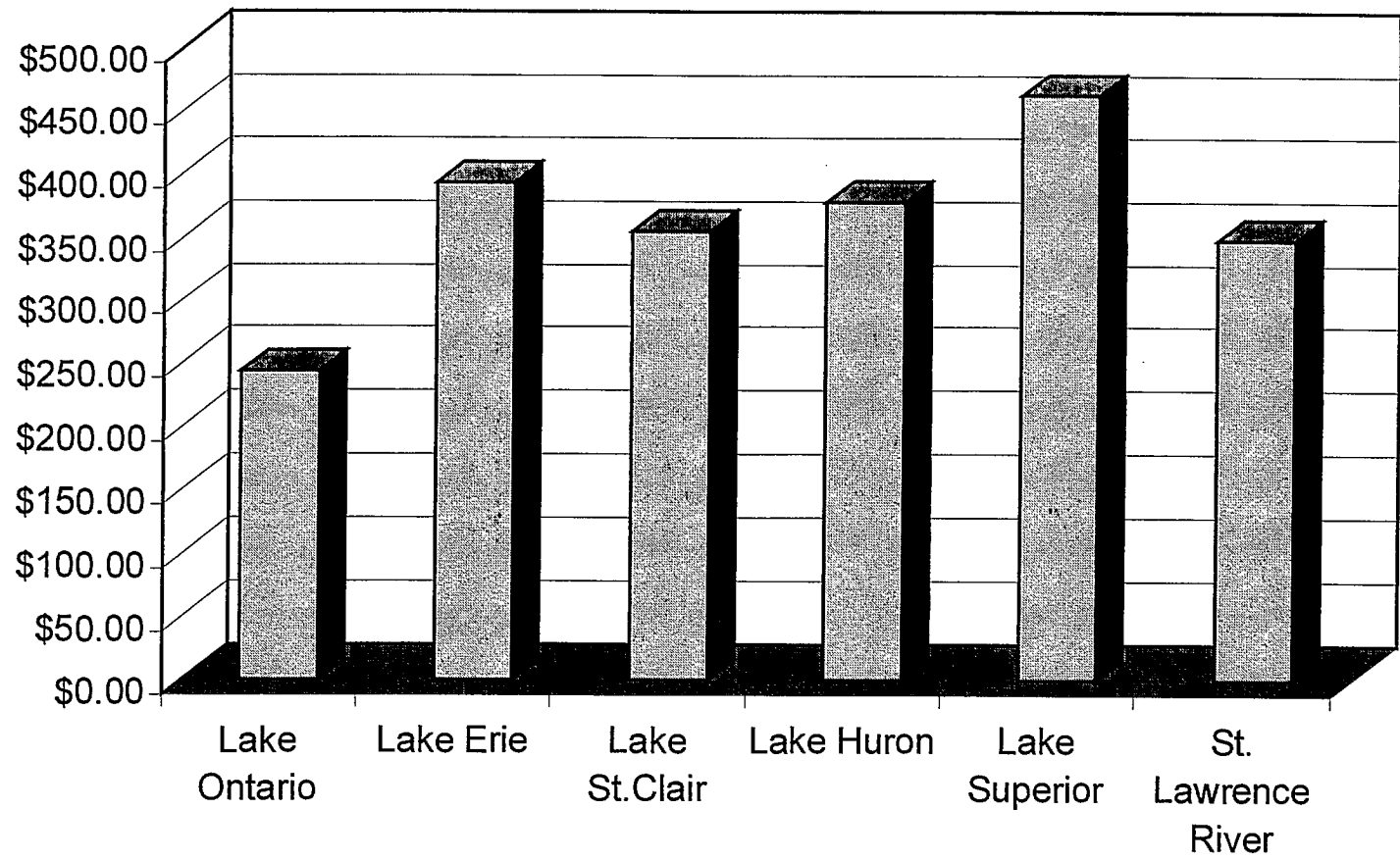


TABLE 12
Direct Expenditures Allocated to the Great Lakes Fishing Activities
Nonresident Anglers

Expenditure Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
Package Deals	832,144	24,833	23,585	2,252,750	683,750	577,732	4,394,795	7,469,884	58.8%
Accommodation	2,719,557	308,728	232,357	3,242,465	392,694	1,223,609	8,119,411	9,759,174	83.2%
Campsite Fees	320,399	56,765	11,793	574,406	285,364	45,919	1,294,646	1,541,616	84.0%
Food	2,025,436	235,318	219,487	2,419,937	667,936	934,896	6,503,009	7,747,652	83.9%
Travel Costs	1,538,388	313,510	450,817	1,929,881	498,413	354,852	5,085,862	6,168,065	82.5%
Household Boat Costs	609,014	345,122	96,395	1,489,420	299,796	673,612	3,513,360	4,202,806	83.6%
Boat Rentals	133,470	17,760	6,545	431,353	75,874	315,151	980,153	1,101,293	89.0%
Fishing Supplies	617,013	56,884	18,793	439,468	141,798	204,618	1,478,575	1,792,525	82.5%
Access Fees	553,579	4,128	0	227,198	260,362	443,615	1,488,882	1,590,949	93.6%
Guide Costs	17,809	0	0	41,106	861	13,237	73,013	91,751	79.6%
Licence Fees	462,620	79,852	24,929	479,500	215,723	277,241	1,539,867	1,791,346	86.0%
Other Costs	56,467	13,733	0	32,294	10,611	12,314	125,419	142,492	88.0%
Total Expenditures	9,885,897	1,456,632	1,084,702	13,559,778	3,533,183	5,076,798	34,596,991	43,399,553	79.7%
Average per angler	\$489.62	\$297.88	\$698.46	\$632.84	\$355.38	\$419.29	\$511.68	\$641.87	

FIGURE 14

Proportion of Expenditures Attributable to
Recreational Fishing in the Great Lakes Areas
by Nonresident Anglers

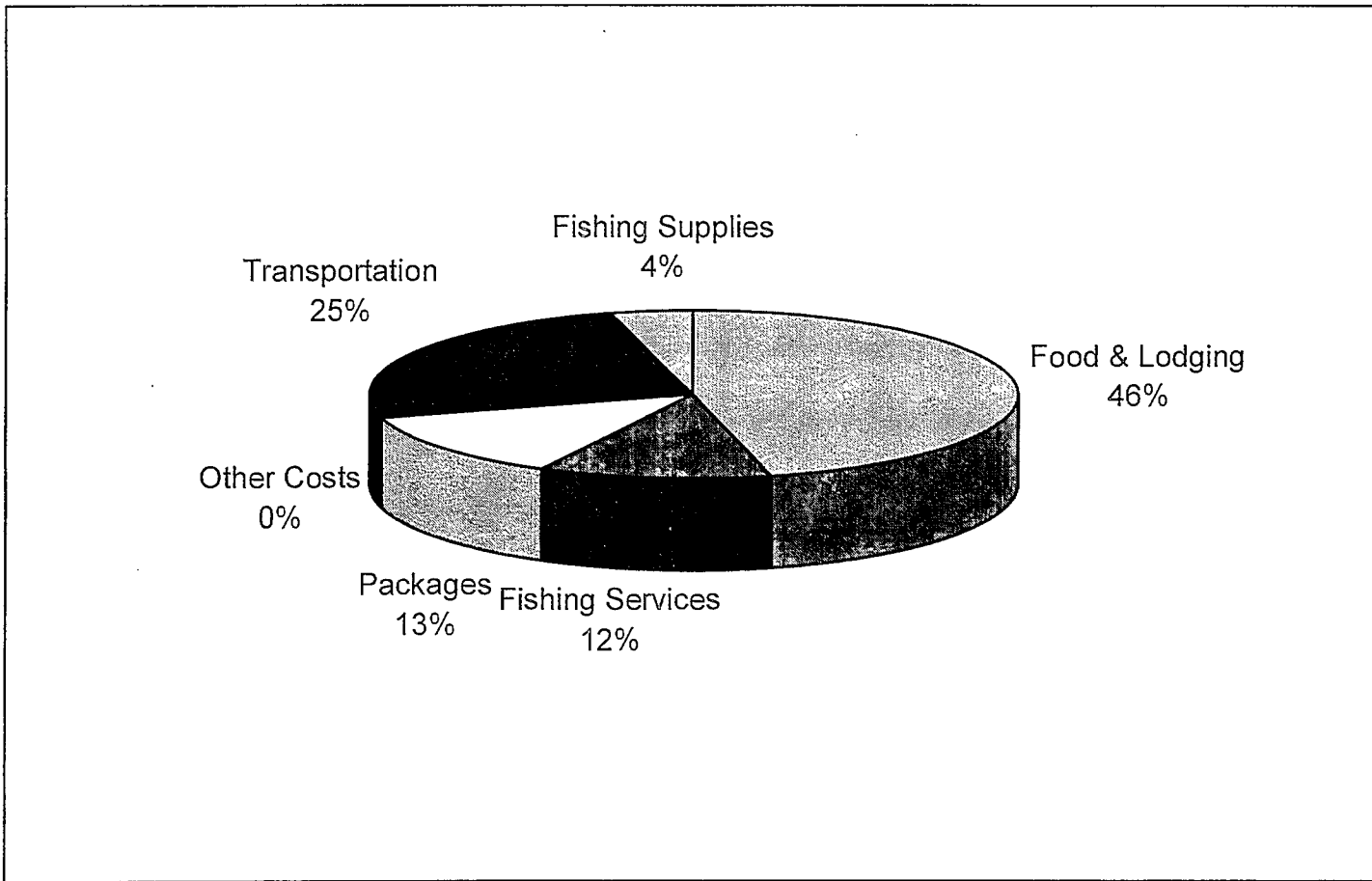


FIGURE 15

Average Amount Spent by Nonresident Anglers
in the Great Lakes Areas

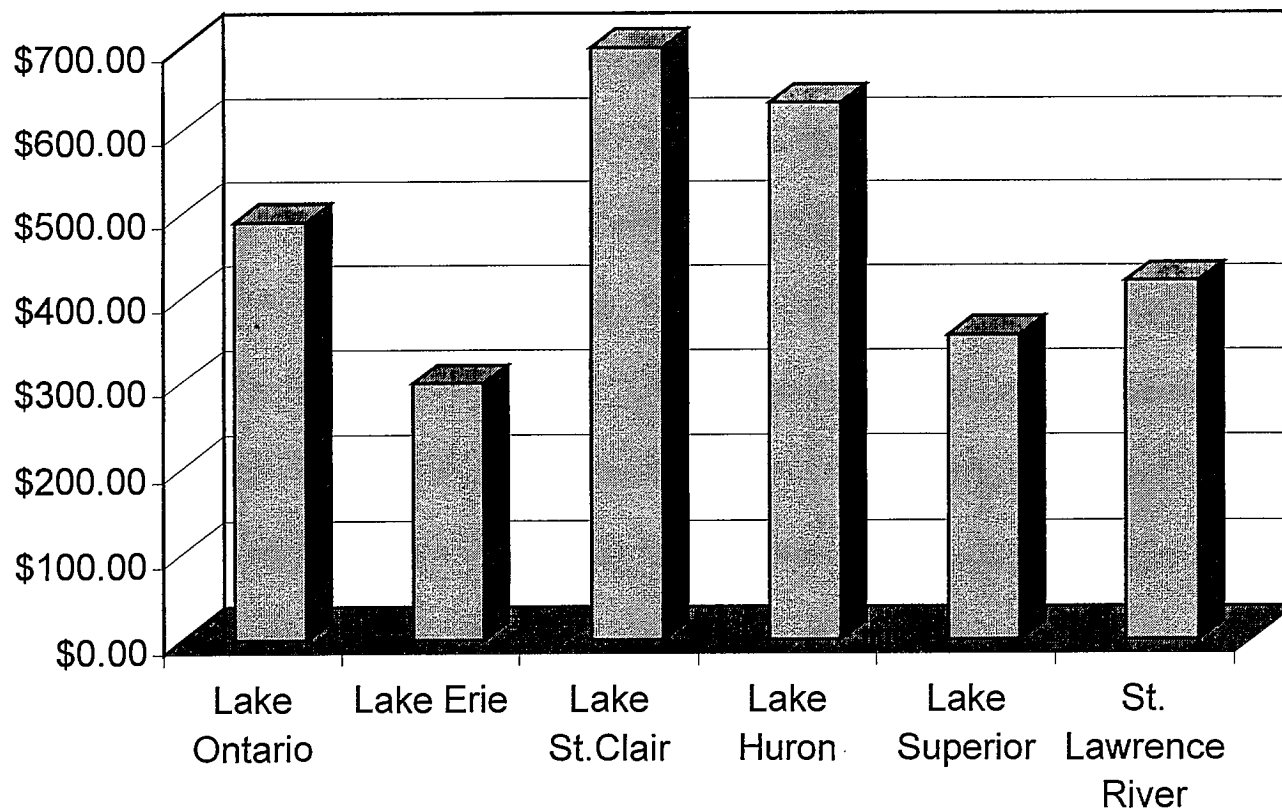


TABLE 13
Direct Expenditures Allocated to the Great Lakes Fishing Activities
All Anglers

Expenditure Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Amount Spent in Ontario	Percent in Great Lakes
Package Deals	1,448,181	65,792	23,585	13,214,590	1,206,927	577,732	16,536,807	26,389,878	62.7%
Accommodation	7,708,639	2,994,320	1,555,754	8,286,172	729,603	1,480,106	22,754,593	34,573,456	65.8%
Campsite Fees	2,807,933	3,086,078	183,390	5,484,034	1,291,412	440,283	13,293,130	18,250,908	72.8%
Food	12,528,930	6,670,435	1,544,952	18,290,218	5,057,155	2,089,858	46,181,549	73,184,407	63.1%
Travel Costs	11,449,455	7,406,867	3,321,125	18,534,522	4,820,618	1,626,106	47,158,693	74,560,667	63.2%
Household Boat Costs	6,455,847	11,209,300	2,574,873	12,138,207	2,603,331	2,594,249	37,575,806	53,443,500	70.3%
Boat Rentals	1,707,292	1,106,713	437,759	2,518,969	198,963	637,468	6,607,163	9,532,324	69.3%
Fishing Supplies	5,819,628	3,043,009	1,212,417	6,164,978	1,454,098	1,032,468	18,726,598	29,018,014	64.5%
Access Fees	688,666	24,245	-	530,137	264,089	545,123	2,052,261	2,721,401	75.4%
Guide Costs	260,419	144,157	22,478	159,450	100,663	41,114	728,281	1,164,049	62.6%
Licence Fees	1,807,816	1,003,172	367,427	2,188,796	517,134	496,875	6,381,220	8,766,937	72.8%
Other Costs	557,991	316,017	32,059	662,915	62,353	37,823	1,669,159	2,347,789	71.1%
Total Expenditures	53,240,796	37,070,105	11,275,819	88,172,990	18,306,345	11,599,204	219,665,259	333,953,330	65.8%
Average per angler	\$268.47	\$387.84	\$372.84	\$402.77	\$437.39	\$376.48	\$397.43	\$604.21	

FIGURE 16

Proportion of Expenditures Attributable to
Recreational Fishing in the Great Lakes Areas
By All Anglers

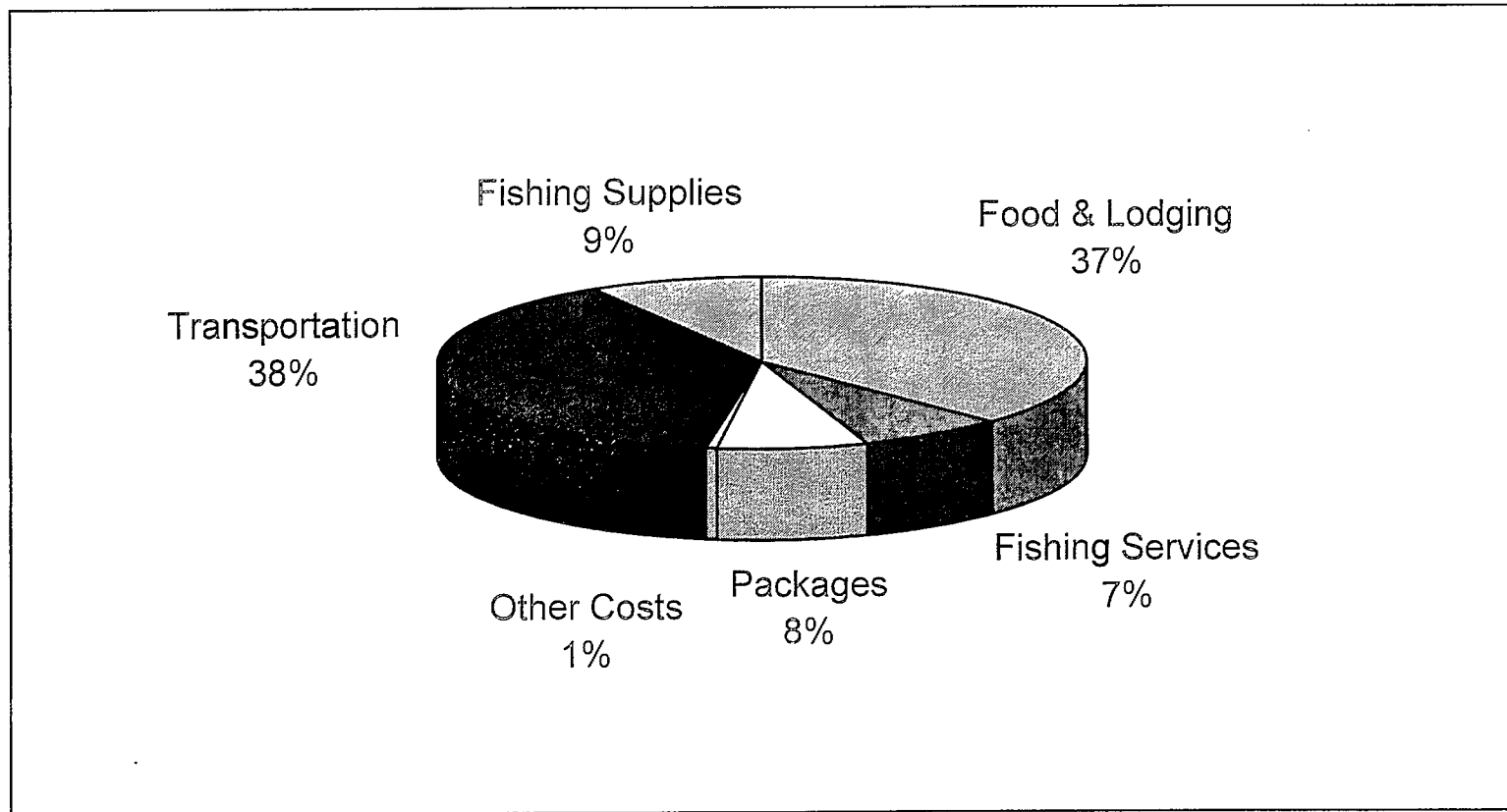


FIGURE 17

Average Amount Spent by All Anglers
in the Great Lakes Areas

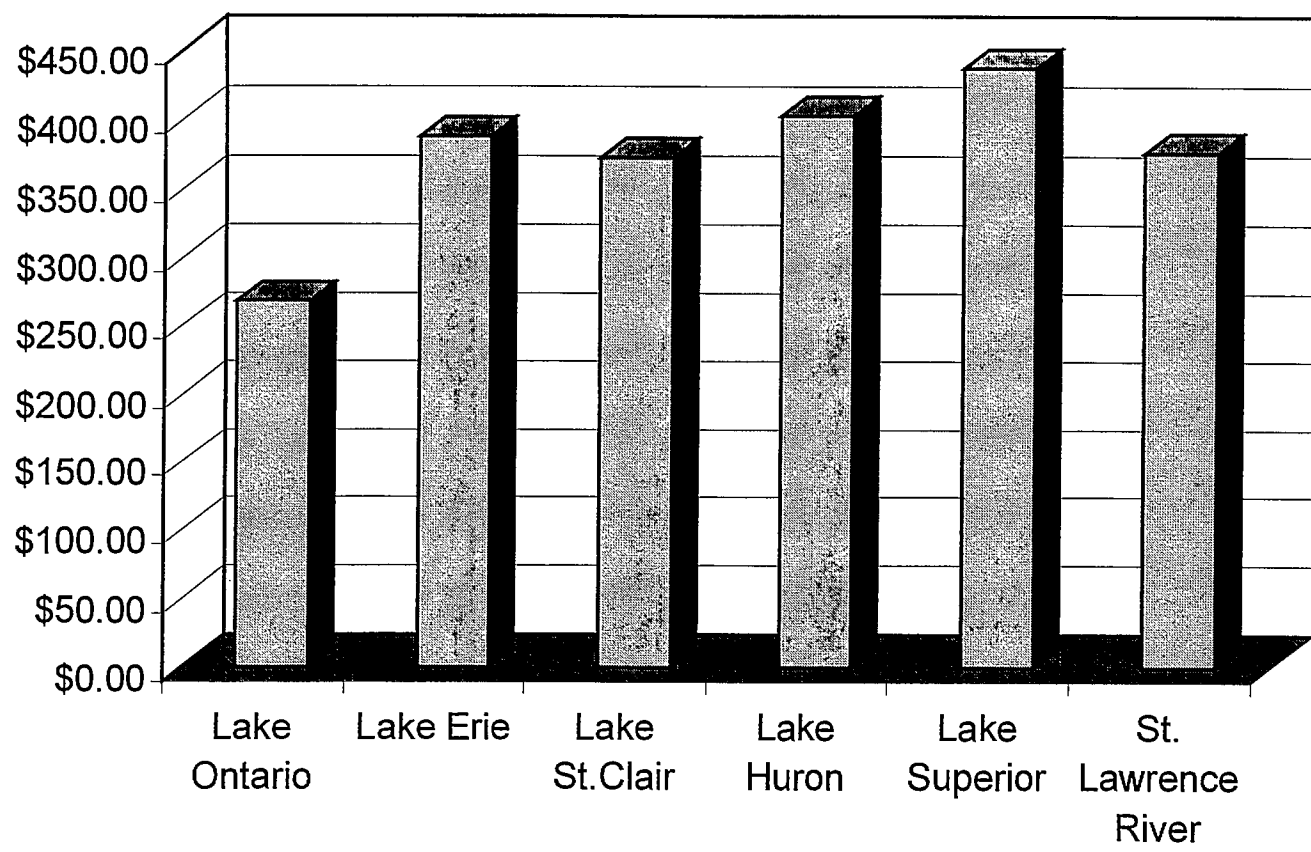


TABLE 14
 Total Additional Amount of Money Anglers Were Willing to Pay
 to Fish the Same Number of Days on the Great Lakes
 All Anglers

Angler Category	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System
Resident							
Total Amount	32,870,609	13,103,478	7,147,500	55,356,077	6,081,266	3,598,837	118,160,490
Average per year	\$184.54	\$144.48	\$249.12	\$280.30	\$190.56	\$192.43	\$243.58
Average per day fished	\$16.63	\$15.08	\$11.61	\$23.10	\$18.24	\$9.77	\$18.01
Median amount per year	\$90.00	\$100.00	\$120.00	\$100.00	\$100.00	\$120.00	\$102.00
Nonresident							
Total Amount	3,013,832	226,407	382,988	5,670,945	917,334	2,414,048	12,627,226
Average per year	\$149.27	\$46.30	\$246.61	\$264.66	\$92.27	\$199.38	\$186.75
Average per day fished	\$23.22	\$6.48	\$23.97	\$34.94	\$22.11	\$20.73	\$25.21
Median amount per year	\$70.00	\$40.00	\$150.00	\$200.00	\$70.00	\$135.00	\$100.80
All Anglers							
Total Amount	35,884,442	13,329,885	7,530,488	61,027,022	6,998,600	6,012,885	130,787,716
Average per year	\$180.95	\$139.46	\$249.00	\$278.77	\$167.21	\$195.16	\$236.63
Average per day fished	\$17.04	\$14.74	\$11.92	\$23.85	\$18.67	\$12.40	\$18.52
Median amount per year	\$90.00	\$100.00	\$120.00	\$100.00	\$100.00	\$120.00	\$101.20

TABLE 15

Socio-Economic Profile of Anglers in the Great Lakes Fishery
All Anglers - Part 1

Characteristics	Origin of angler				Great Lakes System	
	Ontario resident		Nonresident		Number	Percentage
Age Groups	Number	Percentage	Number	Percentage	Number	Percentage
< 20	7,784	1.6%	396	0.6%	8,180	1.5%
20-24	34,015	7.0%	3,155	4.7%	37,170	6.7%
25-34	107,182	22.1%	9,295	13.7%	116,477	21.1%
35-44	130,106	26.8%	18,192	26.9%	148,298	26.8%
45-54	108,224	22.3%	18,824	27.8%	127,048	23.0%
55-64	68,769	14.2%	10,349	15.3%	79,118	14.3%
65 +	25,217	5.2%	7,110	10.5%	32,327	5.8%
Unknown	3,799	0.8%	293	0.4%	4,092	0.7%
Total	485,096	100.0%	67,615	100.0%	552,710	100.0%
Level of Education						
No formal education	2,264	0.5%	0	0.0%	2,264	0.4%
Elementary	41,031	8.7%	1,278	1.9%	42,308	7.9%
Secondary	169,332	36.0%	17,035	25.3%	186,367	34.7%
Trade-vocational	59,152	12.6%	11,269	16.7%	70,421	13.1%
College	170,984	36.4%	27,335	40.6%	198,319	36.9%
University	27,003	5.7%	10,412	15.5%	37,415	7.0%
Total	469,765	100.0%	67,329	100.0%	537,093	100.0%
Employment Status						
Full-time employment	326,157	69.5%	49,994	74.3%	376,151	70.1%
Part-time employment	34,097	7.3%	2,664	4.0%	36,761	6.8%
Retired	52,828	11.3%	11,258	16.7%	64,086	11.9%
Homemaker	21,983	4.7%	1,842	2.7%	23,825	4.4%
Student	17,132	3.6%	1,112	1.7%	18,244	3.4%
Unemployed	17,235	3.7%	415	0.6%	17,650	3.3%
Total	469,432	100.0%	67,284	100.0%	536,717	100.0%

TABLE 16

Socio-Economic Profile of Anglers in the Great Lakes Fishery
All Anglers - Part 2

Characteristics	Origin of angler				Great Lakes System	
	Ontario resident		Nonresident		Number	Percentage
Personal Income	Number	Percentage	Number	Percentage	Number	Percentage
None	16,582	3.8%	1,075	1.7%	17,657	3.5%
Less than \$10,000	33,536	7.6%	2,332	3.6%	35,868	7.1%
\$10,000 to \$19,999	45,384	10.3%	7,432	11.5%	52,816	10.4%
\$20,000 to \$29,999	81,900	18.5%	8,855	13.8%	90,755	17.9%
\$30,000 to \$39,999	68,358	15.5%	12,146	18.9%	80,504	15.9%
\$40,000 to \$49,999	81,420	18.4%	9,434	14.7%	90,855	18.0%
\$50,000 to \$59,999	45,820	10.4%	6,808	10.6%	52,628	10.4%
\$60,000 to \$69,999	32,012	7.2%	4,614	7.2%	36,625	7.2%
\$70,000 to \$79,999	17,017	3.9%	2,415	3.8%	19,432	3.8%
\$80,000 to \$89,999	4,575	1.0%	1,992	3.1%	6,567	1.3%
\$90,000 or more	15,162	3.4%	7,248	11.3%	22,410	4.4%
Total	441,766	100.0%	64,351	100.0%	506,117	100.0%
Household Income						
None	7,163	1.7%	0	0.0%	7,163	1.5%
Less than \$10,000	6,558	1.5%	150	0.2%	6,707	1.4%
\$10,000 to \$19,999	21,196	4.9%	3,754	5.9%	24,950	5.1%
\$20,000 to \$29,999	31,434	7.3%	6,200	9.7%	37,634	7.6%
\$30,000 to \$39,999	48,883	11.4%	8,342	13.0%	57,225	11.6%
\$40,000 to \$49,999	64,768	15.1%	9,262	14.5%	74,030	15.0%
\$50,000 to \$59,999	70,498	16.4%	7,956	12.4%	78,454	15.9%
\$60,000 to \$69,999	44,699	10.4%	5,555	8.7%	50,254	10.2%
\$70,000 to \$79,999	42,618	9.9%	5,280	8.3%	47,898	9.7%
\$80,000 to \$89,999	27,426	6.4%	3,710	5.8%	31,136	6.3%
\$90,000 to \$99,999	24,398	5.7%	2,819	4.4%	27,217	5.5%
\$100,000 to \$119,999	18,336	4.3%	3,538	5.5%	21,874	4.4%
\$120,000 to \$139,999	6,629	1.5%	1,888	3.0%	8,518	1.7%
\$140,000 to \$159,999	2,620	0.6%	1,995	3.1%	4,615	0.9%
\$160,000 or more	11,996	2.8%	3,485	5.5%	15,481	3.1%
Total	429,221	100.0%	63,935	100.0%	493,156	100.0%

TABLE 17

Rating of Attributes Sought by Anglers on the Great Lakes
When Selecting the Places Where They Fish

Rated on a scale of: 1 (not important) to 5 (very important)

Attribute	Ontario resident Mean Score	Nonresident Mean Score	All Anglers Mean Score
Water Quality	4.3	4.3	4.3
Natural beauty of the area	3.7	4.1	3.7
Presence of wildlife	3.3	3.5	3.4
Places to fish from shore	3.2	2.2	3.1
Lack of angler crowding	3.8	3.8	3.8
Absence of other recreationists	3.2	3.2	3.2
Nearness to food and lodging	2.4	2.7	2.4
Quality of facilities	2.2	2.5	2.2
Boat launching - marina	3.1	3.1	3.1
Other recreational facilities	2.1	2.1	2.1
Bait and tackle shops	2.6	2.6	2.6
Parking availability	3.2	2.7	3.1
Cost factor	3.4	3.2	3.4
Lack of pollutants in fish	4.4	4.2	4.4
Size of fish	3.5	3.9	3.6
Chance for a trophy fish	2.9	3.6	3.0
Catch rate of all fish	2.8	3.4	2.9
Catch rate of fish you can keep	2.6	2.9	2.6
Presence of favorite species	3.8	4.1	3.8
Variety of species available	3.3	3.4	3.3
Distance - travel time	3.2	2.9	3.2
Information about the area	3.1	3.0	3.0

TABLE 18

Rating of Benefits Sought by Anglers on the Great Lakes
Concerning Why They Fish Where They Do

Rated on a scale of: 1 (not important) to 5 (very important)

Attribute	Ontario resident Mean Score	Nonresident Mean Score	All Anglers Mean Score
To catch a fish to eat	2.9	2.8	2.9
For relaxation	4.4	4.3	4.4
For companionship	3.4	3.7	3.4
To enjoy nature	4.2	4.2	4.2
Challenge and excitement	3.6	3.9	3.6
To improve fishing skills	2.5	2.8	2.6
To get away	4.2	4.2	4.2
Family togetherness	3.5	3.4	3.5
To catch a trophy fish	2.2	2.8	2.3
For a sense of achievement	2.2	2.6	2.3

TABLE 19

Rating of Benefits of Educational Programs or Other Incentives
To Encourage Boaters and Anglers to Take Steps to Prevent the Spread of Invasive Species

Rated on a scale of: 1 (not important) to 5 (very important)

Information	Ontario resident Mean Score	Nonresident Mean Score	All Anglers Mean Score
Brochures & fact sheets	3.1	3.4	3.1
Information in pamphlets	3.3	3.7	3.4
Conferences / Workshops	2.0	2.2	2.0
Billboards	2.4	2.4	2.4
Signs at access points	3.5	3.5	3.5
Inspections at access points	3.3	3.4	3.3
News media coverage	3.2	3.2	3.2
Laws making it illegal to transport them	3.6	3.5	3.6
Road checks to enforce laws	3.0	2.8	3.0
Fines assessed to violators	3.6	3.4	3.6
Articles in newspapers	3.3	3.4	3.3

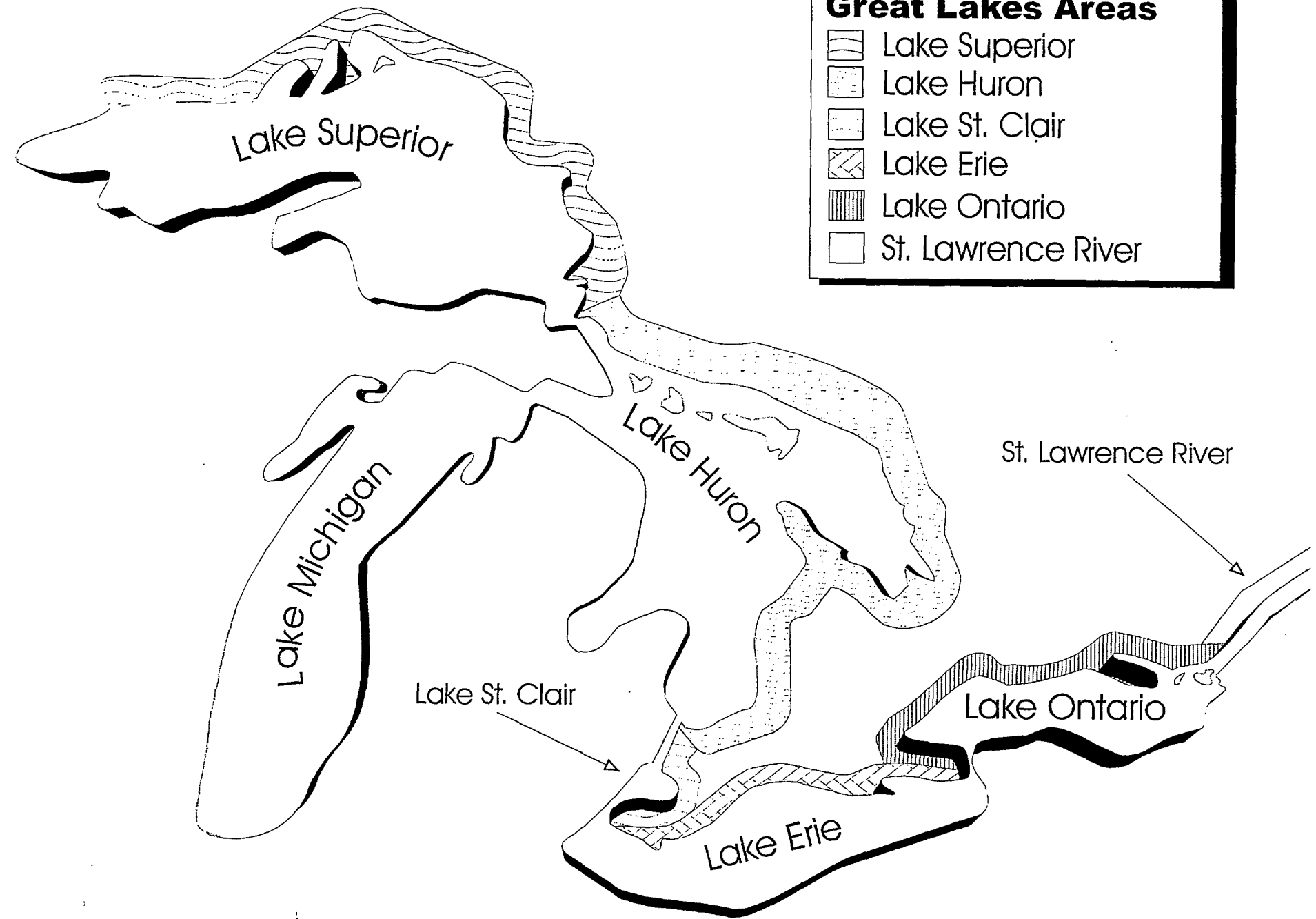
TABLE 20

Assessment of Personal Angling Skills
Given by Anglers Who Fished on the Great Lakes

Level of Angling Skill	Ontario resident		Nonresident		All Anglers	
	Number	Percentage	Number	Percentage	Number	Percentage
Expert	9,756	2.0%	7,231	10.7%	16,987	3.1%
Experienced	173,301	35.9%	32,148	47.7%	205,449	37.3%
Average	244,999	50.7%	24,771	36.7%	269,770	49.0%
Beginner	55,259	11.4%	3,257	4.8%	58,516	10.6%

Appendix 1

GREAT LAKES AREAS MAP



Appendix 2
DEFINITIONS

Definitions

Great Lakes Angler	an angler who fished at least one day on any of the Ontario waters of the Great Lakes or to an inland distance of 20 kms on any rivers and streams terminating in the Great Lakes
Origin	resident is an angler who resided in the province of Ontario and a nonresident is an angler who visited Ontario: a Canadian (from another province/territory) or a non-Canadian
Day Fished	a "day of fishing" is defined as all or part of any day on which recreational fishing activity occurred
Total Investment Expenses	these are investment expenditures for durable goods (boats, motors, campers, fishing equipment, special vehicle, etc.), which have been allocated to the Great Lakes based on the time the angler spent on the Great Lakes in 1995 as a percent of all days fished in the province
Attributable Investments	the amount of the investment expenditures for durable goods which the angler identified as being wholly attributable to recreational fishing activity (as a percentage of the total) and which have been allocated to the Great Lakes based on the time the angler spent on the Great Lakes in 1995 as a percent of all days fished in the province
Direct Expenditures	these are expenditures for goods and services (food, camping, accommodation, transportation, supplies, etc.) incurred when on fishing trips or excursions which have been allocated to the Great Lakes on the prorated basis described above
Equipment/Supplies	there is a distinction between these two categories insofar as fishing equipment is defined to be expenditures on such durable goods as fishing rods, reels, depth finders, etc. and fishing supplies are items purchased in the course of fishing activity such as bait, lures, line, etc.
Willingness to Pay	the maximum amount of money an angler was willing to pay per fishing day, for the same number of days fished, had costs increased due to higher costs for services such as gasoline, food, etc. (allocated for each day fished on the Great Lakes)

Appendix 3

**ESTIMATES OF STATISTICAL RELIABILITY
FOR KEY VARIABLES**

Estimates of Statistical Reliability of Selected Variables
Expressed as Coefficients of Variation ¹
All Anglers, 1995

Characteristics	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System
Sample Size	470	122	34	518	157	111	1,302
Days of effort	7.9%	9.6%	28.1%	7.4%	10.0%	11.9%	4.4%
Total Fish Caught	10.9%	15.7%	39.7%	14.9%	15.3%	23.3%	7.7%
Total Fish Kept	12.8%	18.4%	40.0%	24.1%	17.4%	40.3%	13.3%
Total investments	18.0%	33.1%	79.9%	33.3%	43.2%	76.6%	23.3%
Total attributable investments	18.7%	29.4%	55.9%	31.8%	31.9%	40.0%	16.5%
Direct expenditures	8.9%	15.4%	46.2%	7.5%	13.2%	16.2%	4.5%
Willingness to Pay	12.7%	16.3%	30.9%	13.9%	13.9%	19.6%	7.8%

¹ The coefficient of variation of the mean is used as a crude measure of reliability because it is not possible to calculate exact variability in the data. It is calculated as the standard error of the mean divided by the mean multiplied by 100. The table below can be used as a guide to the use of estimates based on the coefficient of variation.

CV less than 16.5%:

- estimates can be used without condition.

CV greater than 16.5% and less than 33.5%:

- estimates should be used with caution.

CV greater than 33.5%:

- estimates should be used with extreme caution.

Appendix 4

**RESIDENT AND NONRESIDENT
QUESTIONNAIRES**



1995 SURVEY OF RECREATIONAL FISHING IN CANADA

RESIDENTS OF ONTARIO

(Le présent questionnaire est également disponible en français)
(QUESTIONS? → 1 (800) 869-9451 TOLL FREE)

INSTRUCTIONS TO RESPONDENTS

In order to complete this document as easily as possible, the following instructions may be of assistance:

- › the questions are to be answered only by the person to whom the questionnaire was addressed.
- › this survey covers only fishing activity between January 1 and December 31, 1995.
- › the term "household members" refers only to individuals living in your residence.

THANK YOU IN ADVANCE FOR YOUR COOPERATION AND ASSISTANCE.

CONFIDENTIAL WHEN COMPLETED

LICENCE INFORMATION

1. Which Ontario outdoors cards and recreational fishing licences did you personally hold in 1995?

Outdoors Cards

Fishing only Fishing and hunting

Fishing Licence

Seasonal licence Conservation licence Did not purchase a fishing licence

If you purchased an outdoors card exclusively for hunting activity and you did not fish in 1995, please return this questionnaire in the postage-paid envelope.

YOUR PERSONAL RECREATIONAL FISHING ACTIVITIES

2a) Did you personally fish for recreation in Ontario in 1995?

Yes → please continue No → go to question 8

b) How many days in total did you spend fishing for recreation in Ontario in 1995? _____ days fished
(A "day" is all or any part of a day fished)

c) Of the above days, how many were spent fishing through the ice in Ontario in 1995?
None OR _____ days fished

d) On average, how many hours per day did you fish for recreation in Ontario in 1995? _____ hours per day



3a) For each water body on which you fished in Ontario in 1995, please provide the location, the number of fishing trips, the days fished and the number of fish you caught and kept. If you fished in a provincial park, please name the park instead of the nearest town/village. Even if you did not catch any fish, the information on where you fished and how often is important.

Please include only your personal fishing activities.

SITE 1	Name of lake, river or stream _____				Number of days fished _____		
	Nearest town/village _____				Fishing trips made _____		
	<u>Number of fish</u>			<u>Number of fish</u>		<u>Number of fish</u>	
	<u>Caught</u>	<u>Kept</u>		<u>Caught</u>	<u>Kept</u>	<u>Caught</u>	<u>Kept</u>
Walleye (pickereel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____
Splake	_____	_____	Whitefish	_____	_____		_____

SITE 2	Name of lake, river or stream _____				Number of days fished _____		
	Nearest town/village _____				Fishing trips made _____		
	<u>Number of fish</u>			<u>Number of fish</u>		<u>Number of fish</u>	
	<u>Caught</u>	<u>Kept</u>		<u>Caught</u>	<u>Kept</u>	<u>Caught</u>	<u>Kept</u>
Walleye (pickereel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____
Splake	_____	_____	Whitefish	_____	_____		_____

SITE 3	Name of lake, river or stream _____				Number of days fished _____		
	Nearest town/village _____				Fishing trips made _____		
	<u>Number of fish</u>			<u>Number of fish</u>		<u>Number of fish</u>	
	<u>Caught</u>	<u>Kept</u>		<u>Caught</u>	<u>Kept</u>	<u>Caught</u>	<u>Kept</u>
Walleye (pickereel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____
Splake	_____	_____	Whitefish	_____	_____		_____

3a) continued

SITE 4	Name of lake, river or stream _____	Number of days fished _____						
	Nearest town/village _____	Fishing trips made _____						
	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>					
Walleye (pickerel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____	_____
Splake	_____	_____	Whitefish	_____	_____			

SITE 5	Name of lake, river or stream _____	Number of days fished _____						
	Nearest town/village _____	Fishing trips made _____						
	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>					
Walleye (pickerel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____	_____
Splake	_____	_____	Whitefish	_____	_____			

3b) For each site identified above, please provide the following information.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
If you travelled to the site by vehicle, what was the one-way distance from your residence?	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km
Approximate travel time?	_____ hrs	_____ hrs	_____ hrs	_____ hrs	_____ hrs
Did you fish at this site in 1994?	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>
If yes, did the quality of your fishing experience in 1995:					
1 (remain the same)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 (increase)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 (decrease)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4a) Did you practise catch and release fishing in Ontario in 1995?

Yes ₁ → please continue

No ₂ → go to question 5

b) If yes, was it because it was: mandatory ₁ voluntary ₂ both ₃

5. Including yourself, on average how many anglers were in your fishing parties in 1995?

average number of adults (18 and over) _____

average number of children (under 18) _____

6. Overall, how would you rate your recreational fishing experience in Ontario in 1995?

Excellent ₁ Very Good ₂ Good ₃ Fair ₄ Poor ₅

7a) Based on your 1995 fishing experience, do you feel that there are any major problems with the way Ontario's fisheries are being managed?

Yes ₁ → please continue

No ₂ → go to question 7c

b) If yes, which of the following problems exist?

Too many anglers ₁ <input type="radio"/>	Too few fish ₄ <input type="radio"/>	Poor water quality ₇ <input type="radio"/>
Too many boats ₂ <input type="radio"/>	Poor fish habitat ₅ <input type="radio"/>	Not enough access ₈ <input type="radio"/>
Too much access ₃ <input type="radio"/>	Poor scenic quality ₆ <input type="radio"/>	Other: ₉ <input type="radio"/>

c) Which two of the following management programs do you favour the most for managing fisheries in Ontario?

Stocking of hatchery fish ₁ <input type="radio"/>	Special fishing regulations ₃ <input type="radio"/>
Protecting fish habitat ₂ <input type="radio"/>	Improving fishing access ₄ <input type="radio"/>

d) If restrictions are needed to protect Ontario's fisheries, which two of the following regulations would you prefer?

Lower bag limits ₁ <input type="radio"/>	Minimum size limits ₃ <input type="radio"/>
Gear restrictions (only artificial lures) ₂ <input type="radio"/>	Shorten seasons ₄ <input type="radio"/>

e) If special restrictions are needed to protect Ontario's fisheries, which two of the following regulations would you prefer?

Close areas (sanctuaries) ₁ <input type="radio"/>	Limit angler numbers ₄ <input type="radio"/>
Catch and release only ₂ <input type="radio"/>	Tags for specific species ₅ <input type="radio"/>
Slot size limits ₃ <input type="radio"/>	

8. How many years have you fished for recreation in Ontario? _____ years

9. Did you fish for recreation outside Ontario in 1995? Yes ₁ No ₂

10. As an angler, do you consider yourself to be:

an expert ₁ experienced ₂ average ₃ a beginner ₄

11a) Were you a member of an organized angling group or association in 1995?

Yes ₁ No ₂

b) Do you consider that organized angling groups or associations represent your fishing interests adequately?

Yes ₁ No ₂

12. Have you heard of or read about invasive species such as zebra mussels, spiny water flea, Eurasian water milfoil and Eurasian ruffe that inhabit Ontario's lakes, rivers and streams?

Yes → please continue

No → go to question 13

Educational programs or other incentives may be developed that encourages boaters and anglers to take steps to prevent the spread of invasive species. How effective would each of the following be in getting you to take steps to prevent their further spread?

Please rate each method on a scale of 1 (not effective) to 5 (very effective).

Information	Rating	Information	Rating
Brochures and Fact Sheets	_____	News media coverage	_____
Information included in fishing and boating regulation pamphlets	_____	Laws that make it illegal to transport invasive species	_____
Conferences / Workshops	_____	Road checks to enforce the laws	_____
Billboards	_____	Fines assessed to violators	_____
Signs at access points	_____	Articles in newsletters and magazines	_____
Inspections at access points	_____		

13a) There are a number of factors which play a role in determining the choice of fishing destinations. We would like you to rate each of the following factors based on their importance to you in selecting where you fish in Ontario:

Please rate each factor on a scale of 1 (not important) to 5 (extremely important).

Factor	Rating	Factor	Rating
Water quality	_____	Parking availability	_____
Natural beauty of the area	_____	Cost	_____
Presence of wildlife in the area	_____	Lack of pollutants in fish	_____
Places to fish from shore	_____	Size of fish	_____
Lack of angler crowding	_____	Chance to catch a trophy fish	_____
Absence of other recreationists	_____	Catch rate per hour of all fish	_____
Nearness to food and lodging	_____	Catch rate per hour of fish you can keep	_____
Quality of tourist facilities	_____	Presence of favourite species	_____
Boat launching/marina facilities	_____	Variety of species available	_____
Access to other recreational facilities	_____	Distance/travel time	_____
Nearness to bait and tackle shops	_____	Information about the area	_____

b) Anglers are motivated to fish for a number of reasons. We have listed some possible reasons below. Would you please rate each of these reasons as they relate to why you fish where you do in Ontario:

Please rate each factor on a scale of 1 (not important) to 5 (extremely important).

Reason	Rating	Reason	Rating
To catch fish to eat	_____	To improve your fishing skills	_____
For relaxation	_____	To get away	_____
For companionship	_____	Family togetherness	_____
To enjoy nature	_____	To catch trophy fish	_____
Challenge and excitement	_____	For a sense of achievement	_____

EXPENDITURES ON RECREATIONAL FISHING IN 1995

14a) Did you or any member of your household make any **major** purchases or investments in 1995 related in whole or in part to recreational fishing? (e.g. fishing rods, boats, motors, 4x4's, cabins, camping gear, trailers, etc.)

Please Note: Purchases of fishing supplies (bait, line, tackle, etc.) are covered in question 16.

Yes → please continue

No → go to question 15

b) For each investment category, please indicate the amount of money spent **in Ontario in 1995** by you and members of your household and, please estimate the percentage of the total amount you consider was directly attributable to recreational fishing activities.

Investment Category	Total Amount Spent on Purchases in Ontario	% of Total Attributable to Recreational Fishing
Fishing Equipment (rods, reels, fish finders, etc.)	\$ _____ .00	XXXXXX
Boating Equipment (boats, motors, trailers, etc.)	\$ _____ .00	_____ %
Camping Equipment (tents, camper trailers, etc.)	\$ _____ .00	_____ %
Special Vehicles (4x4's, camper truck, ATV's, etc.)	\$ _____ .00	_____ %
Land-Buildings (cabins, cottages, land, etc.)	\$ _____ .00	_____ %
Other (special clothing, waders, ice-huts, etc.)	\$ _____ .00	_____ %

c) How much did you spend **outside Ontario** on major purchases related to recreational fishing in 1995? (including purchases made by mail-order from non-Ontario suppliers).

\$ _____ .00

15. PACKAGES PURCHASED IN 1995

The following question refers only to packages purchased in Ontario from a lodge or outfitter (or their agent) which include a complete range of services such as lodging, food, transportation, etc.

For self-organized trips, please include expenditures in question 16.

a) Did you or any member of your household purchase any such packages to fish in Ontario in 1995?

Yes → please continue

No → go to question 16

b) If yes, what was the total cost to you and your household per package, the site number (from question 3a), the site description and the mode of transportation used to reach the actual site? Also, please indicate if the site you fished was remote or not, where remote is defined as a lake with no road access. If the package was purchased by a group, please include only your household's share.

Package	Cost	Site Number (from question 3a)	Mode of transportation used to reach actual site	Site Description
# 1	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 2	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 3	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 4	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>

16. **EXCLUDING** expenditures on major purchases and package deals, please indicate the amount of money you and other members of your household spent on the following to fish for recreation in Ontario in 1995.

Expenditure Category	Amount
Accommodation (hotels, motels, etc.)	\$ _____ .00
Campsite fees (private, provincial, etc.)	\$ _____ .00
Food (groceries, restaurant meals, alcoholic beverages)	\$ _____ .00
Travel costs within Ontario for recreational fishing - vehicle expenses (including gas, repairs, rentals), air fares, etc.	\$ _____ .00
Household owned boat costs (gas, repairs, launch/ramp fees, moorage, insurance, etc.)	\$ _____ .00
Boat rentals	\$ _____ .00
Fishing supplies (bait, tackle, etc.)	\$ _____ .00
Guide services	\$ _____ .00
Fishing licence fees (permits, tags, etc.)	\$ _____ .00
Access fees	\$ _____ .00
Other (park fees, tolls, etc.)	\$ _____ .00

If you did not personally fish for recreation in Ontario in 1995, please go to question 18

17a) Please consider the number of days you fished and what you paid to fish in Ontario during 1995, the amount of money you spent for similar recreational activities, and your income in 1995. Would you still have fished for recreation in Ontario had your out of pocket costs PER FISHING DAY been higher due to increased costs for gasoline, accommodation, supplies, etc?

Yes ₁ → please continue No ₂ → go to question 18

b) What is the **maximum additional amount** of money you would pay PER FISHING DAY before it would have been too expensive to fish at all in Ontario in 1995?

- Less than \$10.00 per day ₁ (please specify) \$ _____ .00
- \$10.00 per day ₂ \$50.00 per day ₆ \$90.00 per day ₁₀
- \$20.00 per day ₃ \$60.00 per day ₇ \$100.00 per day ₁₁
- \$30.00 per day ₄ \$70.00 per day ₈ More than \$100.00 per day ₁₂
- \$40.00 per day ₅ \$80.00 per day ₉ (please specify) \$ _____ .00

RECREATIONAL BOAT OWNERSHIP AND BOATING ACTIVITIES

18a) How many boats are owned by your household? _____ boats or None → go to question 19

b) Please provide the following information for your boats:

Characteristic	BOAT 1	BOAT 2	BOAT 3	BOAT-4
Type of boat (canoe, rowboat, sailboat, inboard, outboard, inboard-outboard, etc.)	_____	_____	_____	_____
Length (in feet)	_____ ft	_____ ft	_____ ft	_____ ft
Days used for <u>all</u> recreational purposes in Ontario in 1995 (including fishing)	_____ days	_____ days	_____ days	_____ days
Days used for recreational fishing in Ontario in 1995	_____ days	_____ days	_____ days	_____ days
Days used for recreational fishing on the Great Lakes and on the St-Lawrence River in 1995	_____ days	_____ days	_____ days	_____ days
Approximately how old is this boat	_____ years	_____ years	_____ years	_____ years

INFORMATION ABOUT YOU AND YOUR HOUSEHOLD

In order for us to analyze the data collected in this survey in a meaningful way, we require some personal information about you and the members of your household. We realize that some of the questions are highly personal, but they will be used only in the analysis of the survey. This will allow us to accurately estimate the number of anglers in the province, their use of the resource and the economic benefits generated by recreational fishing in the province of Ontario.

YOUR ANSWERS WILL REMAIN STRICTLY CONFIDENTIAL

19. In what year were you born? 19__

20. Are you: Male ₁ Female ₂

21. **Excluding yourself**, how many other members of your household 18 years of age and over held any of the following Ontario recreational fishing licences in 1995? For 1-day licences, please indicate how many were purchased.

Card Type	Household Members	Licence Type	Household Members	
Outdoors card-fishing	_____	Seasonal licence	_____	
Outdoors card-fishing / hunting	_____	Conservation licence	_____	Number Purchased
		1-day licence	_____	_____

22. How many members of your household under 18 years of age fished for recreation in Ontario in 1995, and how many days in total did they fish?

household members under 18 years _____ days fished in total _____

23. What is the highest level of education you have completed? (please check one only)

- No formal schooling₁ Secondary (high school)₃ College/University₅
 Elementary (grade school)₂ Trade/Vocational₄ Post graduate₆

24. What category best describes your employment status in 1995? (please check one only)

- Full-time employee₁ Retired₃ Student₅
 Part-time employee₂ Homemaker₄ Unemployed₆

25. Please indicate which of the following categories best represents your total **personal** income before taxes in 1995. (please check one only)

- | | | |
|---|---|--|
| None..... ₁ <input type="radio"/> | \$30,000 to \$39,999 ₅ <input type="radio"/> | \$70,000 to \$79,999 ₉ <input type="radio"/> |
| Less than \$10,000 ₂ <input type="radio"/> | \$40,000 to \$49,999 ₆ <input type="radio"/> | \$80,000 to \$89,999 ₁₀ <input type="radio"/> |
| \$10,000 to \$19,999 ₃ <input type="radio"/> | \$50,000 to \$59,999 ₇ <input type="radio"/> | \$90,000 or more ₁₁ <input type="radio"/> |
| \$20,000 to \$29,999 ₄ <input type="radio"/> | \$60,000 to \$69,999 ₈ <input type="radio"/> | |

26. Please indicate which of the following categories best represents your total **household** income before taxes in 1995. (please check one only)

- | | | |
|---|--|--|
| None..... ₁ <input type="radio"/> | \$40,000 to \$49,999 ₆ <input type="radio"/> | \$90,000 to \$99,999 ₁₁ <input type="radio"/> |
| Less than \$10,000 ₂ <input type="radio"/> | \$50,000 to \$59,999 ₇ <input type="radio"/> | \$100,000 to \$119,999 ₁₂ <input type="radio"/> |
| \$10,000 to \$19,999 ₃ <input type="radio"/> | \$60,000 to \$69,999 ₈ <input type="radio"/> | \$120,000 to \$139,999 ₁₃ <input type="radio"/> |
| \$20,000 to \$29,999 ₄ <input type="radio"/> | \$70,000 to \$79,999 ₉ <input type="radio"/> | \$140,000 to \$159,999 ₁₄ <input type="radio"/> |
| \$30,000 to \$39,999 ₅ <input type="radio"/> | \$80,000 to \$89,999 ₁₀ <input type="radio"/> | \$160,000 or more ₁₅ <input type="radio"/> |



1995 SURVEY OF RECREATIONAL FISHING IN CANADA

NONRESIDENTS OF ONTARIO

(Le présent questionnaire est également disponible en français)
(QUESTIONS? → 1 (800) 869-9451 TOLL FREE)

INSTRUCTIONS TO RESPONDENTS

In order to complete this document as easily as possible, the following instructions may be of assistance:

- ▶ the questions are to be answered only by the person to whom the questionnaire was addressed.
- ▶ this survey covers only fishing activity between January 1 and December 31, 1995.
- ▶ the term "household members" refers only to individuals living in your residence.

THANK YOU IN ADVANCE FOR YOUR COOPERATION AND ASSISTANCE.

CONFIDENTIAL WHEN COMPLETED

LICENCE INFORMATION:

1. Which of the following Ontario recreational fishing licences did you personally hold in 1995? For 1-day and 7-day licences, please indicate how many you purchased.

- | | | | | |
|----------------------|-------------------------|----------------------------|-------------------------|--------------------------|
| Seasonal licence | <input type="radio"/> 1 | 1-day licence | <input type="radio"/> 4 | → number purchased _____ |
| Conservation licence | <input type="radio"/> 2 | 7-day licence | <input type="radio"/> 5 | → number purchased _____ |
| Spousal licence | <input type="radio"/> 3 | 7-day conservation licence | <input type="radio"/> 6 | → number purchased _____ |

YOUR PERSONAL RECREATIONAL FISHING ACTIVITIES

-2a) Did you personally fish for recreation in Ontario in 1995?

Yes 1 → please continue No 2 → go to question 8

b) How many days in total did you spend fishing for recreation in Ontario in 1995?

(A "day" is all or any part of a day fished)

_____ days fished

c) Of the above days, how many were spent fishing through the ice in Ontario in 1995?

None OR _____ days fished

d) On average, how many hours per day did you fish for recreation in Ontario in 1995?

_____ hours per day



3a) For each water body on which you fished in Ontario in 1995, please provide the location, the number of fishing trips, the days fished and the number of fish you caught and kept. If you fished in a provincial park, please name the park instead of the nearest town/village. Even if you did not catch any fish, the information on where you fished and how often is important.

Please include only your personal fishing activities.

SITE 1	Name of lake, river or stream _____				Number of days fished _____			
	Nearest town/village _____				Fishing trips made _____			
	Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>			
Walleye (pickerel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____	_____
Splake	_____	_____	Whitefish	_____	_____			

SITE 2	Name of lake, river or stream _____				Number of days fished _____			
	Nearest town/village _____				Fishing trips made _____			
	Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>			
Walleye (pickerel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____	_____
Splake	_____	_____	Whitefish	_____	_____			

SITE 3	Name of lake, river or stream _____				Number of days fished _____			
	Nearest town/village _____				Fishing trips made _____			
	Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>		Number of fish <u>Caught</u> <u>Kept</u>			
Walleye (pickerel)	_____	_____	Rainbow trout	_____	_____	Chinook salmon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Coho salmon	_____	_____
Perch	_____	_____	Muskellunge	_____	_____	Smelt	_____	_____
Brook trout	_____	_____	Smallmouth bass	_____	_____	Panfish	_____	_____
Lake trout	_____	_____	Largemouth bass	_____	_____	Other fish	_____	_____
Splake	_____	_____	Whitefish	_____	_____			

3a) continued

SITE 4	Name of lake, river or stream _____	Number of days fished _____			
	Nearest town/village _____	Fishing trips made _____			
	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>		
Walleye (pickerel)	_____	Rainbow trout	_____	Chinook salmon	_____
Northern pike	_____	Brown trout	_____	Coho salmon	_____
Perch	_____	Muskellunge	_____	Smelt	_____
Brook trout	_____	Smallmouth bass	_____	Panfish	_____
Lake trout	_____	Largemouth bass	_____	Other fish	_____
Splake	_____	Whitefish	_____		_____

SITE 5	Name of lake, river or stream _____	Number of days fished _____			
	Nearest town/village _____	Fishing trips made _____			
	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>	Number of fish <u>Caught</u> <u>Kept</u>		
Walleye (pickerel)	_____	Rainbow trout	_____	Chinook salmon	_____
Northern pike	_____	Brown trout	_____	Coho salmon	_____
Perch	_____	Muskellunge	_____	Smelt	_____
Brook trout	_____	Smallmouth bass	_____	Panfish	_____
Lake trout	_____	Largemouth bass	_____	Other fish	_____
Splake	_____	Whitefish	_____		_____

3b) For each site identified above, please provide the following information.

	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
If you travelled to the site by vehicle, what was the one-way distance from your residence?	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km	_____ mi or _____ km
Approximate travel time?	_____ hrs	_____ hrs	_____ hrs	_____ hrs	_____ hrs
Did you fish at this site in 1994?	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>
If yes, did the quality of your fishing experience in 1995:					
1 (remain the same)	₁ <input type="radio"/>	₁ <input type="radio"/>	₁ <input type="radio"/>	₁ <input type="radio"/>	₁ <input type="radio"/>
2 (increase)	₂ <input type="radio"/>	₂ <input type="radio"/>	₂ <input type="radio"/>	₂ <input type="radio"/>	₂ <input type="radio"/>
3 (decrease)	₃ <input type="radio"/>	₃ <input type="radio"/>	₃ <input type="radio"/>	₃ <input type="radio"/>	₃ <input type="radio"/>

4a) Did you practise catch and release fishing in Ontario in 1995?

Yes ₁ → please continue

No ₂ → go to question 5

b) If yes, was it because it was: mandatory ₁ voluntary ₂ both ₃

5. Including yourself, on average how many anglers were in your fishing parties in 1995?

average number of adults (18 and over) _____

average number of children (under 18) _____

6. Overall, how would you rate your recreational fishing experience in Ontario in 1995?

Excellent ₁

Very Good ₂

Good ₃

Fair ₄

Poor ₅

7a) Based on your 1995 fishing experience, do you feel that there are any major problems with the way Ontario's fisheries are being managed?

Yes ₁ → please continue

No ₂ → go to question 7c

b) If yes, which of the following problems exist?

Too many anglers ₁

Too few fish ₄

Poor water quality ₇

Too many boats ₂

Poor fish habitat ₅

Not enough access ₈

Too much access ₃

Poor scenic quality ₆

Other: ₉

c) Which two of the following management programs do you favour the most for managing fisheries in Ontario?

Stocking of hatchery fish ₁

Special fishing regulations ₃

Protecting fish habitat ₂

Improving fishing access ₄

d) If restrictions are needed to protect Ontario's fisheries, which two of the following regulations would you prefer?

Lower bag limits ₁

Minimum size limits ₃

Gear restrictions ₂
(only artificial lures)

Shorten seasons ₄

e) If special restrictions are needed to protect Ontario's fisheries, which two of the following regulations would you prefer?

Close areas (sanctuaries) ₁

Limit angler numbers ₄

Catch and release only ₂

Tags for specific species ₅

Slot size limits ₃

8. How many years have you fished for recreation in Ontario? _____ years

9. Did you fish for recreation outside Ontario in 1995?

Yes ₁

No ₂

10. As an angler, do you consider yourself to be:

an expert ₁

experienced ₂

average ₃

a beginner ₄

11a) Were you a member of an organized angling group or association in 1995?

Yes ₁

No ₂

b) Do you consider that organized angling groups or associations represent your fishing interests adequately?

Yes ₁

No ₂

12. Have you heard of or read about invasive species such as zebra mussels, spiny water flea, Eurasian water milfoil and Eurasian ruffe that inhabit Ontario's lakes, rivers and streams?

Yes → please continue

No → go to question 13

Educational programs or other incentives may be developed that encourages boaters and anglers to take steps to prevent the spread of invasive species. How effective would each of the following be in getting you to take steps to prevent their further spread?

Please rate each method on a scale of 1 (not effective) to 5 (very effective).

Information	Rating	Information	Rating
Brochures and Fact Sheets	_____	News Media Coverage	_____
Information included in fishing and boating regulation pamphlets	_____	Laws that make it illegal to transport invasive species	_____
Conferences / Workshops	_____	Road checks to enforce the laws	_____
Billboards	_____	Fines assessed to violators	_____
Signs at access points	_____	Articles in newsletters and magazines	_____
Inspections at access points	_____	Other: _____	_____

- 13a) There are a number of factors which play a role in determining the choice of fishing destinations. We would like you to rate each of the following factors based on their importance to you in selecting where you fish in Ontario:

Please rate each factor on a scale of 1 (not important) to 5 (extremely important).

Factor	Rating	Factor	Rating
Water quality	_____	Parking availability	_____
Natural beauty of the area	_____	Cost	_____
Presence of wildlife in the area	_____	Lack of pollutants in fish	_____
Places to fish from shore	_____	Size of fish	_____
Lack of angler crowding	_____	Chance to catch a trophy fish	_____
Absence of other recreationists	_____	Catch rate per hour of all fish	_____
Nearness to food and lodging	_____	Catch rate per hour of fish you can keep	_____
Quality of tourist facilities	_____	Presence of favourite species	_____
Boat launching/marina facilities	_____	Variety of species available	_____
Access to other recreational facilities	_____	Distance/travel time	_____
Nearness to bait and tackle shops	_____	Information about the area	_____

- b) Anglers are motivated to fish for a number of reasons. We have listed some possible reasons below. Would you please rate each of these reasons as they relate to why you fish where you do in Ontario:

Please rate each factor on a scale of 1 (not important) to 5 (extremely important).

Reason	Rating	Reason	Rating
To catch fish to eat	_____	To improve your fishing skills	_____
For relaxation	_____	To get away	_____
For companionship	_____	Family togetherness	_____
To enjoy nature	_____	To catch trophy fish	_____
Challenge and excitement	_____	For a sense of achievement	_____

TRIP INFORMATION

- 14a) How many trips did you make to Ontario in 1995?
(A trip should be counted each time you crossed the border into the province).
_____ trips
- b) How many days in total did you spend in Ontario in 1995 for all reasons?
_____ days
- c) On how many of your trips to Ontario in 1995 did you fish?
_____ trips
- d) How many of your fishing trips to Ontario in 1995 were day-trips requiring no accommodation?
_____ day trips
- e) For the remaining fishing trips, how many nights were spent in Ontario?
_____ nights

EXPENDITURES ON RECREATIONAL FISHING IN 1995

Please indicate which currency you will be using to answer the following expenditure questions:

Canadian Dollars ₁ U.S. Dollars ₂

- 15a) Did you or any member of your household make any major purchases or investments in Ontario in 1995 related in whole or in part to recreational fishing? (e.g. fishing rods, boats, motors, 4x4's, cabins, camping gear, trailers, etc.)

Please Note: Purchases of fishing supplies (bait, lures, line, tackle, etc.) are covered in question 17.

Yes ₁ → please continue No ₂ → go to question 16

- b) For each investment category, please indicate the amount of money spent in Ontario in 1995 by you and members of your household and estimate the percentage of the total amount you consider was directly attributable to recreational fishing.

Investment Category	Total Amount Spent on Purchases in Ontario	% of Total Attributable to Recreational Fishing
Fishing Equipment (rods, reels, fish finders, etc.)	\$ _____ .00	XXXXXX
Boating Equipment (boats, motors, trailers, etc.)	\$ _____ .00	_____ %
Camping Equipment (tents, camper trailers, etc.)	\$ _____ .00	_____ %
Special Vehicles (4x4's, camper truck, ATV's, etc.)	\$ _____ .00	_____ %
Land-Buildings (cabins, cottages, land, etc.)	\$ _____ .00	_____ %
Other (special clothing, waders, ice-huts, etc.)	\$ _____ .00	_____ %

16. PACKAGES PURCHASED IN 1995

The following question refers only to packages purchased in Ontario from a lodge or outfitter (or their agent) which include a complete range of services such as lodging, food, transportation, etc.

For self-organized trips, please include expenditures in question 17.

a) Did you or any member of your household purchase any such packages to fish in Ontario in 1995?

Yes → please continue No → go to question 17

b) If yes, what was the total cost to you and your household per package, the site number (from question 3a), the site description and the mode of transportation used to reach the actual site? Also, please indicate if the site you fished was remote or not, where remote is defined as a lake with no road access. If the package was purchased by a group, please include only your household's share.

Package	Cost	Site Number (from question 3a)	Mode of transportation used to reach actual site	Site Description
# 1	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 2	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 3	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>
# 4	\$ _____ .00	_____		Remote Yes <input type="radio"/> No <input type="radio"/>

17. **EXCLUDING** expenditures on major purchases and package deals, please indicate the amount of money you and other members of your household spent on the following to fish for recreation in Ontario in 1995.

Expenditure Category	Amount
Accommodation (hotels, motels, etc.)	\$ _____ .00
Campsite fees (private, provincial, etc.)	\$ _____ .00
Food (groceries, restaurant meals, alcoholic beverages)	\$ _____ .00
Travel costs within Ontario for recreational fishing - vehicle expenses (including gas, repairs, rentals), air fares, etc.	\$ _____ .00
Household owned boat costs (gas, repairs, launch/ramp fees, moorage, insurance, etc.)	\$ _____ .00
Boat rentals	\$ _____ .00
Fishing supplies (bait, line, tackle, etc.)	\$ _____ .00
Guide services	\$ _____ .00
Fishing licence fees (permits, tags, etc.)	\$ _____ .00
Access fees	\$ _____ .00
Other (park fees, tolls, etc.)	\$ _____ .00

If you did not personally fish for recreation in Ontario in 1995, please go to question 19.

18a) Please consider the number of days you fished and what you paid to fish in Ontario during 1995, the amount of money you spent for similar recreational activities, and your income in 1995. Would you still have fished for recreation in Ontario had your out of pocket costs PER FISHING DAY been higher due to increased costs for gasoline, accommodation, supplies, etc?

Yes → please continue No → go to question 19

b) What is the **maximum additional amount** of money you would PAY PER FISHING DAY before it would have been too expensive to fish at all in Ontario in 1995?

- Less than \$10.00 per day (please specify) \$ _____ .00
- \$10.00 per day \$50.00 per day \$90.00 per day
- \$20.00 per day \$60.00 per day \$100.00 per day
- \$30.00 per day \$70.00 per day More than \$100.00 per day
- \$40.00 per day \$80.00 per day (please specify) \$ _____ .00

INFORMATION ABOUT YOU AND YOUR HOUSEHOLD

In order for us to analyze the data collected in this survey in a meaningful way, we require some personal information about you and the members of your household. We realize that some of the questions are highly personal, but they will be used only in the analysis of the survey. This will allow us to accurately estimate the number of anglers in the province, their use of the resource and the economic benefits generated by recreational fishing in the province of Ontario.

YOUR ANSWERS WILL REMAIN STRICTLY CONFIDENTIAL

19. In what year were you born? 19__

20. Are you: Male Female

21. **Excluding yourself**, how many other members of your household 18 years of age and over held any of the following Ontario recreational fishing licences in 1995? For 1-day and 7-day licences, please indicate how many were purchased.

<u>Licence Type</u>	<u>Household Members</u>	<u>Number Purchased</u>
Seasonal licence <input type="radio"/>	_____	
Conservation licence <input type="radio"/>	_____	
7-day licence <input type="radio"/>	_____	_____
7-day conservation licence <input type="radio"/>	_____	_____
Spousal licence <input type="radio"/>	_____	
1-day licence <input type="radio"/>	_____	_____

22. What is the highest level of education you have completed? (please check one only)

- No formal schooling Secondary (high school) College/University
 Elementary (grade school) Trade/Vocational Post graduate

23. What category best describes your employment status in 1995? (please check one only)

- Full-time employee Retired Student
 Part-time employee Homemaker Unemployed

24. Please indicate which of the following categories best represents your total **personal** income before taxes in 1995. (please check one only)

- None..... \$30,000 to \$39,999 \$70,000 to \$79,999
 Less than \$10,000 \$40,000 to \$49,999 \$80,000 to \$89,999
 \$10,000 to \$19,999 \$50,000 to \$59,999 \$90,000 or more
 \$20,000 to \$29,999 \$60,000 to \$69,999

25. Please indicate which of the following categories best represents your total **household** income before taxes in 1995. (please check one only)

- None..... \$40,000 to \$49,999 \$90,000 to \$99,999
 Less than \$10,000 \$50,000 to \$59,999 \$100,000 to \$119,999
 \$10,000 to \$19,999 \$60,000 to \$69,999 \$120,000 to \$139,999
 \$20,000 to \$29,999 \$70,000 to \$79,999 \$140,000 to \$159,999
 \$30,000 to \$39,999 \$80,000 to \$89,999 \$160,000 or more

