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Survey of Recreational Fishing in Canada

Selected Results for the Great Lakes Fishery

2005



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Preface

The 2005 Survey of Recreational Fishing in Canada collected information about recreational fishing activities to assess the economic and social importance of recreational fisheries to Canada's provinces and territories. Using the Ontario subset of this national data, information specific to the Great Lakes has been developed in order to determine the importance of this particular recreational fishery. It is at this time the most comprehensive and up-to-date source of statistics regarding the harvest, retention, and economics of recreational angling on the Great Lakes.

Acknowledgements

The cooperation of survey respondents was critical to the successful completion of this project and is gratefully acknowledged.

This report was prepared by Neville Johnson, Statistical Services, under the supervision of Rowena Orok, Tim Hsu, and Robert Elliott, Director, Economic Analysis and Statistics, Policy Sector.

The initial national recreational fishing survey was a coordinated initiative between Fisheries and Oceans Canada (DFO) and the provincial and territorial fisheries licensing agencies. Key operational activities for the Ontario subset including survey sampling, data collection, coding, editing and estimation were managed by Kieth Brickley, consulting statistician, under the direction of Sue Rocque, Resource Management-National, Fisheries and Aquaculture Management Sector.

The cooperation of the following technical support staff is also gratefully acknowledged:

Fisheries and Oceans Canada:

Jennifer Mousseau (Statistical Services, Ottawa)
Lewis Sonsini (Statistical Services, Ottawa)

Symbols

The following symbols are used in this report:

- nil or zero
**.* zero percentage

1.0 Introduction

The Great Lakes is the largest system of fresh, surface water on the planet and the Great Lakes basin is home to nearly 30% of Canada's total population.¹ With fishing historically being one of the more prominent recreational activities in Canada, both for citizens and visitors to the country alike, there is the potential for substantial recreational fishing activity on the Great Lakes.

Every year, large numbers of Canadian and visiting anglers participate in sport fishing activities across Canada. The important socio-economic contributions of recreational fishing are felt in all of Canada's provinces and territories, and in particular within the Great Lakes fishery defined in this report.

1.1 Survey Highlights

As highlighted in the Survey of Recreational Fishing in Canada², recreational fishing participation rates have been on a downward trend in most provinces and territories, and participation on the Great Lakes was no exception.

Resident anglers continued to make up the majority of the active angler population on the Great Lakes although the numbers of anglers decreased by nearly 30,000 between 2000 and 2005.

Females made up a greater proportion of active anglers in 2005 but still remained largely unrepresented compared to the male angling population (80%). The population of active adult anglers continued to age: the average age increased by 5 years for both sexes (47 for males and 43 for females) compared to 2000.

Though the number of active anglers and the number of days fished decreased from 2000, the average number of days fished per angler increased slightly to 12.1 days. Most of these angling days were spent fishing on Lake Huron (2 million) and Lake Ontario (1 million). The same two lakes were the most popular for ice fishing.

Those anglers that fished on the Great Lakes caught a total of 39.2 million fish of all species in the province of Ontario of which 23.6 million were in the Great Lakes system. As in 2000, perch made up the greatest proportion of these fish caught in 2005 with nearly a third of the total harvest. Even greater proportions were kept by

all three angling groups as the retention rate for perch approached fifty percent.

Great Lakes anglers spent an estimated \$413 million on durable goods used in whole or in part for recreational fishing on the six major Great Lakes regions. Of this amount, \$228 million could be directly attributed to their recreational fishing activities on the system in 2005. An additional \$215 million was dispensed in the region on direct recreational fishing expenditures during fishing trips, such as transportation, food, lodging, fishing services, and fishing supplies.

2.0 Survey Overview

Utilizing data from the Ontario component of 2005 Survey of Recreational Fishing in Canada, information specific to the Great Lakes system has been developed since 1980 in order to determine the economic importance of the fishery on Canada's largest fresh water fishing source. More specifically, the survey's target population in Ontario covered all individuals identified in the 2005 provincial recreational fishing licence database. In 2005, the questionnaires were mailed out to over 16,000 households within Canada and in other countries to obtain information on recreational fishing activities.

The 2005 survey collected information on:

- angler profile (age, sex, residence, etc.)
- recreational fishing activity
 - fishing effort by regions;
 - number of fish caught and retained;
 - harvest by species and by fisheries management and/or economic region;
 - trip information; and
 - catch and release activities
- expenditures
 - major purchases or investments attributable to fishing activities;
 - package deals purchased; and
 - direct expenditures related to recreational fishing trip activities.

Section 6 provides a more detailed description of the survey methodology as well as indicators of data quality and statistical reliability of key variables.

¹ Environment Canada, Great Lakes Overview, <http://www.on.ec.gc.ca/greatlakes/>, accessed January 24, 2008.

² Fisheries and Oceans Canada, 2005 Survey of Recreational Fishing in Canada, Catalogue no. Fs23-522/2005E, Ottawa.

3.0 Definition of the Great Lakes Regions

As defined in the Ontario provincial questionnaire of the 2005 Survey of Recreational Fishing in Canada, 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 geographic coding identifying each town which were then 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). Individuals fishing tributaries of the Great Lakes further inland than what is defined by the geographic coding are not included as participants in the Great Lakes fishery.

A map detailing the Great Lakes areas is provided in Annex B. Specifically, these areas are defined as follows:

St. Lawrence River: East of Amherstview to the Ontario-Quebec border.

Lake Ontario: West from Amherstview 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-Minnesota border.

4.0 Concepts, Terms and Other Definitions

Following is a glossary of terms and definitions used in the survey and throughout this report:

Recreational Fishing: refers to non-commercial fishing; recreational angling, and sport fishing are covered in the definition used by the survey. Note that ceremonial fishing and subsistence fishing are not covered by the survey and are, therefore, not included in any of the estimates presented in this report.

Great Lakes: a reference to any or all of the Great Lakes waterbodies defined above. The terms *Great Lakes* and *Great Lakes regions* are used interchangeably in the report.

Active Angler: an angler who fished in 2005; the identification of active anglers was based on the information from provincial and territorial licensing databases.

Adult Anglers: the total adult angler population in 2005; do not include individuals under 18 years of age. The survey results presented in this report relate to recreational fishing activities of **active adult anglers** covered in the survey.

Household: made up of one or more adult anglers who reside in the same dwelling.

Angler categories: each jurisdiction surveyed two general categories of active anglers: resident anglers and non-resident anglers (Canadian and Other/Foreign).

Resident Angler: an angler who lived in Ontario and who fished within the Great Lakes system in 2005.

Canadian Non-resident Angler: a Canadian angler from outside Ontario who fished in the Great Lakes region.

Other Non-resident Angler: a non-Canadian angler who fished in the Great Lakes region in Ontario. The terms *foreign angler*, *other non-resident angler* and *non-Canadian angler* are used interchangeably throughout the report.

Fish Harvested: number of fish caught (the term *fish harvest* is also used in the tables).

Fish Retained: number of fish kept.

Day Fished: a day or part of a day on which an angler fished for recreation.

Direct Expenditures: expenditures on goods and services (food, camping, accommodation, transportation, supplies, etc.) incurred during fishing trips or excursions.

Major Purchases and Investments: the purchase of durable goods in support of recreational fishing activities. These include boats, motors, special vehicles, camping gear and other durable goods. Land and building purchases are also included. Major purchases and investments are broken down into two categories: (1) *major purchases and investments attributable in whole or in part to recreational fishing*, defined as the total purchase price of the durable goods mentioned above; and (2) *major purchases and investments wholly*

attributable to recreational fishing, calculated based on the percentage of the purchase price which the angler feels was directly attributable to recreational fishing activities.

Fishing Equipment and Fishing Supplies: *fishing equipment* includes expenditures on goods as fishing rods, reels, depth finders, etc. while *fishing supplies* are items purchased in the course of fishing activity such as bait, line, etc.

Package Deal: monies paid to a lodge or outfitter for a complete range of services such as lodging, food, transportation, use of fishing equipment, etc. (for self-organized trips, this includes all expenditures). Types of package deals include: fly-in camps, lodge, charter boats, outfitters, etc.

Fishing Services: include boat rental, guide services, license fees, permits, tags, etc.

Fishing Supplies: include bait, line, tackle, etc.

Average Annual Growth Rate(decline): calculated using the formula $r = \exp(\ln(p_n/p_0)/n) - 1$ where r = average annual growth rate, p_n and p_0 are the last and first observations in the period, n is the number of years in the period and \ln is the natural logarithm operator.³

Current Dollars: also referred to as nominal dollars; actual dollars received or paid, unadjusted for price changes (inflation).

Constant Dollars: dollars that have been adjusted for inflation.

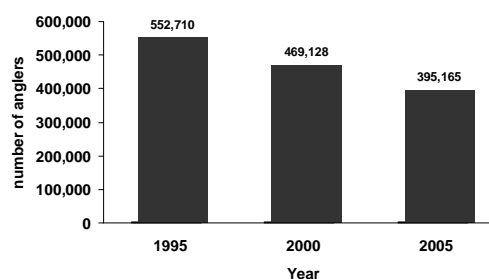
5.0 Survey Results

5.1 Angler Profile

In 2005, over 395,000 adult anglers participated in a variety of recreational fishing activities in the Great Lakes regions at one time or another. (Annex A.1).⁴ This was 16% lower than the estimate of 469,000 in 2000 (Figure 5.1). Historical data show that the number of active adult anglers has decreased at an average annual rate of 2% during the past ten years.

The majority of active anglers in 2005 were residents fishing within their home province of Ontario (over 78% of all anglers). The remaining active adult angler population consisted of nearly 4,600 Canadian non-residents (Canadians fishing outside their home province or territory) and foreign visitors to Ontario (over 82,000).

Figure 5.1 Total Active Adult Anglers, All Angler Categories, Great Lakes, 1995, 2000, 2005



Source:
DFO, Economic Analysis and Statistics.

5.1.1 Resident Anglers

Resident anglers were mainly concentrated in the Lake Huron, Lake Ontario, and Lake Erie regions (Annex A.1). In fact, in decreasing order, these lakes have occupied the top three positions in number of resident anglers for each of the Great Lakes recreational fishing reports since 1995. In 2005, residents fishing on these three lakes accounted for over 90% of all active resident anglers who fished on the Great Lakes. In terms of actual numbers, however, 2005 saw less active resident anglers in all three lakes compared to 2000. Most dramatically, Lake Ontario angling numbers has dropped by more than half compared to ten years ago. In contrast, the remaining Great Lakes water bodies of Lake St. Clair, Lake Superior, and the St. Lawrence River all displayed modest increases in the number of anglers since the last Great Lakes report (Table 5.1).

Table 5.1 Number of Active Resident Anglers by Jurisdiction, Great Lakes, 1995, 2000, 2005

Region	1995	2000	2005	% change (1995-2005)
Lake Ontario	178,118	100,635	85,699	-52
Lake Erie	90,691	68,591	62,684	-31
Lake St. Clair	28,691	19,781	21,519	-25
Lake Huron	197,488	159,857	135,389	-31
Lake Superior	31,912	16,480	25,010	-22
St. Lawrence River	18,702	17,183	20,175	8
Great Lakes System	485,096	336,632	306,901	-37

Source:
DFO, Economic Analysis and Statistics.

³ World Bank, World Development Indicators, Statistical Methods, <http://devdata.worldbank.org/wdi2006/contents/statisticalmethods.htm>, accessed December 17, 2007.

⁴ This estimate reflects the total number of active anglers in the regions and angler categories covered in the survey only.

5.1.2 Canadian Non-resident and Foreign Anglers

The non-resident angler category is made up of (1) Canadian non-residents from outside Ontario; and (2) foreign anglers visiting Canada. In total, there were nearly 87,000 anglers in these two non-resident angler categories in 2005 (Table 5.2). Of this total, a mere five percent were Canadians who fished outside their own province/territory. The remainder were foreign anglers, part of the half million foreign anglers who fished recreationally within the province of Ontario.

The lower angling numbers on the Great Lakes in 2005 reflect the trend of a decrease in numbers of non-residents participating in the national recreational fishery in recent years. A reduced visiting population combined with changes in Ontario recreational fishing rules and regulations is thought to have influenced the angling numbers in 1995.⁵ All things being equal, it is thought that the non-resident angling population would have been much higher in 1995 and the steady decline of non-resident anglers seen across the country would have been more apparent in the Great Lakes.

Table 5.2 Combined Number of Canadian Non-resident and Foreign Anglers, by Great Lake region, Canada 1995, 2000, 2005

Region	1995	2000	2005
Lake Ontario	20,191	10,428	10,849
Lake Erie	4,890	31,287	10,477
Lake St. Clair	1,553	20,177	21,150
Lake Huron	21,427	58,948	26,732
Lake Superior	9,942	10,851	11,657
St. Lawrence River	12,108	8,115	9,922
Great Lakes System	67,614	132,496	86,750

Source:
DFO, Economic Analysis and Statistics.

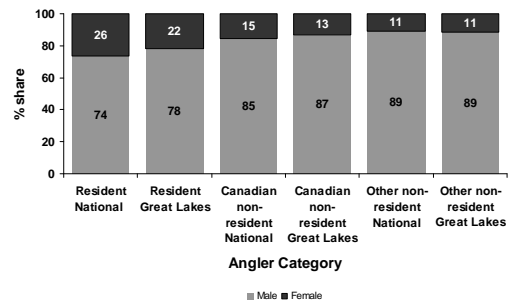
5.1.3 Gender and Age Profile

Male anglers made up 78% of resident adult anglers, 87% of Canadian non-resident anglers and 89% of all other non-resident anglers. These distributions have shown some fluctuations throughout the years but remain within comparable ranges. As expected, this gender distribution is similar to the recreational fishing population overall, i.e., on average, in every angler category, men largely outnumber women on the Great Lakes as well as nationally (Figure 5.2).

⁵ Ontario Ministry of Tourism, *Tourism Research: Tourism Statistics*, <http://www.tourism.gov.on.ca/>, accessed on January 13, 2008.

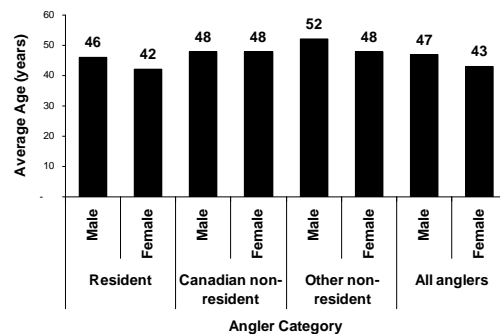
Figure 5.3 illustrates the average age of male and female active anglers. In 2005, the average male angler was 47 years old whereas female anglers were generally 43 years old, compared with 42 and 38 years respectively just five years ago.⁶ These were also considerably higher than the overall 2005 average age for Canadian and Ontario males (38 and 37 years respectively) and females (40 and 38 years respectively).⁷

Figure 5.2 Distribution of Active Anglers by Angler Category and Gender, Canada and Great Lakes anglers, 2005



Source:
DFO, Economic Analysis and Statistics.

Figure 5.3 Average Age of Active Anglers, by Angler Category and Gender, Great Lakes anglers, 2005



Source:
DFO, Economic Analysis and Statistics.

⁶ Fisheries and Oceans Canada, *2000 Survey of Recreational Fishing in Canada: Selected Results for the Great Lakes Fishery*, http://www.dfo-mpo.gc.ca/communic/statistics/recreational/great_lakes/2000/index_e.htm, accessed January 13, 2008.

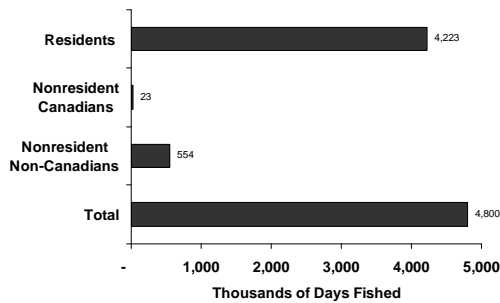
⁷ Statistics Canada, Table 051-0001, *Estimates of population, by age group and sex, Canada, provinces and territories, annual*, <http://www.statcan.ca/>, accessed on January 13, 2008.

5.2 Fishing Effort

Given its direct correlation with the number of active anglers, the total number of days spent fishing has also seen a decline over the past 10 years with resident anglers. In 2005, anglers fished a total of 4.8 million days in the Great Lakes regions, 88% of which were days fished by resident anglers.

Ontario anglers accounted for about 4.2 million days fished on the Great Lakes in 2005. Less than 1% of the total fishing effort on the Great Lakes (23,412 days) could be attributed to Canadians fishing outside their home province, while foreign anglers accounted for the remaining 11.5% (554 thousand days) in 2005 (Figure 5.4). In terms of the average days fished for each angler category, resident anglers fished an average of 14 days, non-resident Canadians just over 5 days and foreign anglers averaged about 7 days each.

Figure 5.4 Total Days Fished, by Angler Category, Great Lakes, 2005



Source:
DFO, Economic Analysis and Statistics.

Even with the lull in angling numbers for the 1995 season, non-resident anglers are the only group that displayed a consistent average number of days fished (7) for the last 10 years. Both resident angling numbers and overall average days fished has changed, albeit marginally, for each report since 1995. This suggests that although the number of people actively involved in a recreational fishing activity has decreased over the years, the people who remain active in recreational fishing appear to be applying a similar amount of effort.

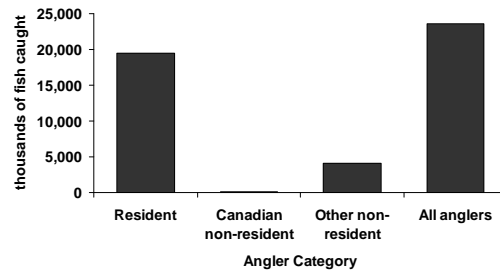
5.3 Harvest

5.3.1 Fish Caught and Retained

Anglers caught 23.6 million fish of all species (Annex A.5) and retained close to 7.1 million on the Great Lakes in 2005 (Annex A.9). Resident anglers caught over 82% (19.5 million) of this total harvest. Foreign anglers caught 4.1 million (17%) while the comparatively small Canadian non-resident fishing effort in the Great Lakes was reflected in their total harvest. A mere 86 thousand fish, less than 1% of the total fish harvest, were caught by Canadian residents from outside Ontario (Figure 5.5 and Annex A.3).

Resident anglers kept 30% of the fish they caught on the Great Lakes compared with 28% and 31% by Canadian non-resident and foreign anglers respectively. On average, each resident angler kept 19 fish in 2005. Every Canadian non-resident angler kept an average of five fish, while foreign anglers retained an average of 16 fish of various species.

Figure 5.5 Total Fish Harvest, All Species, by Angler Category, Great Lakes, 2005

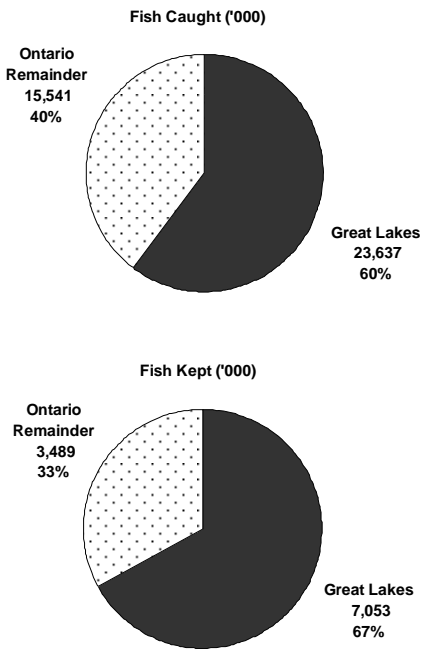


Source:
DFO, Economic Analysis and Statistics.

Overall, those anglers who fished in any Great Lakes region had a greater proportion of fish caught in those regions than any other area in the province of Ontario; 60% of the total catch by all angling groups came from the six major Great Lakes waterbodies. Fish were also taken from the Great Lakes at a greater rate than in other places in Ontario. Two-thirds of the catch kept by Great Lakes anglers was taken within the six defined regions (Figure 5.6).

The Great Lakes were by far the favourite fishing area for foreign anglers in Ontario since 75% of the fish caught and 80% of the fish kept by foreign anglers in Ontario occurred in the Great Lakes.

Figure 5.6 Fish Caught and Kept by Great Lakes Anglers, All Species, Great Lakes and Remainder of Ontario, 2005



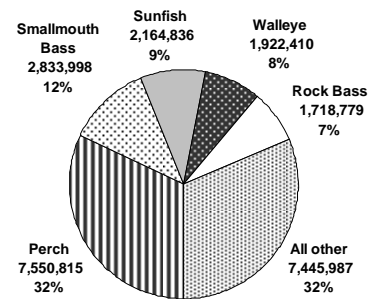
Source: DFO, Economic Analysis and Statistics.

5.3.2 Species Profile

The top five species caught in each of the three angler categories have not changed significantly over the last 10 years. Although its popularity dropped somewhat in 2000, perch was once again responsible for over 30% of the fish caught in the Great Lakes regions in 2005 (Figure 5.7), followed by smallmouth bass, sunfish, walleye, and rock bass. Combined totals for these other species (36%) just surpassed the total for perch. Only in Lake Huron (smallmouth bass) and Lake Superior (brook trout) was perch not the number one fish taken from the water (Table 5.3). Perch was so popular in the Lake Erie and Lake St. Clair regions, it outnumbered the second most harvested fish by a margin of almost five to one.

With these overall totals, it isn't surprising that perch is the most common species harvested by all three angler groups (Figure 5.8). In fact, residents caught perch at a 3:1 ratio to smallmouth bass, the second most harvested species by residents. Lake Superior and Lake Huron were the two major waterbodies to sway from the perch trend set by the other lakes. All three angling groups harvested smallmouth bass more often in Lake Huron than any other species. Non-residents in general preferred walleye in Lake Superior while brook trout comprised the majority of fish caught by residents in Superior.

Figure 5.7 Total Fish Harvest, Selected Species, Great Lakes Regions, 2005



Source: DFO, Economic Analysis and Statistics.

It is clear that perch is the most common fish harvested in 2005 mainly due to its ubiquity in the Great Lakes regions. However, massive harvest and retention numbers don't necessarily dictate an angler's desire for a particular species. For instance, among all angler groups, smallmouth bass is the second most numerous fish kept from the Great Lakes. However, given the high catch numbers of the species, it only translates into a very low percentage kept ratio, as low as 2% among non-resident Canadians and 16% overall. Thus there is a high catch and release rate among "sporty" fish like smallmouth bass.

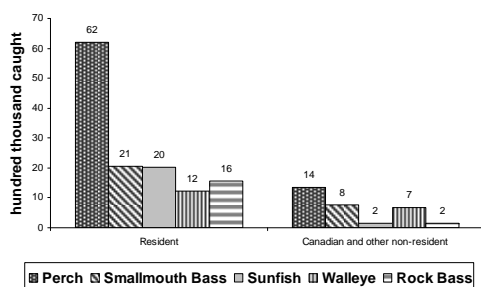
Table 5.3 Main Species Caught By All Anglers, by Great Lake Region, Ontario, 2005

Region	Species 1	Species 2	Species 3
Lake Ontario	perch	crappie	sunfish smallmouth bass
Lake Erie	perch	sunfish	smallmouth bass
Lake St. Clair	perch	walleye	smallmouth bass
Lake Huron	smallmouth bass	rock bass	perch
Lake Superior	brook trout	walleye smallmouth bass	pike
St. Lawrence River	perch	smallmouth bass	sunfish
Total	perch	smallmouth bass	sunfish

Source: DFO, Economic Analysis and Statistics.

Walleye, on the other hand, didn't place any higher than third in numbers caught among any angling group but was second most popular in the ratio of fish kept to perch, first among non-resident Canadians (52% of the fish caught were not returned to the water) and 42% overall, only five percent behind perch. This was in spite of the fact that perch was four times more common in terms of overall catch numbers and nearly 4.5 times more perch were kept than walleye. The species least favoured both in terms of catch and retention was sturgeon, registering zero kept fish.

Figure 5.8 Total Fish Harvested by Resident and Non-resident Anglers, Top Species Caught, Great Lakes Regions, 2005



Source:
DFO, Economic Analysis and Statistics.

5.4 Direct Recreational Fishing Expenditures

5.4.1 Total Direct Expenditures

All anglers spent a total of \$215 million in direct recreational fishing expenditures on the Great Lakes in 2005 (Annex A.17). In current dollar terms, this total has remained relatively stable over the past 10 years (Table 5.4). However, the inflation-adjusted estimates show that total direct recreational fishing expenditures decreased at an average annual rate of 2% in the past 5 and 10 year cycles.

Table 5.4 Total Direct Recreational Fishing Expenditures, All Active Anglers, Great Lakes Regions, 1995, 2000, 2005

Year	Current \$ (million \$)	CPI ¹ 1992=100	Constant 1992 \$ (million \$)
1995	220	104	211
2000	214	114	187
2005	215	127	169

Notes:

1. Consumer Price Index.

Source:

DFO, Economic Analysis and Statistics.

Transportation and food and lodging were the principal expenditure items of all anglers fishing on the Great Lakes in 2005 (Figure 5.9), with residents spending the bulk of the money in each category, upwards of 87% of the transportation costs. For every dollar spent on goods and services directly related to angling activities, seventy seven cents went to cover transportation and food and lodging expenses throughout 2005.

These two categories have consistently been the top direct angling expense items, with transportation being the biggest draw on expenses twice in the past three reports. Each active angler spent, on average, \$231 to cover transportation costs while \$188 went towards

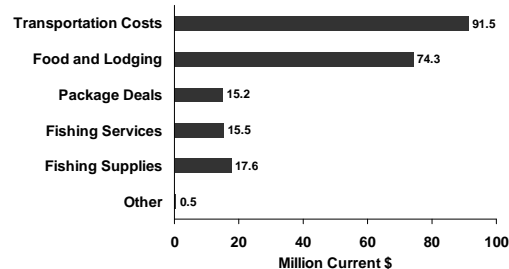
food and lodging expenses respectively during fishing trips on the Great Lakes throughout 2005.

5.4.1.1 Transportation

Transportation expenditures covered all travel-related costs within Ontario for recreational fishing including vehicle and household-owned boat costs (gas and repairs inclusive), rentals, and airfares. In 2005, the total current dollar transportation expenditures of all active anglers exceeded \$91 million. Transportation expenditures increased at an average annual rate of 1% between 2000 and 2005.

Evidently, transportation costs were directly influenced by rising fuel prices during this period. Figures 5.10a and 5.10b compare the 2000 and 2005 monthly average retail prices for gasoline and how closely fuel prices followed the patterns in the energy index.

Figure 5.9 Total Direct Recreational Fishing Expenditures, All Active Anglers, by Expense Category, Canada, 2005



Source:

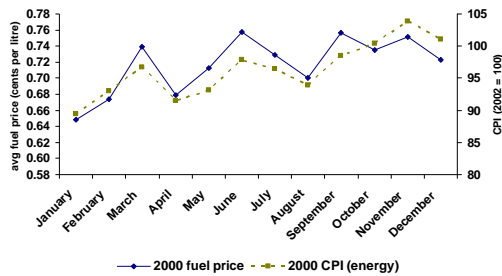
DFO, Economic Analysis and Statistics.

5.4.1.2 Food and Lodging

Total food and lodging expenditures (\$74 million) represented just over one-third of the total direct recreational fishing expenditures on the Great Lakes in 2005. On average, an active angler paid \$188 to cover food, lodging and accommodation expenses. However, the average per angler cost varies dramatically among angler categories and Great Lakes regions. For example, a foreign angler fishing on Lake Huron spent over \$426 (on average) to pay for food, lodging and accommodations in 2005, while non-resident Canadians spent an average of \$34 on the same expenses while fishing on Lake Superior in 2005.

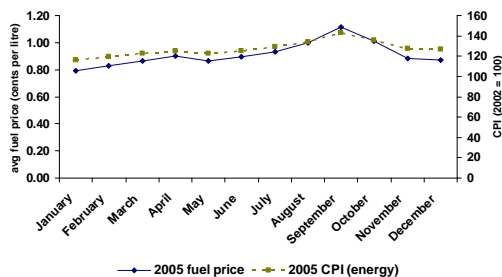
Lodging expenses for non-Canadian anglers who fished on the Great Lakes was marginally higher than expenses for food. Canadian residents were a little more polarized in their spending as nearly twice as much money was spent on food than lodging, which is expected as the recreational fishing activities of residents are much more likely to be in the form of day trips.

Figure 5.10a Average Retail Prices for Gasoline (cents per litre) and Energy Consumer Price Index (CPI), by Month, Ontario, 2000



Source:
DFO, Economic Analysis and Statistics.

Figure 5.10b Average Retail Prices for Gasoline (cents per litre) and Energy Consumer Price Index (CPI), by Month, Ontario, 2005



Source:
DFO, Economic Analysis and Statistics.

5.4.1.3 Package Deals

Total expenses on package deals reached \$15 million in 2005. Package deals often include a wide range of goods and services such as food, lodging, transportation, fishing supplies, equipment, etc., with the objective of making it easier for anglers to plan their fishing trips, in exchange for a certain price.

Package deals have remained relatively consistent over the years with respect to the portion of direct expenditures for which they account, ranging from a high in 1995 of 7.5% to the most recent ratio of 7.1% of the total expenditures in 2005. The total amount of package money spent in 2005 increased by 8%, boosted mainly by a large increase in spending in the Lake St. Clair and Lake Superior regions. The average spent per angler jumped from \$320 in the previous survey to just over \$400 in the current study. All lakes, with the exception of Lake Huron saw an increase in the average spent per angler on packages. All of these increases come despite the fact that spending on half of the individual water bodies actually decreased compared to 2000 (Table 5.5).

Table 5.5 Package Expenditures (Thousand \$), All Active Anglers, Great Lakes Regions, 1995, 2000, 2005

Region	1995	2000	2005
Lake Ontario	1,448	1,541	1,369
Lake Erie	66	2,284	1,743
Lake St. Clair	24	691	1,272
Lake Huron	13,215	7,581	5,925
Lake Superior	1,207	1,311	4,123
St. Lawrence River	578	677	765
Great Lakes System	16,537	14,084	15,196

Source:
DFO, Economic Analysis and Statistics.

5.4.1.4 Fishing Services, Fishing Supplies and Other Direct Recreational Fishing Expenditures

Expenditures on fishing services, covering boat rentals and guide services as well as licence and access fees, summed up to approximately \$16 million in 2005. When measured against the total direct recreational fishing expenditures, this represents a 2 percent decrease in these expenses from 2000 where 9% of the total expenses were dispensed in this category.

Money allotted to fishing services was dominated by spending in the Huron, Ontario and Erie Great Lakes regions; these three lakes make up over 71% of total fishing services expenditures. Although there was some variation by region in the distribution of expenditures for each individual category, licence fees dominated spending overall making up half the spending among all fishing services.

Expenses related to purchases of lures, lines, tackle, bait, and other fishing supplies totalled \$18 million in 2005 (or 8% of total direct expenditures). Resident anglers across the Great Lakes regions spent a relatively higher proportion of their fishing expenditures on fishing supplies (as high as 15% for resident anglers on the St. Lawrence River), in comparison with non-resident anglers. In general, non-resident Canadian and other anglers spent approximately 4% of their total fishing expenditures on these supplies.

5.5 Major Purchases and Investments

In 2005, anglers invested \$413 million on the Great Lakes in boats, motors, camping gear, special vehicles, real estate and other durable goods related to their recreational fishing activities (Annex A.13a). Of this total, an

estimated \$228 million was directly or wholly attributable to recreational fishing (Annex A.13b). Unlike spending in the direct recreational fishing category, total recreational fishing investments have increased steadily in current dollars since 1995. In constant dollars, however, that total has actually decreased compared to results from five years ago (Table 5.6).

Table 5.6 Total Recreational Fishing Investments, All Active Anglers, Great Lakes Regions, 1995, 2000, 2005

Year	Current \$ (million \$)	CPI ¹ 1992=100	Constant 1992 \$ (million \$)
1995	284	104	273
2000	390	114	342
2005	413	127	326

Notes:

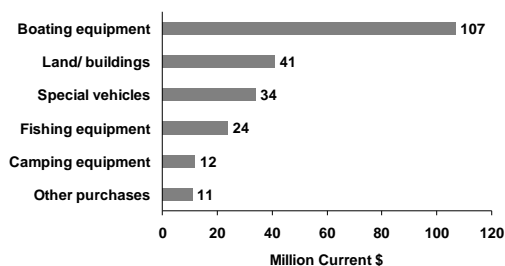
1. Consumer Price Index.

Source:

DFO, Economic Analysis and Statistics.

Boating equipment alone accounted for nearly half of the \$228 million investments wholly attributable to recreational fishing. This was followed by investments on land and buildings (\$41 million) and vehicles (\$30 million). The remaining 20% was dedicated to major purchases of fishing equipment and other miscellaneous investments (Figure 5.11).

Figure 5.11 Major Purchases and Investments Wholly Attributable to Recreational Fishing, by Investment Category, Great Lakes, 2005



Source:

DFO, Economic Analysis and Statistics.

Investment activities by resident anglers essentially determined the general profile of investments related to recreational fishing, as their investments represented \$213 million or 93% the overall total in 2005 (Annex A.10b).

Non-resident Canadians and foreign anglers invested \$147 thousand and \$15 million, respectively, in 2005. Investment spending priorities by both of these angler categories differed in 2005; non-resident Canadians invested the majority of their money on fishing equipment while the bulk of funds were invested in land and buildings by foreign anglers.

6.0 Survey Methodology and Data Quality

This section aims to illustrate the procedures used in the 2005 survey as well as the strengths and limitations of the data in order that they could be effectively used and analysed. Information on the methodology used and the data quality of survey results would of particular importance when making comparisons with data from other surveys and sources of information or when drawing conclusions regarding changes over time.

6.1 Sampling

Two types of survey questionnaires were mailed: one covering residents and another covering non-residents.⁸ Resident and non-resident samples were selected using stratified, systematic random sampling of licence databases with stratification based on licence category. Resident samples were further stratified by area of residence.

The sample sizes were determined from the reliability estimates for days fished for each stratum as calculated from the results of the 2000 Survey of Recreational Fishing in Canada.

6.2 Data Collection, Processing, Coding and Estimation

The survey was launched in January 2006 through a coordinated press release led by DFO Headquarters (Ottawa). The province of Ontario was responsible for survey mailout and coding of survey responses.

Upon receipt of the questionnaire from the respondent, the province established geographic codes for the survey in order to allow for sub-provincial/territorial data analysis. This was fielded by a trained contractor. The questionnaires were then given a thorough inspection to confirm the data contained within was acceptable. Most times all that was required was to ensure completeness of the questionnaire; verification that the information provided by anglers was both reasonable and sound for the region involved. This included assessing species caught by area as well as the availability of the specific species, determining whether or not the catch levels indicated were within acceptable limits, cross-checking administrative lists to eliminate substitutions (someone responding

⁸ Section 4 provides a glossary of terms and definitions used in the survey and throughout this report.

other than the designated respondent), etc. Once questionnaires had been completely assessed and coded, they were shipped to Ottawa for analysis.

DFO Headquarters coordinated the questionnaire imaging, data capture and validation of survey responses in cooperation with the provincial coordinator. All documents were verified prior to data capture, and those with significant levels of incomplete coding, missing information, etc. were set aside. All data collection, coding, and data capture were completed in Fall 2006.

The required programming to produce survey estimates consisted of:

- systematic editing procedures;
- substitution algorithms for missing data;
- data output programs covering all data collected; and
- special output programs for publication purposes.

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. 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.

Although expenditures were collected on a household basis, allocation for the Great Lakes fishery, with the exception of package deals, was based on the fishing activity of individuals. 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. Expenses incurred for package deals have been allocated on the basis of only those packages purchased specifically on each of the Great Lakes.

6.3 Weighting Procedures

Weighted estimates were produced to ensure that the raw survey data reflect the estimates for the population. This procedure was a simple application of inverse weighting by stratum as licence sales were known (population of licence-holders divided by resultant sample). Where anglers held different types of licence, either by choice or due to regulations, adjustments to weighting were made to ensure that there was no double counting of anglers across licence types.

The estimates of population in each stratum of interest were then compared to official statistics on population available from Statistics Canada. Population data was based on the 2001 census with post-censal estimates as at July 1, 2005. The initial estimates of population and the respective estimates of anglers in each stratum were adjusted to reflect these statistics. Respondent weights for survey estimates were then derived using standard inverse weighting functions.

6.4 Post-Survey Adjustment Procedures

Preliminary survey results were distributed to the province in early 2007, providing them with the opportunity to review the preliminary estimates.

Adjustments were made provided that they were based on identifiable errors or changes required due to revised administrative information. Most errors were as a result of incorrect identification of species and the changes were relatively straightforward.

Revisions were completed by Spring 2007 and survey results were finalized.

6.5 Data Quality

6.5.1 Sampling Error

Information on reliability is presented in terms of the coefficient of variation of the mean, at one standard deviation. Because exact estimates of variance cannot be calculated, the coefficient of variation of the mean is used as a proxy for the assessing the variability of the data. Annex A.18 presents the statistical reliability of key variables for all anglers.

6.5.2 Non-Sampling Error

Many factors that are not related to sampling also affect the reliability of the data produced in the

survey. For example, respondents may have made errors in interpreting questions, the answers may have been incorrectly entered on the questionnaires or errors may have been introduced during the data capture or tabulation process.

During the data collection phase, efforts were made to reduce the occurrence of non-sampling errors in the survey.⁹ These efforts included a complete verification of the reported data, validity and consistency edits and ongoing consultations with the coordinators in each jurisdiction.

Statistics Canada, Annual Demographic Statistics, Catalogue no. 91-213-XIB, 2005, Ottawa.

Statistics Canada, The Consumer Price Index, Catalogue no. 62-001-XPB, Ottawa.

Statistics Canada, General Social Survey on Time Use, *Overview of the Time Use of Canadians*, Catalogue no. 12F0080XIE, 2005, Ottawa.

6.5.3 Data Limitations

Despite all efforts to improve data accuracy, the survey results have limitations. Understanding these limitations will help the reader make informed decisions before conducting further research and analysis using the estimates in this report. For instance, the survey did not cover nor did it attempt to measure the illegal, unreported activities related to recreational fisheries in Ontario. Although the days fished and harvests of individuals who conducted recreational fishing activities without a licence where/when a licence or permit is required is not thought to be substantial, it is possible an impact would be observed if there was a way to measure such an activity.

6.6 Data comparability

The 2005 results are directly comparable with the 1995 and 2000 surveys. The core survey questions remained unchanged throughout these survey cycles. However, comparisons with reports prior to 1995 should not be attempted.

7.0 References

Fisheries and Oceans Canada, Economic and Commercial Analysis, 2000 Survey of Recreational Fishing in Canada, Report no. 165, 2003 Ottawa.

Fisheries and Oceans Canada, Economic and Commercial Analysis, 2000 Survey of Recreational Fishing in Canada: Selected Results for the Great Lake Fishery, Report no. 168, 2003 Ottawa.

⁹ Non-sampling errors can arise during the course of virtually all survey activities such as a result of errors in the frame (the list used in sampling) or difficulties in establishing precise operational definitions. For more details, refer to Statistics Canada, 1993, Survey Sampling: A Non-Mathematical Guide-Second Edition, Catalogue No. 12-602E, Ottawa.

Annex A: Summary Tables

Annex A.1 Profile and Effort Information for All Anglers in the Great Lakes Fishery

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System
Residents							
Number of Anglers	85,699	62,684	21,519	135,389	25,010	20,175	308,415
Average age	45.3	45.3	45.9	44.5	46.1	45.0	45.0
Males	71,598	47,066	16,605	103,080	16,619	16,612	241,496
Average age	46.5	46.8	47.3	44.5	48.0	45.5	45.8
Females	14,101	15,618	4,914	32,309	8,391	3,563	66,919
Average age	39.5	41.1	41.2	44.3	42.4	42.9	42.2
Total Days Fished	971,610	725,362	261,014	1,756,366	183,695	324,595	4,222,643
Average days	11.3	11.6	12.1	13.0	7.3	16.1	13.7
Days icefishing	71,474	37,680	42,428	137,898	15,367	24,559	329,406
Icefishing (%)	6.5	4.9	7.6	9.2	2.7	10.3	7.4
Shore Activity (%)	47.9	58.0	61.3	48.9	32.0	62.3	54.8
Boat Activity (%)	52.1	42.0	38.7	51.1	68.0	37.7	45.2
Nonresident Canadian							
Number of Anglers	2,638	108	75	839	290	724	4,569
Average age	46.8	54.0	34.0	52.7	54.9	44.8	48.0
Males	2,409	108	75	731	260	483	3,961
Average age	47.5	54.0	34.0	53.1	55.0	39.8	47.9
Females	229	-	-	108	30	241	608
Average age	39.6	-	-	50.0	54.0	55.0	48.3
Total Days Fished	11,690	108	150	3,603	587	7,274	23,412
Average days	4.4	1.0	2.0	4.3	2.0	10.1	5.1
Days icefishing	-	-	-	-	-	-	-
Icefishing (%)	-	-	-	-	-	-	-
Shore Activity (%)	24.8	-	100.0	62.0	38.8	91.6	63.6
Boat Activity (%)	75.2	100.0	-	38.0	61.2	8.4	36.4

Annex A.1 (cont.) Profile and Effort Information for All Anglers in the Great Lakes Fishery

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System
Nonresident Non-Canadian							
Number of Anglers	8,211	10,369	21,075	25,893	11,367	9,198	82,181
Average age	50.2	49.7	50.4	52.6	52.4	53.4	51.7
Males	7,271	9,464	18,992	21,996	10,521	8,011	72,823
Average age	50.5	50.6	51.4	53.0	52.6	53.9	52.3
Females	940	905	2,083	3,897	846	1,187	9,358
Average age	47.1	40.7	41.2	50.2	49.5	50.6	47.6
Total Days Fished	45,356	64,200	119,889	222,679	55,781	46,127	554,032
Average days	5.5	6.2	5.7	8.6	4.9	5.0	6.7
Days icefishing	3,376	66	584	7,076	2,960	113	14,174
Icefishing (%)	3.1	1.0	2.3	5.5	2.7	1.0	3.9
Shore Activity (%)	10.8	27.1	40.7	32.9	34.7	38.9	34.8
Boat Activity (%)	89.2	72.9	59.3	67.1	65.3	61.1	65.2
All Anglers							
Number of Anglers	96,548	73,160	42,669	162,121	36,667	30,097	395,165
Average age	45.8	46.0	48.1	45.8	48.1	47.6	46.4
Males	81,278	56,638	35,672	125,807	27,400	25,106	318,280
Average age	46.9	47.4	49.5	46.0	49.8	48.0	47.3
Females	15,270	16,523	6,997	36,314	9,267	4,991	76,885
Average age	39.9	41.1	41.2	44.9	43.0	45.3	42.9
Total Days Fished	1,028,656	789,670	381,053	1,982,649	240,063	377,996	4,800,087
Average days	10.7	10.8	8.9	12.2	6.5	12.6	12.1
Days icefishing	74,849	37,746	43,012	144,974	18,327	24,672	343,580
Icefishing (%)	6.2	4.8	7.3	8.9	2.7	9.9	7.1
Shore Activity (%)	44.2	56.9	59.2	47.0	32.7	59.4	52.9
Boat Activity (%)	55.8	43.1	40.8	53.0	67.3	40.6	47.1

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.2 Fish Harvested by Residents Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Harvest	Great Lakes %
Walleye	225,661	187,788	148,564	238,217	319,071	115,322	1,234,623	3,034,484	40.7
Pike	101,543	176,365	22,280	337,776	48,461	103,929	790,353	1,405,122	56.2
Perch	772,405	3,334,371	969,948	551,046	15,351	552,174	6,195,295	9,895,909	62.6
Muskellunge	-	269	20,810	8,662	671	2,911	33,322	62,927	53.0
Whitefish	8,263	7,665	16,731	24,282	1,320	-	58,261	150,696	38.7
Smallmouth bass	195,078	510,497	119,350	1,049,477	49,697	136,063	2,060,161	3,523,979	58.5
Largemouth bass	122,957	154,354	96,491	319,248	6,404	65,820	765,275	1,678,058	45.6
Rainbow Trout	260,674	55,304	2,703	324,046	9,189	13,728	665,645	885,064	75.2
Brown Trout	55,654	6,726	809	13,025	111	-	76,326	188,591	40.5
Lake Trout	46,837	40,065	-	149,342	39,460	4,754	280,457	454,545	61.7
Brook Trout	10,795	1,015	-	20,655	955,644	-	988,109	1,186,463	83.3
Splake	6,531	-	-	8,625	-	9,508	24,664	26,024	94.8
Chinook	177,420	6,767	-	208,881	18,398	-	411,466	484,871	84.9
Coho	54,326	2,703	272	40,787	6,578	-	104,666	110,854	94.4
Sturgeon	-	338	272	-	-	-	610	53,070	1.2
Catfish	189,577	111,564	134,631	40,577	-	120,647	596,995	936,870	63.7
Crappie	467,714	170,147	159,331	132,392	-	8,289	937,874	1,620,804	57.9
Rock Bass	232,830	289,226	202,116	720,004	3,324	109,978	1,557,479	2,441,025	63.8
Sunfish	403,078	717,385	256,305	477,884	-	157,351	2,012,003	3,087,651	65.2
Smelt	43,253	945	-	37,109	55,446	-	136,754	487,979	28.0
Other fish	136,332	154,413	129,850	108,428	3,356	25,459	557,837	1,895,687	29.4
Total fish	3,510,927	5,927,908	2,280,463	4,810,465	1,532,482	1,425,932	19,488,176	33,610,673	58.0
average per angler	41.0	94.6	106.0	35.5	61.3	70.7	63.5		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.3 Fish Harvested by Nonresident Canadians Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Harvest	Great Lakes %
Walleye	3,892	215	150	108	1,610	3,780	9,755	16,598	58.8
Pike	770	-	-	767	823	7,922	10,282	16,935	60.7
Perch	10,720	-	-	-	-	12,222	22,942	29,348	78.2
Muskellunge	-	-	-	-	-	685	685	874	78.3
Whitefish	955	-	-	-	-	-	955	955	100.0
Smallmouth bass	483	-	-	2,214	1,052	10,599	14,348	27,093	53.0
Largemouth bass	3,517	-	-	-	-	6,850	10,367	17,168	60.4
Rainbow Trout	2,350	-	-	126	-	-	2,476	2,897	85.5
Brown Trout	411	-	-	-	-	-	411	411	100.0
Lake Trout	241	-	-	-	60	-	301	1,585	19.0
Brook Trout	42	-	-	-	-	-	42	727	5.7
Splake	-	-	-	-	-	-	-	-	-
Chinook	3,359	-	-	-	30	-	3,389	3,556	95.3
Coho	1,616	-	-	474	-	-	2,090	2,090	100.0
Sturgeon	-	-	-	-	-	-	-	-	-
Catfish	-	-	-	69	-	-	69	754	9.1
Crappie	-	-	-	-	-	2,055	2,055	2,244	91.6
Rock Bass	166	-	-	1,449	-	125	1,740	1,980	87.8
Sunfish	399	-	-	823	-	490	1,712	2,088	82.0
Smelt	-	-	-	-	-	-	-	-	-
Other fish	2,122	323	-	-	-	-	2,445	2,582	94.7
Total fish	31,043	538	150	6,029	3,576	44,727	86,063	129,883	66.3
average per angler	11.8	5.0	2.0	7.2	12.3	61.8	18.8		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.4 Fish Harvested by Nonresident Non-Canadians Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Harvest	Great Lakes %
Walleye	58,335	115,439	190,037	98,132	209,647	6,441	678,032	1,019,196	66.5
Pike	21,984	2,570	7,131	133,384	147,580	69,378	382,026	524,114	72.9
Perch	88,996	233,602	638,098	203,541	33,501	134,840	1,332,578	1,800,105	74.0
Muskellunge	1,293	298	81,647	3,652	-	1,298	88,189	89,856	98.1
Whitefish	7,778	1,554	312	4,505	7,567	-	21,715	23,084	94.1
Smallmouth bass	41,203	129,087	205,813	267,312	19,404	96,669	759,489	834,539	91.0
Largemouth bass	35,638	7,441	14,516	30,039	1,496	61,843	150,972	172,757	87.4
Rainbow Trout	23,342	5,439	-	7,793	6,574	-	43,148	50,508	85.4
Brown Trout	2,308	-	-	66	113	-	2,487	4,351	57.2
Lake Trout	18,339	-	659	26,614	8,288	78	53,977	62,947	85.8
Brook Trout	993	-	330	7,005	8,747	-	17,075	25,842	66.1
Splake	993	-	-	132	231	-	1,356	1,667	81.3
Chinook	3,343	66	-	8,300	326	-	12,035	12,035	100.0
Coho	1,536	-	-	539	553	-	2,628	2,628	100.0
Sturgeon	-	-	210	-	-	-	210	276	76.1
Catfish	2,980	6,856	4,676	14,512	1,986	2,044	33,055	34,571	95.6
Crappie	1,167	15,753	14,087	708	-	6,697	38,413	78,761	48.8
Rock Bass	9,588	2,372	32,822	76,473	99	38,206	159,560	192,987	82.7
Sunfish	25,126	12,461	39,134	30,883	-	43,516	151,121	265,200	57.0
Smelt	-	-	-	2,704	38,092	-	40,796	40,796	100.0
Other fish	2,290	33,314	25,793	19,979	2,169	10,180	93,724	201,212	46.6
Total fish	347,233	566,253	1,255,265	936,274	486,372	471,189	4,062,586	5,437,431	74.7
average per angler	42.3	54.6	59.6	36.2	42.8	51.2	50.2		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.5 Fish Harvested All Anglers Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Harvest	Great Lakes %
Walleye	287,888	303,442	338,751	336,457	530,328	125,542	1,922,410	4,070,278	47.2
Pike	124,297	178,935	29,411	471,927	196,863	181,229	1,182,661	1,946,171	60.8
Perch	872,121	3,567,973	1,608,046	754,588	48,852	699,235	7,550,815	11,725,362	64.4
Muskellunge	1,293	567	102,457	12,314	671	4,894	122,196	153,657	79.5
Whitefish	16,996	9,219	17,042	28,787	8,887	-	80,931	174,735	46.3
Smallmouth bass	236,764	639,584	325,163	1,319,003	70,153	243,330	2,833,998	4,385,611	64.6
Largemouth bass	162,112	161,795	111,008	349,287	7,900	134,513	926,614	1,867,983	49.6
Rainbow Trout	286,366	60,744	2,703	331,965	15,764	13,728	711,269	938,468	75.8
Brown Trout	58,373	6,726	809	13,091	223	-	79,223	193,353	41.0
Lake Trout	65,417	40,065	659	175,956	47,809	4,832	334,736	519,077	64.5
Brook Trout	11,830	1,015	330	27,660	964,391	-	1,005,225	1,213,031	82.9
Splake	7,524	-	-	8,757	231	9,508	26,020	27,691	94.0
Chinook	184,122	6,833	-	217,182	18,754	-	426,890	500,461	85.3
Coho	57,478	2,703	272	41,800	7,131	-	109,384	115,572	94.6
Sturgeon	-	338	482	-	-	-	820	53,346	1.5
Catfish	192,557	118,420	139,306	55,158	1,986	122,691	630,119	972,195	64.8
Crappie	468,881	185,900	173,418	133,100	-	17,042	978,342	1,701,810	57.5
Rock Bass	242,585	291,598	234,938	797,926	3,424	148,308	1,718,779	2,635,993	65.2
Sunfish	428,603	729,846	295,439	509,590	-	201,358	2,164,836	3,354,938	64.5
Smelt	43,253	945	-	39,814	93,537	-	177,550	528,775	33.6
Other fish	140,743	188,050	155,642	128,407	5,524	35,638	654,006	2,099,480	31.2
Total fish	3,889,202	6,494,699	3,535,878	5,752,768	2,022,429	1,941,848	23,636,825	39,177,987	60.3
average per angler	40.3	88.8	82.9	35.5	55.2	64.5	60.2		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.6 Fish Retained by Residents Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Retention	Great Lakes %
Walleye	112,123	87,366	76,471	115,889	153,107	11,991	556,947	1,093,288	50.9
Pike	4,360	5,696	906	59,106	7,991	16,215	94,274	174,399	54.1
Perch	289,457	1,700,104	563,113	156,747	2,470	254,882	2,966,773	4,220,734	70.3
Muskellunge	-	-	-	269	-	317	586	854	68.6
Whitefish	854	272	2,720	11,569	1,320	-	16,736	70,625	23.7
Smallmouth bass	27,321	74,450	21,222	161,281	8,464	30,122	322,860	442,791	72.9
Largemouth bass	22,295	25,261	5,713	44,064	4,940	10,390	112,662	212,030	53.1
Rainbow Trout	46,402	26,124	1,420	122,083	4,541	5,605	206,176	234,640	87.9
Brown Trout	6,574	2,697	541	2,707	-	-	12,518	16,836	74.4
Lake Trout	2,308	5,985	-	84,424	14,849	-	107,566	179,341	60.0
Brook Trout	1,168	1,015	-	7,921	7,855	-	17,959	48,184	37.3
Splake	-	-	-	7,533	-	-	7,533	7,533	100.0
Chinook	39,516	1,692	-	97,202	15,713	-	154,122	162,080	95.1
Coho	14,199	2,166	272	16,252	4,054	-	36,944	36,959	100.0
Sturgeon	-	-	-	-	-	-	-	14,277	-
Catfish	37,132	5,253	2,963	14,715	-	60,432	120,495	201,204	59.9
Crappie	227,106	2,992	93,962	31,523	-	1,625	357,208	553,474	64.5
Rock Bass	19,551	16,923	12,760	156,678	-	-	205,912	292,449	70.4
Sunfish	18,477	50,633	28,955	54,455	-	-	152,520	276,335	55.2
Smelt	43,253	-	-	28,933	47,325	-	119,511	469,555	25.5
Other fish	88,111	67,624	24,310	1,552	2,685	8,693	192,975	217,423	88.8
Total fish	1,000,207	2,076,253	835,327	1,174,903	275,313	400,272	5,762,276	8,925,014	64.6
average per angler	11.7	33.1	38.8	8.7	11.0	19.8	18.8		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.7 Fish Retained by Nonresident Canadians Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Retention	Great Lakes %
Walleye	2,054	215	-	-	345	2,410	5,024	8,472	59.3
Pike	-	-	-	144	-	241	385	1,336	28.8
Perch	3,425	-	-	-	-	8,193	11,618	12,116	95.9
Muskellunge	-	-	-	-	-	-	-	-	-
Whitefish	-	-	-	-	-	-	-	-	-
Smallmouth bass	-	-	-	-	-	241	241	1,854	13.0
Largemouth bass	166	-	-	-	-	-	166	812	20.5
Rainbow Trout	1,536	-	-	63	-	-	1,599	1,725	92.7
Brown Trout	137	-	-	-	-	-	137	137	100.0
Lake Trout	241	-	-	-	60	-	301	1,196	25.2
Brook Trout	42	-	-	-	-	-	42	42	100.0
Splake	-	-	-	-	-	-	-	-	-
Chinook	2,596	-	-	-	30	-	2,627	2,627	100.0
Coho	1,342	-	-	474	-	-	1,816	1,816	100.0
Sturgeon	-	-	-	-	-	-	-	-	-
Catfish	-	-	-	-	-	-	-	-	-
Crappie	-	-	-	-	-	-	-	-	-
Rock Bass	-	-	-	-	-	-	-	-	-
Sunfish	-	-	-	-	-	-	-	-	-
Smelt	-	-	-	-	-	-	-	-	-
Other fish	276	-	-	-	-	-	276	276	100.0
Total fish	11,814	215	-	681	436	11,084	24,231	32,408	74.8
average per angler	4.5	2.0	-	0.8	1.5	15.3	5.3		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.8 Fish Retained by Nonresident Non-Canadians Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Retention	Great Lakes %
Walleye	14,171	71,680	88,005	29,826	29,414	3,321	236,417	271,873	87.0
Pike	1,626	-	1,780	23,826	14,835	4,858	46,925	61,132	76.8
Perch	4,742	161,028	288,943	110,104	15,277	22,816	602,910	749,699	80.4
Muskellunge	-	-	132	199	-	-	331	331	100.0
Whitefish	-	132	-	2,373	4,412	-	6,917	7,701	89.8
Smallmouth bass	2,607	14,387	58,937	45,913	821	5,877	128,543	133,203	96.5
Largemouth bass	2,704	519	2,307	2,243	199	2,649	10,621	12,316	86.2
Rainbow Trout	495	4,121	-	2,404	754	-	7,773	7,839	99.2
Brown Trout	594	-	-	66	-	-	660	660	100.0
Lake Trout	1,676	-	-	16,935	3,945	78	22,634	26,355	85.9
Brook Trout	-	-	-	1,345	3,216	-	4,561	5,748	79.4
Splake	-	-	-	132	181	-	313	469	66.8
Chinook	2,023	66	-	4,016	248	-	6,353	6,353	100.0
Coho	1,536	-	-	473	255	-	2,264	2,264	100.0
Sturgeon	-	-	-	-	-	-	-	-	-
Catfish	66	4,021	1,929	-	-	132	6,147	6,884	89.3
Crappie	78	15,753	8,711	-	-	1,127	25,669	40,853	62.8
Rock Bass	-	1,298	13,370	10,795	-	796	26,260	27,881	94.2
Sunfish	14,277	10,889	25,828	5,567	-	496	57,058	86,146	66.2
Smelt	-	-	-	-	38,092	-	38,092	38,092	100.0
Other fish	396	1,846	15,740	10,518	-	7,744	36,244	98,531	36.8
Total fish	46,992	285,740	505,683	266,735	111,648	49,893	1,266,690	1,584,330	80.0
average per angler	5.7	27.6	24.0	10.3	9.8	5.4	15.6		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.9 Fish Retained by All Anglers Who Fished on the Great Lakes, by Species and Region, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario Retention	Great Lakes %
Walleye	128,349	159,262	164,476	145,715	182,865	17,721	798,388	1,373,633	58.1
Pike	5,986	5,696	2,686	83,076	22,826	21,314	141,584	236,867	59.8
Perch	297,624	1,861,131	852,056	266,852	17,747	285,891	3,581,300	4,982,550	71.9
Muskellunge	-	-	132	468	-	317	916	1,185	-
Whitefish	854	404	2,720	13,942	5,732	-	23,652	78,326	-
Smallmouth bass	29,928	88,837	80,159	207,195	9,285	36,240	451,644	577,848	78.2
Largemouth bass	25,165	25,780	8,020	46,307	5,138	13,039	123,450	225,158	54.8
Rainbow Trout	48,433	30,245	1,420	124,550	5,295	5,605	215,548	244,204	88.3
Brown Trout	7,306	2,697	541	2,773	-	-	13,316	17,634	75.5
Lake Trout	4,225	5,985	-	101,359	18,855	78	130,502	206,892	63.1
Brook Trout	1,209	1,015	-	9,266	11,071	-	22,562	53,974	41.8
Splake	-	-	-	7,665	181	-	7,846	8,002	-
Chinook	44,135	1,758	-	101,217	15,991	-	163,102	171,060	95.3
Coho	17,077	2,166	272	17,200	4,309	-	41,024	41,039	100.0
Sturgeon	-	-	-	-	-	-	-	14,277	-
Catfish	37,198	9,274	4,891	14,715	-	60,564	126,642	208,088	-
Crappie	227,183	18,746	102,673	31,523	-	2,751	382,876	594,327	-
Rock Bass	19,551	18,222	26,130	167,473	-	796	232,172	320,330	-
Sunfish	32,755	61,521	54,784	60,022	-	496	209,578	362,481	-
Smelt	43,253	-	-	28,933	85,416	-	157,602	507,647	-
Other fish	88,782	69,470	40,050	12,070	2,685	16,437	229,494	316,230	72.6
Total fish	1,059,013	2,362,208	1,341,010	1,442,319	387,397	461,250	7,053,197	10,541,752	66.9
average per angler	11.0	32.3	31.4	8.9	10.6	15.3	18.0		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.10a Major Purchases and Investments (Wholly or Partly Attributable to Recreational Fishing), Residents Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	7,204,553	4,063,668	1,394,322	8,021,314	839,593	1,998,485	23,521,934	37,660,024	62.5
Boating Equipment	41,650,992	42,933,408	6,865,897	52,632,502	1,060,892	16,638,096	161,781,786	201,613,261	80.2
Camping Equipment	3,417,378	5,080,119	4,052,799	9,776,720	1,471,235	1,367,578	25,165,828	32,832,859	76.6
Vehicles	14,286,179	17,625,981	7,740,567	32,029,069	14,404,031	11,516,527	97,602,355	177,259,587	55.1
Land-Buildings	5,715,374	251,488	2,040,286	18,814,104	2,885,621	26,041,381	55,748,255	105,043,151	53.1
Other Investments	5,850,742	909,593	610,791	3,446,924	690,185	350,414	11,858,650	18,438,371	64.3
Total Investments	78,125,218	70,864,257	22,704,662	124,720,634	21,351,557	57,912,481	375,678,809	572,847,253	65.6
average per angler	911.62	1,130.50	1,055.10	921.20	853.74	2,870.51	1,224.10		

Annex A.10b Major Purchases and Investments (Wholly Attributable to Recreational Fishing), Residents Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	7,204,553	4,063,668	1,394,322	8,021,314	839,593	1,998,485	23,521,934	37,660,024	62.5
Boating Equipment	28,645,990	35,940,994	5,573,889	25,604,506	1,017,427	8,349,996	105,132,803	138,260,832	76.0
Camping Equipment	1,279,032	964,978	954,027	6,585,043	997,908	843,463	11,624,450	15,940,893	72.9
Vehicles	3,713,942	3,953,474	4,197,380	12,370,255	3,569,540	5,982,009	33,786,599	67,309,450	50.2
Land-Buildings	970,957	143,758	1,530,214	6,826,784	421,779	18,247,834	28,141,326	54,982,036	51.2
Other Investments	5,615,839	857,346	475,609	2,684,862	675,221	330,347	10,639,225	16,549,444	64.3
Total Investments	47,430,312	45,924,218	14,125,442	62,092,764	7,521,468	35,752,133	212,846,337	330,702,679	64.4
average per angler	553.45	732.63	656.42	458.62	300.74	1,772.10	693.53		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.11a Major Purchases and Investments (Wholly or Partly Attributable to Recreational Fishing), Nonresident Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	92,687	-	15,013	1,804	-	346	109,850	123,237	89.1
Boating Equipment	28,318	-	-	-	-	-	28,318	33,774	83.8
Camping Equipment	104	-	7,507	-	-	208	7,818	8,130	96.2
Vehicles	-	-	-	-	-	-	-	-	**.
Land-Buildings	-	-	-	-	-	-	-	-	**.
Other Investments	2,156	-	-	-	-	1,039	3,195	5,980	53.4
Total Investments	123,265	-	22,520	1,804	-	1,592	149,181	171,122	87.2
average per angler	46.72	-	300.26	2.15	-	2.20	32.66		

Annex A.11b Major Purchases and Investments (Wholly Attributable to Recreational Fishing), Nonresident Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	92,687	-	15,013	1,804	-	346	109,850	123,237	89.1
Boating Equipment	28,318	-	-	-	-	-	28,318	33,774	83.8
Camping Equipment	104	-	4,879	-	-	208	5,191	5,502	94.3
Vehicles	-	-	-	-	-	-	-	-	**.
Land-Buildings	-	-	-	-	-	-	-	-	**.
Other Investments	2,156	-	-	-	-	1,039	3,195	5,980	53.4
Total Investments	123,265	-	19,892	1,804	-	1,592	146,553	168,494	87.0
average per angler	46.72	-	265.23	2.15	-	2.20	32.08		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.12a Major Purchases and Investments (Wholly or Partly Attributable to Recreational Fishing), Nonresident Non-Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	85,778	24,177	8,391	144,228	4,975	10,123	277,674	326,639	85.0
Boating Equipment	239,609	319,479	-	1,920,923	95,844	-	2,575,854	2,577,480	99.9
Camping Equipment	-	-	-	22,876	-	-	22,876	22,876	100.0
Vehicles	-	-	-	-	-	-	-	-	**.*
Land-Buildings	81,131	5,990,231	-	25,513,963	2,662,325	375,602	34,623,252	36,012,446	96.1
Other Investments	51,190	3,409	17,079	45,668	12,693	4,066	134,105	156,631	85.6
Total Investments	457,708	6,337,296	25,471	27,647,658	2,775,837	389,791	37,633,760	39,096,072	96.3
average per angler	55.74	611.12	1.21	1,067.77	244.20	42.38	464.69		

Annex A.12b Major Purchases and Investments (Wholly Attributable to Recreational Fishing), Nonresident Non-Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	85,778	24,177	8,391	144,228	4,975	10,123	277,674	326,639	85.0
Boating Equipment	239,609	319,479	-	1,491,667	95,844	-	2,146,599	2,148,225	99.9
Camping Equipment	-	-	-	17,126	-	-	17,126	17,126	100.0
Vehicles	-	-	-	-	-	-	-	-	**.*
Land-Buildings	40,566	4,492,673	-	5,405,384	2,662,325	237,756	12,838,704	14,199,981	90.4
Other Investments	51,190	3,409	17,079	36,188	8,699	4,066	120,631	143,157	84.3
Total Investments	417,142	4,839,739	25,471	7,094,595	2,771,843	251,945	15,400,735	16,835,129	91.5
average per angler	50.80	466.71	1.21	274.00	243.85	27.39	190.16		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.13a Major Purchases and Investments (Wholly or Partly Attributable to Recreational Fishing), All Anglers Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	7,383,017	4,087,845	1,417,727	8,167,346	844,568	2,008,954	23,909,458	38,109,900	62.7
Boating Equipment	41,918,919	43,252,887	6,865,897	54,553,425	1,156,736	16,638,096	164,385,959	204,224,516	80.5
Camping Equipment	3,417,482	5,080,119	4,060,305	9,799,595	1,471,235	1,367,786	25,196,522	32,863,864	76.7
Vehicles	14,286,179	17,625,981	7,740,567	32,029,069	14,404,031	11,516,527	97,602,355	177,259,587	55.1
Land-Buildings	5,796,506	6,241,719	2,040,286	44,328,067	5,547,946	26,416,982	90,371,506	141,055,596	64.1
Other Investments	5,904,087	913,002	627,871	3,492,593	702,878	355,519	11,995,950	18,600,982	64.5
Total Investments	78,706,190	77,201,553	22,752,653	152,370,095	24,127,394	58,303,865	413,461,750	612,114,446	67.5
average per angler	815.20	1,055.21	533.24	939.85	658.02	1,937.20	1,053.52		

Annex A.13b Major Purchases and Investments (Wholly Attributable to Recreational Fishing), All Anglers Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Fish Equipment	7,383,017	4,087,845	1,417,727	8,167,346	844,568	2,008,954	23,909,458	38,109,900	62.7
Boating Equipment	28,913,916	36,260,473	5,573,889	27,096,173	1,113,271	8,349,996	107,307,719	140,442,831	76.4
Camping Equipment	1,279,136	964,978	958,907	6,602,169	997,908	843,671	11,646,768	15,963,522	73.0
Vehicles	3,713,942	3,953,474	4,197,380	12,370,255	3,569,540	5,982,009	33,786,599	67,309,450	50.2
Land-Buildings	1,011,522	4,636,432	1,530,214	12,232,169	3,084,104	18,485,590	40,980,031	69,182,017	59.2
Other Investments	5,669,185	860,755	492,689	2,721,051	683,920	335,451	10,763,051	16,698,582	64.5
Total Investments	47,970,719	50,763,957	14,170,805	69,189,162	10,293,311	36,005,671	228,393,625	347,706,302	65.7
average per angler	496.86	693.86	332.11	426.77	280.73	1,196.32	581.96		

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.14 Direct Expenditures Allocated for the Great Lakes, Residents Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Packages	915,168	1,572,974	139,143	2,849,467	371,464	15,795	5,864,011	12,682,398	46.2
Accommodation	2,475,451	2,149,095	443,978	5,157,068	385,049	114,237	10,724,878	17,859,690	60.1
Campsite Fees	3,120,620	3,454,623	346,041	3,786,185	289,756	510,351	11,507,577	17,567,980	65.5
Food	6,424,545	4,439,101	1,194,405	14,296,548	2,723,372	1,296,738	30,374,710	50,489,503	60.2
Travel	8,842,430	6,888,555	2,001,432	15,206,596	2,518,654	2,066,314	37,523,983	61,503,339	61.0
Household Boat Costs	11,397,210	7,040,813	2,458,197	17,866,364	1,488,007	2,160,517	42,411,108	55,633,026	76.2
Boat Rentals	461,822	411,385	139,474	1,068,838	21,646	15,672	2,118,838	4,547,667	46.6
Supplies	3,617,029	2,230,519	964,472	6,627,445	885,284	1,163,355	15,488,103	24,035,163	64.4
Guides	262,663	16,288	3,967	238,771	-	966	522,656	757,731	69.0
Licence Fees	1,052,049	864,797	323,314	2,020,822	385,342	288,087	4,934,412	7,074,045	69.8
Access Fees	560,759	227,234	110,217	469,146	39,717	40,642	1,447,714	2,829,526	51.2
Other Expenses	96,272	72,787	32,516	97,351	-	33,846	332,772	690,781	48.2
Direct Expenses	39,226,018	29,368,172	8,157,158	69,684,602	9,108,291	7,706,519	163,250,760	255,670,849	63.9
Average per angler	458	469	379	515	364	382	532	334	
Average per angler-day	40.37	40.49	31.25	39.68	49.58	23.74	38.85	19.45	

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.15 Direct Expenditures Allocated for the Great Lakes, Nonresident Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Packages	65,258	-	-	94,157	19,166	-	178,581	451,621	39.5
Accommodation	195,981	-	-	50,691	-	1,420	248,093	372,267	66.6
Campsite Fees	80,597	-	-	2,841	-	26,174	109,611	124,405	88.1
Food	263,279	-	-	45,291	9,827	61,371	379,768	539,655	70.4
Travel	404,454	-	-	49,255	7,559	64,395	525,663	647,906	81.1
Household Boat Costs	156,598	-	-	68,515	-	22,960	248,073	275,249	90.1
Boat Rentals	48,548	-	-	17,138	-	69,069	134,754	241,902	55.7
Supplies	65,913	-	-	12,579	1,285	18,118	97,895	125,217	78.2
Guides	65,053	-	-	-	-	-	65,053	65,053	100.0
Licence Fees	48,964	1,856	1,295	13,866	4,174	11,996	82,151	98,563	83.3
Access Fees	1,850	-	-	180	-	-	2,030	3,112	65.2
Other Expenses	-	-	-	2,903	-	-	2,903	2,903	100.0
Direct Expenses	1,396,493	1,856	1,295	357,417	42,011	275,502	2,074,574	2,947,853	70.4
Average per angler	529.28	17.19	17.27	426.00	144.86	380.53	454.13	101.39	
Average per angler-day	119.47	17.19	8.63	99.04	71.70	37.85	88.61	10.87	

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.16 Direct Expenditures Allocated for the Great Lakes, Nonresident Non-Canadians Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Packages	388,153	169,880	1,132,502	2,981,232	3,732,266	749,410	9,153,443	11,454,610	79.9
Accommodation	1,171,962	630,220	555,228	5,228,597	1,096,145	1,441,295	10,123,447	11,685,824	86.6
Campsite Fees	183,639	29,619	13,835	260,581	197,539	65,299	750,512	1,065,712	70.4
Food	830,638	710,726	739,761	5,546,756	1,009,324	1,266,693	10,103,898	11,344,957	89.1
Travel	708,257	746,181	786,333	3,036,014	803,981	376,417	6,457,183	7,641,631	84.5
Household Boat Costs	205,679	681,770	731,555	2,238,378	219,248	215,147	4,291,778	4,667,605	91.9
Boat Rentals	134,299	251,813	126,369	528,951	144,838	240,839	1,427,110	1,595,963	89.4
Supplies	203,827	242,202	296,208	939,502	262,399	118,744	2,062,884	2,440,270	84.5
Guides	262,768	142,604	747,327	323,208	8,443	498,517	1,982,867	2,081,573	95.3
Licence Fees	213,425	377,772	589,557	894,446	362,970	248,122	2,686,291	2,956,589	90.9
Access Fees	2,341	17,852	31,109	51,838	10,067	1,280	114,489	128,378	89.2
Other Expenses	-	592	874	57,772	64,847	3,406	127,491	144,550	88.2
Direct Expenses	4,304,989	4,001,231	5,750,659	22,087,276	7,912,068	5,225,170	49,281,392	57,207,662	86.1
Average per angler	524.30	385.85	272.87	853.02	696.06	568.08	608.51	121.07	
Average per angler-day	94.90	62.32	47.96	99.19	141.82	113.28	90.26	16.80	

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.17 Direct Expenditures Allocated for the Great Lakes, All Anglers Who Fished on the Great Lakes, 2005

	Lake Ontario	Lake Erie	Lake St. Clair	Lake Huron	Lake Superior	St. Lawrence River	Great Lakes System	Total Ontario	Great Lakes %
Packages	1,368,578	1,742,854	1,271,645	5,924,857	4,122,896	765,205	15,196,035	24,588,630	61.8
Accommodation	3,843,394	2,779,315	999,206	10,436,356	1,481,194	1,556,952	21,096,417	29,917,781	70.5
Campsite Fees	3,384,855	3,484,242	359,877	4,049,607	487,294	601,824	12,367,699	18,758,097	65.9
Food	7,518,463	5,149,827	1,934,166	19,888,596	3,742,523	2,624,803	40,858,377	62,374,115	65.5
Travel	9,955,141	7,634,737	2,787,765	18,291,865	3,330,195	2,507,126	44,506,829	69,792,876	63.8
Household Boat Costs	11,759,487	7,722,583	3,189,752	20,173,257	1,707,256	2,398,624	46,950,959	60,575,880	77.5
Boat Rentals	644,669	663,198	265,844	1,614,928	166,483	325,579	3,680,701	6,385,532	57.6
Supplies	3,886,769	2,472,721	1,260,680	7,579,526	1,148,968	1,300,217	17,648,882	26,600,649	66.3
Guides	590,484	158,892	751,294	561,979	8,443	499,482	2,570,575	2,904,357	88.5
Licence Fees	1,314,438	1,244,426	914,166	2,929,134	752,486	548,205	7,702,854	10,129,197	76.0
Access Fees	564,950	245,086	141,326	521,165	49,785	41,922	1,564,233	2,961,016	52.8
Other Expenses	96,272	73,379	33,390	158,026	64,847	37,252	463,166	838,233	55.3
Direct Expenses	44,927,500	33,371,260	13,909,111	92,129,295	17,062,370	13,207,191	214,606,727	315,826,365	68.0
Average per angler	465.34	456.13	325.98	568.27	465.34	438.82	546.83	814.82	
Average per angler-day	43.68	42.26	36.50	46.47	71.07	34.94	45.02	61.33	

Notes:
 Figures may not add up to total due to rounding.
 Source:
 Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.18 Statistical Reliability of Selected Variables, All Active Anglers, 2005

Region	Sample Size (number)	Days Fished	Fish Caught	Fish Kept	Direct Expenditures (%)	Major Purchases and Investments (W/P) ²	Major Purchases and Investments (W) ³
Lake Ontario	328	8.7	13.6	23.2	7.8	54.7	66.4
Lake Erie	311	7.9	10.3	11.7	10.2	33.1	35.0
Lake St. Clair	264	9.5	17.9	20.2	9.5	32.1	33.0
Lake Huron	674	5.6	16.4	20.8	5.8	46.4	49.9
Lake Superior	189	6.6	20.5	16.7	16.0	44.2	54.0
St. Lawrence River	161	13.6	18.4	19.4	12.6	39.4	40.1
Great Lakes	1,753	3.5	7.3	9.1	3.9	33.6	32.7

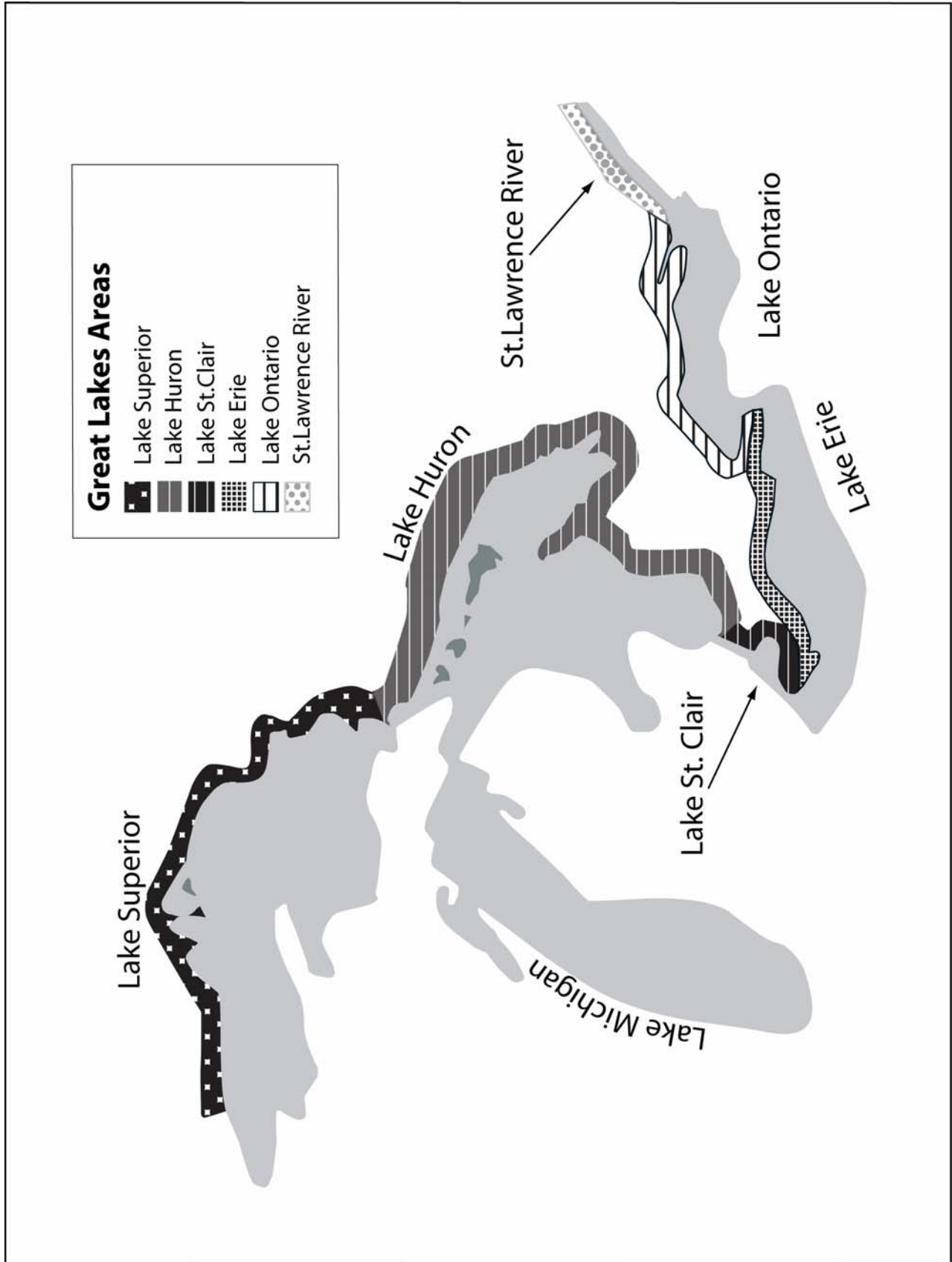
Notes:

1. Coefficient of variation=(standard error of the mean/mean)*100.
2. Major purchases and investments wholly or partially attributable to recreational fishing.
3. Major purchases and investments wholly attributable to recreational fishing.

Source:

Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex B: Great Lakes Areas Map



Annex C: Sample Ontario Questionnaires



Fisheries and Oceans
Canada

Pêches et Océans
Canada

2005 SURVEY OF RECREATIONAL FISHING IN CANADA

RESIDENTS OF ONTARIO

Le présent questionnaire est également disponible en français
QUESTIONS? → 1 (800) 298-9935 TOLL FREE

NOTE TO THE RESPONDENT

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, 2005;
- › the term “household members” refers only to individuals living in your residence.

THANK YOU IN ADVANCE FOR YOUR COOPERATION AND ASSISTANCE

CONFIDENTIAL WHEN COMPLETED

YOUR PERSONAL RECREATIONAL FISHING ACTIVITIES

1a) Did you personally fish for recreation in Ontario in 2005?

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

b) How many days in total did you spend fishing for recreation in Ontario in 2005?

(A “day” is all or any part of a day fished) _____ days fished

2a) Of the above days, how many were spent fishing through the ice in Ontario in 2005?

None → go to question 3 or _____ days fished

b) Do you own an ice-hut? Yes ₁ No ₂

c) Did you rent an ice-hut in 2005? Yes ₁ No ₂

d) Do you always use an ice-hut when you fish through the ice? Yes ₁ No ₂

3. Excluding any time spent ice-fishing, what percentage of time did you spend fishing:

from shore or from a dock _____ % from a boat or a canoe _____ %

4. On average, how many hours per day did you fish for recreation in Ontario in 2005? _____ hours per day

5. For each waterbody on which you fished in Ontario in 2005, please provide the name of the lake, river or stream, the nearest town or village, the total number of days fished, days fished through the ice 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. If you fished more than seven water bodies, please record your information on separate pages and attach them.

Please include only your personal fishing activities from January to December 2005.

SITE 1	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 2	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 3	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

5. continued

SITE 4	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 5	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 6	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

10a) Are you aware of which water bodies are stocked in the province of Ontario?

Yes ₁ → please continue No ₂ → go to question 11

b) Did you fish in a stocked water body in Ontario in 2005?

Yes ₁ → please continue No ₂ → go to question 11

c) Please rate the importance of fish stocking when deciding where to fish in Ontario.

No opinion ₁ Not important ₂ Important ₃

11. Did you fish in a competitive fishing event in Ontario in 2005? Yes ₁ No ₂

12a) Overall, how would you rate your recreational fishing experience in Ontario in 2005?

Excellent ₁ Very Good ₂ Good ₃ Fair ₄ Poor ₅

b) How would you rate your fishing success in 2005 compared to previous years' experience?

Improved ₁ Stayed the same ₂ Declined ₃ Not applicable ₄

13a) Did you fish as much as you would have liked in Ontario in 2005?

Yes ₁ → go to question 14 No ₂ → please continue

b) What were the major factors that limited your fishing activity in 2005?

Please rate the importance of each factor on a scale of 1 to 10.
1 is very low importance and 10 is very high importance.

Factor	Rating	Factor	Rating
Poor fishing quality	_____	Complexity of the fishing regulations	_____
Lack of access to fishing	_____	Cost of licence, equipment, travel, etc.	_____
Too far to travel for fishing	_____	Poor weather	_____
No one to fish with	_____	No time to go fishing	_____
Physical problems	_____	Other interests (sports, leisure activities)	_____

14. Did you take a child (youth under 18) fishing in Ontario in 2005? Yes ₁ No ₂

15a) Were you aware of the Ontario Family Fishing Weekend (July 8 - 10, 2005)?

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

b) Did you participate in this event? Yes ₁ No ₂

16a) Were you aware of the National Fishing Week promotion covering July 2-10, 2005?

Yes ₁ → please continue No ₂ → go to question 17

b) Please indicate your information source(s) for the National Fishing Week promotion.

TV ₁ Radio ₂ Print media ₃ Posters/brochures ₄ Other ₅ _____

c) Did you go fishing in Ontario during National Fishing Week as a result of the promotion?

Yes ₁ No ₂

17. How would you rate the clarity and ease of use of the Ontario Recreational Fishing Regulations Summary 2005-2006?

Excellent ₁ Very Good ₂ Good ₃ Fair ₄ Poor ₅

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

19. As an angler, do you consider yourself to be:
 an expert _1 experienced _2 average _3 a beginner _4
20. Were you a member of an organized angling group or association in 2005? Yes _1 No _2
- 21a) Do you have access to a computer with Internet capabilities? Yes _1 No _2
- b) Would you consider purchasing Ontario fishing licences using the Internet?
 Yes _1 No _2 Already do so _3

22. A number of issues potentially affect Ontario's fisheries.

Please rate each issue on the following scale:

1 (not an issue), 2 (somewhat serious), 3 (moderately serious), 4 (very serious), 5 (no opinion).

Issue	Rating	Issue	Rating
Changes in lake productivity (i.e., nutrient levels)	_____	Impacts of aquatic invasive species	_____
Climate change	_____	Complexity of the fishing regulations	_____
Conflicts among resource users	_____	Inadequate enforcement of fishing regulations	_____
Contaminant levels in fish	_____	Lack of information about fishing opportunities	_____
Fish habitat loss	_____	Loss of wetlands	_____
Lack of access to fishing opportunities	_____	Over-harvest of fish	_____
Sea lamprey predation	_____	Other _____	_____

EXPENDITURES ON RECREATIONAL FISHING IN 2005

23a) Did you or any member of your household make any major purchases or investments in Ontario in 2005 related, in whole or in part, to recreational fishing? (e.g., fishing rods, boats, motors, 4x4's, snowmobiles, cabins, camping gear, trailers, ice fishing gear, etc.)

Please Note: Purchases of fishing supplies (lures, line, tackle, bait, etc.) are covered in question 25.

Yes _1 → please continue No _2 → go to question 24

b) For each investment category, please indicate the amount of money spent in Ontario in 2005 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 during the year.

Investment Category	Total Amount Spent on Purchases in Ontario	% of Total Attributable to Recreational Fishing
Fishing Equipment (rods, reels, fish finders, etc.)	\$_____ .00	100%
Boating Equipment (boats, motors, trailers, etc.)	\$_____ .00	_____ %
Camping Equipment (tents, camper trailers, etc.)	\$_____ .00	_____ %
Special Vehicles (4x4's, ATV's, camper trucks, snowmobiles, etc.)	\$_____ .00	_____ %
Land/Buildings (cabins, cottages, land, etc.)	\$_____ .00	_____ %
Other (special clothing, waders, ice-huts, etc.)	\$_____ .00	_____ %

c) Of the above investments, how much was spent solely for ice fishing? \$ _____ .00
 (include ice-huts, ice augers, floater coats and suits, ice fishing rods, etc.)

24. PACKAGES PURCHASED IN 2005

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

For self-organized trips, please include expenditures in question 25

a) Did you or any member of your household purchase any such packages to fish in Ontario in 2005?

Yes ₁ → please continue

No ₂ → go to question 25

b) If yes, what was the total cost to you and your household per package, the site number (from question 5), and the mode of transportation used to reach the actual site? Also, please indicate if this package deal was for ice fishing. If the package was purchased by a group, please include only your household's share.

Package	Cost	Site Number (from question 5)	Mode of transportation used to reach actual site	Ice fishing package
# 1	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>
# 2	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>
# 3	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>
# 4	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/> No ₂ <input type="radio"/>

25a) **EXCLUDING** expenditures on major purchases and package deals, please estimate the amount of money you and other members of your household spent on the following to fish for recreation in Ontario in 2005.

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
Rentals for fishing (boats, gear, snowmobiles, ice-huts, etc.)	\$ _____ .00
Fishing supplies (lures, line, tackle, bait, etc.)	\$ _____ .00
Guide services (not included in question 24)	\$ _____ .00
Fishing licence fees (permits, tags, etc.)	\$ _____ .00
Access fees (park fees, etc.)	\$ _____ .00
Other (please specify) _____	\$ _____ .00

b) Of the above expenditures, approximately how much was spent on ice fishing? \$ _____ .00

RECREATIONAL BOAT OWNERSHIP AND BOATING ACTIVITIES

26a) How many boats are owned by your household? _____ boat(s) or None → go to question 27

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
Horsepower (if applicable)	_____ hp	_____ hp	_____ hp	_____ hp
Days used for <u>all</u> recreational purposes in Ontario in 2005 (including fishing)	_____ days	_____ days	_____ days	_____ days
Days used for recreational fishing in Ontario in 2005	_____ days	_____ days	_____ days	_____ days
Days used for recreational fishing on the Great Lakes and on the St. Lawrence River in 2005	_____ 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. 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

27. In what year were you born? 19__

28. Are you: Male Female

29. Which of the following Ontario recreational fishing licences **did you personally hold** in 2005? For 1-day licences, please indicate how many you purchased.

Sport fishing licence 1-day licence → number purchased _____
 Conservation fishing licence

30. **Excluding yourself**, which of the following Ontario recreational fishing licences did members of your household, 18 to 64 years of age, hold in 2005? For 1-day licences, please indicate how many were purchased.

household members

Sport licence _____
 Conservation licence _____
 1-day licence _____ → total number purchased _____

31. **Excluding yourself**, how many members of your household in each of the following age groups fished for recreation in Ontario in 2005 and how many days in total did they fish?

household members under 18 years of age _____ days fished in total _____
 household members 65 years of age and over _____ days fished in total _____

THANK YOU FOR YOUR COOPERATION

If you have any questions regarding recreational fishing in Ontario, you may call 1-800-667-1940 TOLL-FREE.

6. For each waterbody on which you fished in Ontario in 2005, please provide the name of the lake, river or stream, the nearest town or village, the total number of days fished, days fished through the ice 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. If you fished more than seven water bodies, please record your information on separate pages and attach them.

Please include only your personal fishing activities from January to December 2005.

SITE 1	Name of lake, river or stream _____		Number of days fished _____				
	Nearest town/village/park _____		Days fished through ice _____				
		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	_____	_____	Lake sturgeon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____

SITE 2	Name of lake, river or stream _____		Number of days fished _____				
	Nearest town/village/park _____		Days fished through ice _____				
		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	_____	_____	Lake sturgeon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____

SITE 3	Name of lake, river or stream _____		Number of days fished _____				
	Nearest town/village/park _____		Days fished through ice _____				
		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	_____	_____	Lake sturgeon	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____

6. continued

SITE 4	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 5	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

SITE 6	Name of lake, river or stream _____		Number of days fished _____					
	Nearest town/village/park _____		Days fished through ice _____					
	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	_____	_____	Lake sturgeon	_____	_____
Northern pike	_____	_____	Brown trout	_____	_____	Catfish	_____	_____
Perch	_____	_____	Lake trout	_____	_____	Crappie	_____	_____
Muskellunge	_____	_____	Brook trout	_____	_____	Rock bass	_____	_____
Whitefish	_____	_____	Splake	_____	_____	Sunfish	_____	_____
Smallmouth bass	_____	_____	Chinook salmon	_____	_____	Smelt	_____	_____
Largemouth bass	_____	_____	Coho salmon	_____	_____	Other _____	_____	_____

7a) Did you release any fish you caught in Ontario in 2005?

Yes ₁ → please continue

No ₂ → go to question 8

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

8. Please list the top three species you fished for, in the order of angling preference (see list in Question 6). For each species please indicate the number of fish you expected to catch when fishing for that species on a single day:

Most preferred species _____	Second most preferred species _____	Third most preferred species _____
<u>Number You Expected to Catch</u> none <input type="radio"/> or number _____	<u>Number You Expected to Catch</u> none <input type="radio"/> or number _____	<u>Number You Expected to Catch</u> none <input type="radio"/> or number _____

9. How often did you use the following bait and tackle options when fishing?

Please rate each bait/tackle type on a scale of 1 (did not use), 2 (sometimes), 3 (often).

Bait/Tackle Type	Rating	Bait/Tackle Type	Rating
Live baitfish	_____	Crayfish	_____
Dead baitfish	_____	Frogs	_____
Leeches	_____	Lead sinkers/jigs/weights	_____
Worms	_____	Non-lead sinkers/jigs/weights	_____
Lures	_____	Other (please specify) _____	_____
Flies	_____		

10a) Did you fish as much as you would have liked in Ontario in 2005?

Yes ₁ → go to question 11

No ₂ → please continue

b) What were the major factors that limited your fishing activity in 2005?

Please rate the importance of each factor on a scale of 1 to 10.

1 is very low importance and 10 is very high importance.

Factor	Rating	Factor	Rating
Poor fishing quality	_____	Complexity of the fishing regulations	_____
Lack of access to fishing	_____	Cost of licence, equipment, travel, etc.	_____
Too far to travel for fishing	_____	Poor weather	_____
No one to fish with	_____	No time to go fishing	_____
Physical problems	_____	Other interests (sports, leisure activities)	_____

11a) Are you aware of which water bodies are stocked in the province of Ontario?

Yes ₁ → please continue

No ₂ → go to question 12

b) Did you fish in a stocked water body in Ontario in 2005?

Yes ₁ → please continue

No ₂ → go to question 12

c) Please rate the importance of fish stocking when deciding where to fish in Ontario.

No opinion ₁

Not important ₂

Important ₃

12a) Overall, how would you rate your recreational fishing experience in Ontario in 2005?

Excellent ₁

Very Good ₂

Good ₃

Fair ₄

Poor ₅

b) How would you rate your success fishing in 2005 compared to previous years' experience?

Improved ₁

Stayed the same ₂

Declined ₃

Not applicable ₄

13. Including yourself, on average how many anglers were in your fishing parties in 2005?

average number of adults (18 and over) _____

average number of children (under 18) _____

14. Did you fish in a competitive fishing event in Ontario in 2005?

Yes ₁

No ₂

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

16. Did you fish for recreation outside Ontario in 2005?

Yes ₁

No ₂

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

an expert ₁

experienced ₂

average ₃

a beginner ₄

18. Did you purchase an Ontario hunting licence in 2005?

Yes ₁

No ₂

19. A number of issues potentially affect Ontario's fisheries.

Please rate each issue on the following scale:

1 (not an issue), 2 (somewhat serious), 3 (moderately serious), 4 (very serious), 5 (no opinion).

Issue	Rating	Issue	Rating
Changes in lake productivity (i.e., nutrient levels)	_____	Impacts of aquatic invasive species	_____
Climate change	_____	Complexity of the fishing regulations	_____
Conflicts among resource users	_____	Inadequate enforcement of fishing	_____
Contaminant levels in fish	_____	Lack of information about fishing	_____
Fish habitat loss	_____	Loss of wetlands	_____
Lack of access to fishing opportunities	_____	Over-harvest of fish	_____
Sea lamprey predation	_____	Other _____	_____

20a) Do you have access to a computer with Internet capabilities?

Yes ₁

No ₂ → go to question 21

b) Would you consider purchasing Ontario fishing licences using the Internet, if you had this option?

Yes ₁

No ₂

TRIP INFORMATION

- 21a) How many trips did you make to Ontario in 2005?
(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 2005 for all reasons? _____ days
- c) On how many of your trips to Ontario in 2005 did you fish? _____ trips
- d) How many were day-trips requiring no accommodation? _____ day trips
- e) For the remaining fishing trips, how many nights were spent in Ontario? _____ nights
22. If there had been no fishing opportunities in Ontario in 2005, would you have: (please check one only)
- stayed a shorter time ₁ substituted other activities ₂ not come at all ₃

EXPENDITURES ON RECREATIONAL FISHING IN 2005

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

Canadian Dollars ₁

U.S. Dollars ₂

- 23a) Did you or any member of your household make any major purchases or investments in Ontario in 2005 related, in whole or in part, to recreational fishing? (e.g. fishing rods, boats, motors, 4x4's, snowmobiles, cabins, camping gear, trailers, ice fishing gear, etc.)

Please Note: Purchases of fishing supplies (lures, line, tackle, bait, etc.) are covered in question 25.

Yes ₁ → please continue

No ₂ → go to question 24

- b) For each investment category, please indicate the amount of money spent in Ontario in 2005 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 during the year.

Investment Category	Total Amount Spent on Purchases in Ontario	% of Total Attributable to Recreational Fishing
Fishing Equipment (rods, reels, fish finders, etc.)	\$ _____ .00	100%
Boating Equipment (boats, motors, trailers, etc.)	\$ _____ .00	_____ %
Camping Equipment (tents, camper trailers, etc.)	\$ _____ .00	_____ %
Special Vehicles (4x4's, ATV's, camper trucks, snowmobiles etc.)	\$ _____ .00	_____ %
Land/Buildings (cabins, cottages, land, etc.)	\$ _____ .00	_____ %
Other (special clothing, waders, ice-huts, etc.)	\$ _____ .00	_____ %

- c) Of the above investments, how much was spent solely for ice fishing? \$ _____ .00
(include ice-huts, ice augers, floater coats and suits, ice fishing rods, etc.)

24. PACKAGES PURCHASED IN 2005

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

For self-organized trips, please include expenditures in question 25.

a) Did you or any member of your household purchase any such packages to fish in Ontario in 2005?

Yes ₁ → please continue

No ₂ → go to question 25

b) If yes, what was the total cost to you and your household per package, the site number (from question 6), and the mode of transportation used to reach the actual site? Also, please indicate if this package deal was for ice fishing. If the package was purchased by a group, please include only your household's share.

Package	Cost	Site Number (from question 6)	Mode of transportation used to reach actual site	Ice fishing package	
				Yes ₁ <input type="radio"/>	No ₂ <input type="radio"/>
# 1	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/>	No ₂ <input type="radio"/>
# 2	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/>	No ₂ <input type="radio"/>
# 3	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/>	No ₂ <input type="radio"/>
# 4	\$ _____ .00	_____	_____	Yes ₁ <input type="radio"/>	No ₂ <input type="radio"/>

25. EXCLUDING expenditures on major purchases and package deals, please estimate the amount of money you and other members of your household spent on the following to fish for recreation in Ontario in 2005.

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
Rentals for fishing (boats, gear, snowmobiles, ice-huts, etc.)	\$ _____ .00
Fishing supplies (lures, line, tackle, bait, etc.)	\$ _____ .00
Guide services (not included in question 24)	\$ _____ .00
Fishing licence fees (permits, tags, etc.)	\$ _____ .00
Access fees (park fees, etc.)	\$ _____ .00
Other (please specify)	\$ _____ .00

b) Of the above expenditures, approximately how much was spent on ice fishing? \$ _____ .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. 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

26. In what year were you born? 19__

27. Are you: Male ₁ Female ₂

28. **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 2005? 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>
Sport fishing licence	<input type="radio"/> ₁	_____	
Conservation fishing licence	<input type="radio"/> ₂	_____	
7-day sport fishing licence	<input type="radio"/> ₃	_____	_____
7-day conservation fishing licence	<input type="radio"/> ₄	_____	_____
1-day sport fishing licence	<input type="radio"/> ₅	_____	_____

29. How many members of your household under 18 years of age fished for recreation in Ontario in 2005 and how many days in total did they fish?

household members under 18 years of age _____ total days fished _____

THANK YOU FOR YOUR COOPERATION.

**If you have any questions regarding recreational fishing in Ontario, you may call 1-800-667-1940 TOLL FREE.
 Please use the next section to provide any comments you may have on recreational fishing in Ontario.**

COMMENTS:
