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Survey of Recreational Fishing in Canada *2010*



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Preface

The 2010 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. This nationally-coordinated study provides the most comprehensive information on recreational fisheries activities and harvests in all regions of the country. It is also the most up-to-date source of detailed statistics on the economic contribution made by anglers at both provincial/territorial and national levels.

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

The survey was a coordinated initiative between Fisheries and Oceans Canada (DFO) and the provincial and territorial recreational fisheries licensing agencies. Key operational activities including survey sampling, data collection, editing and estimation were managed by Kieth W. Brickley, BriLev Consulting Inc., under the direction of Sue Rocque, Manager, Recreational Fisheries Division, Ecosystems and Fisheries Management, and Robert Elliott, Director General, Economic Analysis and Statistics Directorate, Strategic Policy.

This report was prepared by Kieth W. Brickley, BriLev Consulting inc., with the assistance of Neville Johnson, Statistical Services, and Eileen Dumbrell, On-Site Solutions. Julia Barrow, Recreational Fisheries Division, was in charge of the overall supervision of the report preparation.

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Symbols

The following symbols are used in this report:

- nil or zero
- .. figures not available
- ... figures not applicable

1.0 Introduction

With over two million lakes and rivers that flow into five major ocean drainage basins, Canada is well known for its recreational fisheries. Fishing has historically been one of the country's popular leisure activities for both Canadians and visitors alike.

Every year, anglers from all around the world come to visit and participate in recreational fishing activities across Canada. The important socio-economic contributions of recreational fishing are felt in all of Canada's provinces and territories, particularly in some of the more remote areas of the country.

1.1 Managing Canada's recreational fisheries

The governance structure for managing Canada's recreational fisheries is one that has evolved over time. It is a complex combination of federal, provincial and territorial legislative and management responsibilities with an emphasis on partnership, citizen engagement and stewardship and on promoting public awareness about conservation and the sustainable use of fishery resources. Text Box 1.1 provides a summary of the different management responsibilities for recreational fisheries in Canada.

The implementation of recreational fishery management programs at the provincial and territorial level are equally complex. The programs and strategies do reflect, however, the diversity of requirements across various jurisdictions, the need to engage all stakeholders and the importance of achieving a balance between promotion of recreational fishing as a leisure activity and conservation of the resource.

Statistical monitoring of recreational fishing activities is an important input to fishery management. Information collected through the Survey of Recreational Fishing in Canada has been used to support policy analysis and the development of fishery management plans for the past thirty-five years.

1.2 Survey Highlights

Resident anglers continued to make up the majority of the active angler population in Canada, particularly in Ontario and Quebec, which accounted for 60% of all resident anglers. Most Canadian non-resident and foreign anglers travelled to fish in either Ontario or British Columbia (Tidal Waters) for their recreational fishing activities. These trips accounted for almost 73% of all fishing trips taken by non-resident anglers in Canada.

The population of active adult anglers continued to age. More than half of Canadian anglers (55%), for example, were in the 45-64 age group whereas only 28% of the general Canadian population fell within the same age range.

The average number of days fished per angler has remained relatively unchanged at 13 days since 1995. Canadian non-resident and foreign anglers made over 2 million trips within Canada in 2010. Over half of these trips were made specifically to fish for recreation in the jurisdiction they visited.

Overall, walleye was the most predominant species caught in 2010, maintaining the same position as in the 2005 survey. As reported in 2005, walleye surpassed trout for the first time since the first survey in 1975. Of the trout species caught, brook trout continued to be the dominant species caught by resident anglers, particularly in the eastern provinces and Quebec. The Territories had significant catches of lake trout, arctic grayling and northern pike.

Anglers contributed a total of \$8.3 billion to various local economies in Canadian provinces and territories in 2010. Of this amount, \$5.8 billion was in the form of investments and major purchases of durable goods related to recreational fishing activities. The remaining \$2.5 billion covered direct recreational fishing expenditures during fishing trips, such as package deals, transportation, food, lodging, fishing services, and fishing supplies.

Text Box 1.1 Summary of Federal, Provincial and Territorial Responsibilities, Management of Recreational Fisheries, Canada

Province/Territory	Recreational Fisheries Management Responsibilities		
	Federal (DFO)	Provincial / Territorial	Co-Management Boards
Newfoundland and Labrador	marine species		
Prince Edward Island, New Brunswick, Nova Scotia	freshwater species	freshwater species (licensing)	
	anadromous, catadromous, other marine species	freshwater species (licensing) anadromous species fished in inland waters (licensing)	
Quebec	all other marine species	freshwater, anadromous and catadromous species	
Ontario, Manitoba	marine species	freshwater species	
Saskatchewan	Aboriginal fisheries and fish habitat protection	day-to-day legislative fishery amendments	
Alberta		freshwater species	
British Columbia	salmon in marine and freshwater	freshwater species	
	salmon - tidal waters (licensing) other tidal water species	inland salmon sport fishing (licensing)	
Northwest Territories, Nunavut		fishery allocations; provide advice on conservation, fishery management and science activities	
Yukon	marine species	freshwater species	

Source:

DFO, Fisheries and Aquaculture Management, *Recreational Fisheries in Canada: An Operational Policy Framework*.

reliability of geographically based estimates for effort and harvest. The survey in the Northwest Territories was conducted by DFO headquarters using samples provided by the jurisdiction.

Table 2.1 Final Sample Size, Resident and Non-resident Anglers, by Jurisdiction, 2010¹

Jurisdiction	Resident	Non-resident	Total
Newfoundland and Labrador	1,358	1,373	2,731
Prince Edward Island	2,200	587	2,787
Nova Scotia	877	305	1,182
New Brunswick	3,500	1,000	4,500
Quebec ²	13,300	0	13,300
Ontario	17,000	13,680	30,680
Manitoba	2,800	1,602	4,402
Saskatchewan	4,101	2,799	6,900
Alberta	5,000	800	5,800
British Columbia Freshwater	10,100	3,000	13,100
British Columbia Tidal Waters	9,000	3,000	12,000
Yukon	1,000	700	1,700
Northwest Territories	900	900	1,800
Nunavut	407	621	1,028
Canada	71,543	30,367	101,910

Notes:

1. The number of non-resident anglers in this table includes both Canadian non-residents and foreign anglers. Refer to Section 3 for a list of concepts, terms and definitions used in the report.

2. Due to limitations in the licensing database, non-resident anglers in Quebec were not covered in the 2010 Survey of Recreational Fishing in Canada. Refer to Section 5.1.3 for details.

Source: DFO, Economic Analysis and Statistics.

The 2010 survey collected information on:

- angler profile (age, sex, residence, etc.)
- recreational fishing activities
 - fishing effort by region;²
 - number of fish caught and retained; and
 - harvest by species and by fisheries management and/or economic regions.
- various questions focussing on aquatic invasive species.
- trip information for non-resident anglers.
- expenditures
 - major purchases or investments attributable to fishing activities;
 - package deals purchased; and
 - direct expenditures related to recreational fishing trip activities.

Each province/territory also asked supplementary questions on recreational fishing activities and programs in their respective jurisdictions. The supplementary questions for the Northwest Territories were formulated by staff from DFO's Central and Arctic region in Winnipeg. All publishable results pertaining to these questions, along with copies of the survey questionnaires are found in the CD-ROM that accompanies this report. Section 5 provides a more detailed description of the survey methodology as well as indicators of data quality and statistical reliability of key variables.

2.0 Survey Overview

The 2010 Survey of Recreational Fishing in Canada was the 8th cycle of the survey which began in 1975 and is conducted every five years. The survey's target population covered all individuals identified in the 2010 provincial and territorial recreational fishing licence databases.¹ In 2010, the questionnaires were mailed out to almost 102,000 households within Canada and in other countries to obtain information on recreational fishing activities (Table 2.1).

The sample design was based on the licensing databases in each jurisdiction. Samples were selected using stratified, systematic random sampling with stratification based on licence category and, in some jurisdictions, region of licence sale. Sample sizes were determined from the reliability estimates for days fished for each stratum, as calculated from the results of the 2005 Survey of Recreational Fishing in Canada. In Ontario, the province chose to increase their sample sizes to increase the

¹ In Newfoundland and Labrador and in Quebec, a pre-screening process was conducted in order to identify the active resident angler populations of each province in 2010.

² Recreational fishing regions were based on the definitions used by each province or territory.

3.0 Concepts, Terms and 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 food, social and 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.

Active Angler: an angler who fished in 2010; the identification of anglers was based on the information from provincial and territorial licensing databases and active anglers were estimated based on the results of the survey pre-screening³ and from responses from individual respondents.

Adult Anglers: the total adult angler population in 2010; does not include individuals under 16 years of age (15 years and 18 years of age in some jurisdictions). The survey results presented in this report relate to recreational fishing activities of **active adult anglers** covered in the survey.⁴

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

Jurisdiction: province or territory having the recreational fishing management responsibility. The province of British Columbia (BC) is divided into two jurisdictions, namely, BC Tidal (salt water or marine recreational fishing), which is managed by DFO and BC Freshwater (recreational fishing in BC's freshwater regions), which is managed by the province.

Angler categories: each jurisdiction surveyed two general categories of active anglers: resident anglers and non-resident anglers (Canadian and Foreign). The only exception was in Quebec where non-resident anglers were not covered in the survey.

Resident Angler: an angler who lived in the jurisdiction and who fished within that jurisdiction in 2010.

Canadian Non-resident Angler: a Canadian angler who fished in a jurisdiction other than his/her home jurisdiction.

Other Non-resident Angler: a non-Canadian angler who fished in a Canadian jurisdiction. 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. In 2010, there was a differentiation made based on whether boating equipment and special vehicle purchases were new or used.

Fishing Equipment and Fishing Supplies: *fishing equipment* includes expenditures on goods such 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. Types of package deals include: fly-in camps, lodge, charter boats, outfitters, etc.

Fishing Services: include boat rental, guide services, licence 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.⁵

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.

³ Conducted in two provinces: Newfoundland and Labrador and Quebec.

⁴ With the exception of survey results from some of the additional questions by jurisdiction (see enclosed CD).

⁵ World Bank, World Development Indicators, Statistical Methods, <http://www.worldbank.org/reference>.

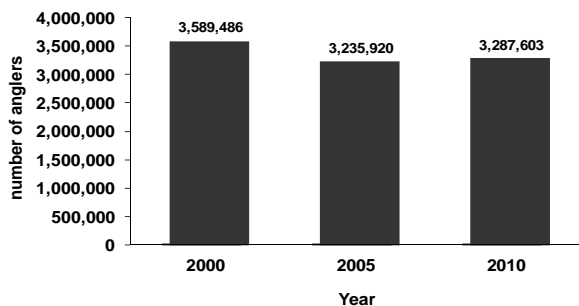
4.0 Survey Results

4.1 Angler Profile

In 2010, almost 3.3 million adult anglers participated in a variety of recreational fishing activities in Canada (Annex A.2).⁶ This was marginally higher than the 3.2 million in 2005 (Figure 4.1). Between 2005 and 2010, the numbers of active adult angler numbers have remained steady after years of decline.

The majority of active anglers in 2010 were residents fishing within their home province or territory (over 2.7 million). The remaining active adult angler population consisted of just over 147,000 Canadian non-residents (those fishing outside their home province or territory) and visitors to Canada (approximately 406,000). Canadian and visiting angler numbers dropped from 2005 by 2% and 35%, respectively.

Figure 4.1 Total Active Adult Anglers, All Angler Categories, Canada, 2000, 2005, 2010¹



Note:

1. The 2000 estimate has been adjusted to exclude the total number of active non-resident anglers in Quebec. The adjustment was done in order to allow comparison with the 2010 estimate.

Source: DFO, Economic Analysis and Statistics.

4.1.1 Resident Anglers

Resident anglers were mainly concentrated in Ontario and Quebec (Annex A.3). Given their large population base, this was not surprising and it has been a consistent trend since 1995. In 2010, resident anglers from these two provinces accounted for 60% of all active resident anglers in Canada. In terms of actual numbers, 2010 saw more active resident anglers in both provinces compared to 2005 (Table 4.1). Most jurisdictions experienced an increase in active resident anglers, with only Newfoundland and Labrador and Nunavut seeing major declines of 46% and 29%, respectively. Although the level of activity of resident anglers in Newfoundland and Labrador in 2005 may have been inordinately high, the active angler estimate for 2010 is the lowest estimate since pre-screening of households began in 1985.

In general, resident angler participation rates showed an upward trend in most provinces and territories since 2005 (Table 4.2). Resident angler participation rates have consistently been the highest in Newfoundland and

Labrador and Yukon. Yukon saw an increase in resident participation in 2010 and, even though the rate dropped substantially in Newfoundland and Labrador in 2010, it was still second highest.

Table 4.1 Number of Active Resident Anglers by Jurisdiction, Canada, 2000, 2005, 2010

Jurisdiction	2000	2005	2010
Newfoundland and Labrador	101,945	131,578	71,382
Prince Edward Island	8,617	6,929	6,413
Nova Scotia	56,110	43,775	55,951
New Brunswick	53,132	43,382	52,770
Quebec	813,590	656,543	711,610
Ontario	814,887	764,374	924,549
Manitoba	136,334	121,788	130,224
Saskatchewan	130,076	119,824	142,550
Alberta	182,044	179,461	223,007
British Columbia Freshwater	235,691	211,403	236,682
British Columbia Tidal	145,495	169,863	166,824
Yukon	4,835	5,048	6,755
Northwest Territories	4,720	2,138	4,500
Nunavut	662	769	545
Canada	2,688,139	2,456,876	2,733,762

Source: DFO, Economic Analysis and Statistics.

4.1.2 Canadian Non-resident and Foreign Anglers

The non-resident angler category is made up of Canadians who fished in jurisdictions outside their home province or territory; and foreign anglers visiting Canada. In total, there were almost 554,000 anglers in these two non-resident angler categories (Table 4.3).

Just over a quarter of non-resident anglers were Canadians who fished outside their own province/territory. The remainder were foreign anglers, primarily from the United States, part of the millions of travellers who entered Canada in 2010. The overall trend shows an average annual decrease of 9% in the total non-resident angler population during last five years, more than double the average annual decline experienced between 2000 and 2005.

⁶ This estimate reflects the total number of active anglers in the jurisdictions and angler categories covered in the survey only. In 2010, there is no available survey information for non-resident anglers in Quebec.

Table 4.2 Resident Angler Participation Rate, by Jurisdiction, Canada, 2000, 2005, 2010¹

	2000	2005	2010
Jurisdiction	(%)		
Newfoundland and Labrador	19.0	25.5	14.0
Prince Edward Island	6.2	5.0	4.5
Nova Scotia	6.0	4.7	5.9
New Brunswick	7.0	5.8	7.0
Quebec	11.0	8.6	9.0
Ontario	7.0	6.1	7.0
Manitoba	11.9	10.3	10.5
Saskatchewan	12.7	12.1	13.7
Alberta	6.0	5.5	6.0
British Columbia Freshwater	5.8	5.0	5.2
British Columbia Tidal	3.6	4.0	3.7
Yukon Territory	15.8	16.3	19.5
North West Territories	11.5	5.0	10.3
Nunavut	2.4	2.6	1.7
Canada	8.8	7.6	8.0

Note:

1. Participation rate is defined as the resident anglers' share of total population in the province or territory.

Source: DFO, Economic Analysis and Statistics.

Table 4.3 Total Number of active Canadian Non-resident and Foreign Anglers, by Jurisdiction, Canada 2000, 2005, 2010

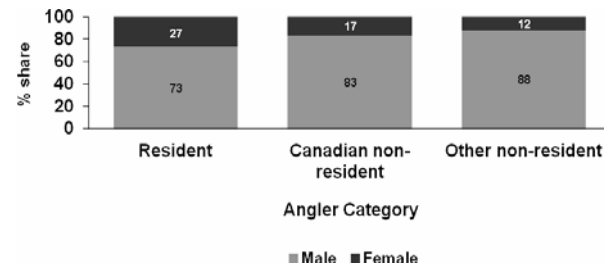
	2000	2005	2010
Jurisdiction	('000)		
Newfoundland and Labrador	3.5	3.8	4.5
Prince Edward Island	0.8	0.6	1.9
Nova Scotia	2.5	2.1	1.8
New Brunswick	8.0	7.2	6.2
Quebec	46.6	..	..
Ontario	606.9	501.6	338.0
Manitoba	42.7	36.8	29.1
Saskatchewan	41.9	37.3	36.7
Alberta	13.9	12.4	12.4
British Columbia Freshwater	68.0	59.4	49.5
British Columbia Tidal	97.7	106.3	61.3
Yukon Territory	6.4	5.8	6.3
North West Territories	8.1	4.5	5.5
Nunavut	0.9	1.1	0.6
Canada	947.9	779.0	553.8

Source: DFO, Economic Analysis and Statistics.

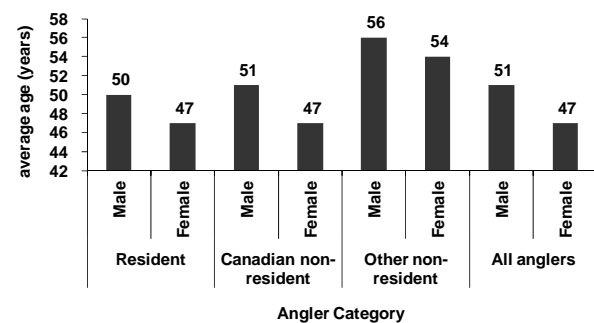
4.1.3 Gender Profile

Male anglers made up 73% of resident adult anglers, 83% of Canadian non-resident anglers and 88% of all other non-resident anglers. These distributions have seen very little change throughout the years (Figure 4.2).

Figure 4.3 illustrates the average age of male and female active anglers. In 2010, the average male angler was 51 years old whereas female anglers were generally 47 years old, compared with 46 and 43 years, respectively, ten years ago.⁷ Non-resident anglers from outside Canada were noticeably older than either resident or Canadian non-resident anglers, with males averaging 56 years and females 54 years of age.

Figure 4.2 Distribution of Active Anglers by Angler Category and Gender, Canada, 2010

Source: DFO, Economic Analysis and Statistics.

Figure 4.3 Average Age of Active Anglers, by Angler Category and Gender, Canada, 2010

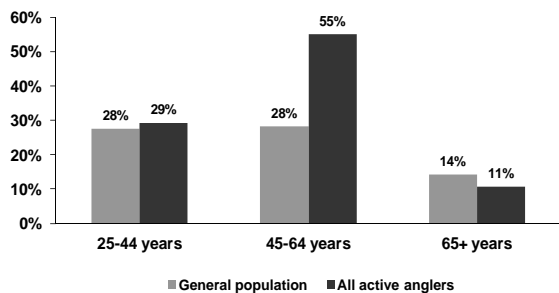
Source: DFO, Economic Analysis and Statistics.

4.1.4 Age Profile

Analysis of the age distribution reveals the aging population of active anglers in Canada. This is confirmed further by comparing the 2010 Canadian angler age profile with that of the general population (Figure 4.4). In 2010, for example, 55% of Canadian anglers were in the 45-64 age group, whereas only 28% of Canadians, in general, fell within the same age range. The relative percentage of Canadian anglers 65 years of age and over almost doubled in 2010 compared to 2005, increasing from 6% to 11% of the angling community. The overall population increased by just 1% since 2005.

⁷ Fisheries and Oceans Canada, 2000 Survey of Recreational Fishing in Canada, <http://www.dfo-mpo.gc.ca/stats/rec/can/2000/r02t5-eng.htm>.

Figure 4.4 Age Group Distribution, Canadian Active Anglers and General Population, Selected Age Groups (share of total), 2010¹



Note:

1. The age-group distribution of Canadian active anglers in this chart is based on the combined totals for resident anglers and Canadian non-resident anglers.
Source: DFO, Economic Analysis and Statistics.

4.2 Fishing Effort

4.2.1 Days Fished

Given its direct correlation with the number of active anglers, the total number of days spent fishing had been in decline since the mid-1990s, however, in 2010, anglers fished a total of 43 million days in Canada, which was just marginally higher than in 2005. Of the fishing effort expended in 2010, over 39 million days (91%) were fished by resident anglers (Annex A.5).

The average number of days fished per angler has remained relatively unchanged since 1995 (13 days).⁸ This suggests that although the number of people involved in a recreational fishing activity is significantly lower than in earlier years, the people who remain active in recreational fishing appear to be applying the same average amount of effort.

Canadian anglers fishing within their home jurisdictions accounted for about 39.5 million days fished in 2010. Only 2% of total fishing effort (just over a million days) could be attributed to Canadians fishing in other jurisdictions, while foreign anglers accounted for the remaining 6.5% (2.8 million days) in 2010. In terms of the average days fished for each angler category, resident anglers fished an average of 14.4 days, while the non-resident Canadian and foreign anglers groups averaged about 7 days each.

4.2.2 Non-resident Trip Characteristics

The survey gathered general information on the overall tourism activities of non-resident anglers. It asked visiting Canadian anglers about their number of trips to other Canadian provinces/territories and it asked foreign anglers about their total number of trips to Canada in 2010 (for any reason). Another question obtained further information on how many of these trips were specifically for recreational fishing. As a whole, non-resident anglers made over 2 million trips within Canada in 2010 and just over half of their trips (51%) were for fishing (Annex A.6).⁹

⁸ Average of 13 days for all active adult angler categories.

⁹ This estimate includes all trips to other provinces/territories taken by Canadian non-resident anglers as well as trips to Canada by foreign anglers in 2010.

Canadian non-resident anglers fished on 31% of their trips to jurisdictions other than their own province/territory. Foreign anglers fished on 79% of their trips to Canada in 2010.¹⁰

For Canadian non-resident anglers, 89% of their trips to the Northwest Territories were made for fishing purposes, while 87% of trips to the Yukon were for fishing. Canadian anglers visiting Newfoundland and Labrador fished on 71% of the trips they made to that province.

Ontario continued to be the destination of choice for the majority of foreign anglers, accounting for 76% of all foreign anglers in 2010. British Columbia was the destination of choice for almost 14% of foreign anglers, followed by Manitoba and Saskatchewan, with 17,630 and 10,803 active foreign anglers, respectively.¹¹

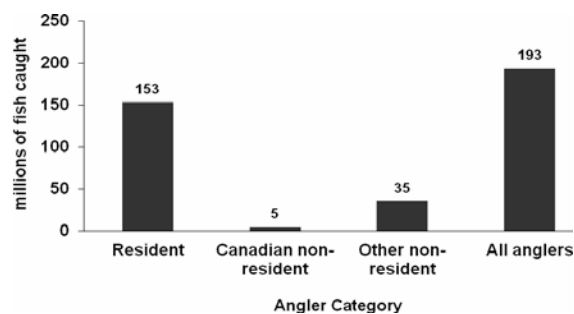
4.3 Harvest

4.3.1 Fish Caught and Retained

Anglers caught over 193 million fish of all species and retained nearly 63 million (Annex A.7a, Annex A.7b). Resident anglers in all provinces and territories caught 153 million of this total harvest, retaining just 37% of their catch. Foreign anglers caught over 35 million (18%) while Canadian non-resident anglers caught a relatively small proportion of the total fish harvest (almost 5 million) in 2010 (Figure 4.5 and Annex A.7a). Non-resident foreign anglers kept just 15% of all fish they caught in 2010 (Annex A.7b).

On average, each resident angler kept 21 fish in 2010. Every Canadian non-resident angler kept an average of six fish, while foreign anglers retained an average of 13 fish of various species.

Figure 4.5 Total Fish Harvest, All Species, by Angler Category, Canada, 2010



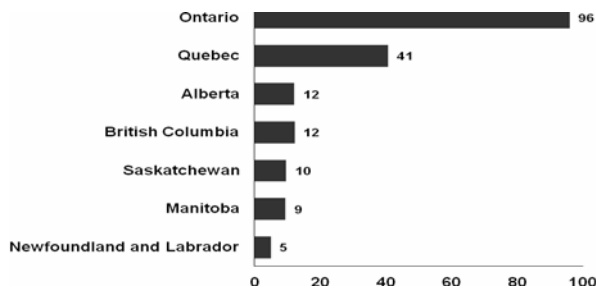
Source: DFO, Economic Analysis and Statistics.

¹⁰ Detailed trip information is presented on the CD-ROM, Table 13.

¹¹ In 2010, there were 21,857 foreign anglers who fished in BC Freshwater and 33,333 foreign anglers who fished in BC Tidal Waters.

More than half of all reported 2010 fish harvests were caught in Ontario (96 million), followed by Quebec and four Western provinces (Figure 4.6). Newfoundland and Labrador saw the highest drop in number of fish caught, reflecting the fall in the number of anglers fishing in the province since 2005. The number of fish caught in Manitoba fell by 25%, while in Ontario catch decreased by almost 17%.

Figure 4.6 Total Fish Harvest by All Anglers, All Species, Selected Provinces, 2010¹

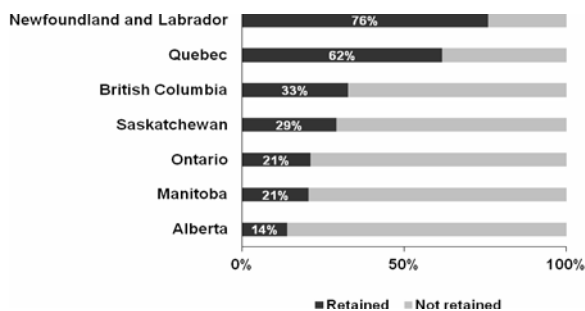


Note:
1. The estimate for British Columbia includes total fish harvests in both fresh water and tidal waters. The Quebec estimate pertains to total fish harvested by resident anglers only.

Source: DFO, Economic Analysis and Statistics.

In terms of fish retained, however, the overall proportion of fish retained by anglers in Ontario was only 21%, compared to 62% for anglers in Quebec (Figure 4.7). Anglers who fished in Newfoundland and Labrador waters retained over three-quarters of their catch in 2010. Anglers who fished in freshwater west of Ontario released over 78% of their catch, whereas anglers fishing in Quebec and the eastern provinces released only 41% of their catch.

Figure 4.7 Fish Retained, Share of Total Harvest, All Species, Selected Provinces, 2010¹



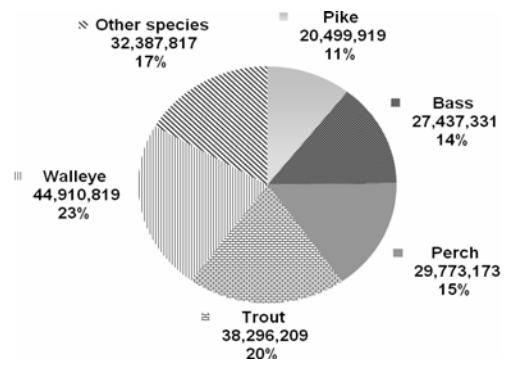
Note:
1. The estimate for British Columbia includes total fish harvests in both fresh water and tidal waters. The Quebec estimate pertains to total fish harvested by resident anglers only.

Source: DFO, Economic Analysis and Statistics.

4.3.2 Species Profile

The top five species caught by anglers accounted for 83% of total fish harvest in 2010 (Figure 4.8). Walleye was the most predominant species caught nationally, followed by trout species. As in 2005, walleye ranked first in 2010, representing 23% of the total catch, followed by trout, perch, bass and northern pike.

Figure 4.8 Total Fish Harvest, Selected Species, Canada, 2010



Source: DFO, Economic Analysis and Statistics.

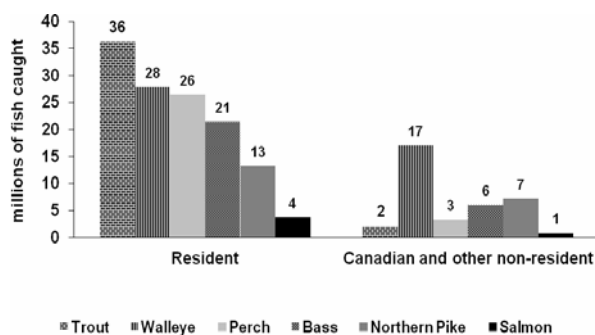
Walleye was the top species caught in Ontario, Manitoba, Saskatchewan and Alberta (Table 4.4). Walleye caught in Ontario accounted for over 54% of the walleye harvest by all anglers in 2010.

Trout continued to be the most predominant species harvested by resident anglers (Figure 4.9). Brook trout, in particular, was the main species in all the eastern provinces as well as Quebec. Lake trout, Arctic grayling and northern pike dominated the species caught in the Northwest Territories, Nunavut and Yukon in 2010. It is interesting, and yet quite reasonable, to note that although foreign anglers had the higher catch total for the three territories, resident anglers kept the greater proportion of fish. Resident anglers kept over 21% of the fish they caught while non-resident anglers kept only 8% of their catch.

Table 4.4 Main Species Caught By All Anglers, by Jurisdiction, Canada, 2010

Jurisdiction	Species 1	Species 2	Species 3
Newfoundland and Labrador	brook trout	Northern cod	smelt
Prince Edward Island	freshwater brook trout	Mackerel	sea-run brook trout
Nova Scotia	brook trout	Mackerel	smallmouth bass
New Brunswick	brook trout	smelt	smallmouth bass
Quebec	brook trout	walleye	perch
Ontario	walleye	perch	smallmouth bass
Manitoba	walleye	pike	perch
Saskatchewan	walleye	pike	perch
Alberta	walleye	pike	rainbow trout
British Columbia Freshwater	rainbow trout	freshwater salmon	cutthroat trout
British Columbia Tidal	chinook salmon	coho salmon	sockeye salmon
Yukon	arctic grayling	northern pike	lake trout
Northwest Territories	northern pike	lake trout	walleye
Nunavut	lake trout	Arctic char	Arctic grayling
Canada	walleye	trout	perch

DFO, Economic Analysis and Statistics.

Figure 4.9 Total Fish Harvested by Resident and Non-resident Anglers, Top Species Caught, Canada, 2010

Despite the popularity of certain freshwater species in 2010, all anglers generally kept higher proportions of saltwater fish such as smelt and mackerel (69%) than freshwater species such as trout, perch and salmon (28%). Of the more common species, northern pike, smallmouth bass and largemouth bass were returned to the water most often. It is also worth noting that cod retention rate in Newfoundland and Labrador, was essentially 100% in 2010, reflecting the mandatory retention regulations for this species in the province.

4.4 Direct Recreational Fishing Expenditures

4.4.1 Total Direct Expenditures

All anglers spent just over \$2.5 billion in direct recreational fishing expenditures in 2010 (Annex A.9). In current dollar terms, this total has been increasing marginally throughout the years (Table 4.5). However, the inflation-adjusted estimates show that total direct recreational fishing expenditures decreased at an average annual rate of 1% in the past five years, and 2% since 2000.

Table 4.5 Total Direct Recreational Fishing Expenditures, All Active Anglers, Canada, 2000, 2005, 2010

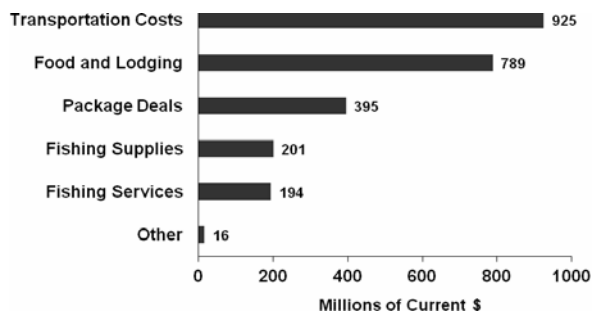
Year	Current \$ (million \$)	CPI ² 2002=100	Constant 2002 \$ (million \$)
2000 ¹	2,349	95.4	2,462
2005	2,466	107	2,305
2010	2,519	116.5	2,162

Notes:

1. The 2000 estimate has been adjusted to exclude the total number of active non-resident anglers in Quebec. The adjustment was done in order to allow comparison with the 2010 estimate.
2. Consumer Price Index, Catalogue 62-001-X, April 2011, Statistics Canada.
Source: DFO, Economic Analysis and Statistics.

Transportation and food and lodging were the principal expenditure items of all anglers in 2010 (Figure 4.10). For every dollar spent on goods and services directly related to angling activities, sixty-eight cents went to cover transportation costs and food and lodging expenses during the year.

Not surprisingly, these two categories have consistently been the top trip expense items. Each active angler spent, on average, \$281 to cover transportation and travel costs and another \$240 on food and lodging expenses during fishing trips throughout 2010.

Figure 4.10 Total Direct Recreational Fishing Expenditures, All Active Anglers, by Expense Category, Canada, 2010

Source: DFO, Economic Analysis and Statistics.

4.4.1.1 Transportation

Transportation expenditures covered all travel-related costs including air and bus fares, ferry costs, vehicle costs and aircraft rentals. In 2010, the total current dollar transportation expenditures of all active anglers reached \$925 million. Transportation expenditures increased at an average annual rate of 2% between 2005 and 2010.

The average transportation cost per angler varied widely across the provinces and territories and were the highest for Canadian resident anglers who fished in B.C.'s tidal waters and for non-resident anglers who fished in Nunavut (\$735 and \$635, respectively). On average, non-resident Canadian anglers paid \$320 per angler, the highest of the three angler groups.

4.4.1.2 Food and Lodging

Total food and lodging expenditures (\$789 million) represented almost one-third of the total direct recreational fishing expenditures in Canada. On average, an active angler paid \$240 to cover food, lodging and accommodation expenses. However, the average per angler cost could more than double these overall averages, depending on the category and fishing jurisdiction.

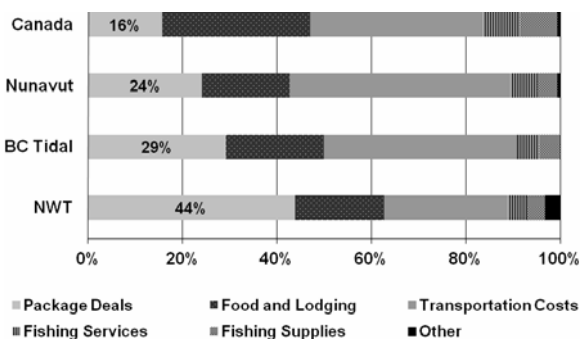
As expected, lodging costs took up a higher proportion of the total food and lodging expenses for non-resident anglers who were more likely to stay at least overnight on fishing trips. For example, a foreign angler in Prince Edward Island spent over \$770 (on average) to pay for food, lodging and accommodations in 2010, while a non-resident Canadian angler spent close to \$473 for food and lodging in Newfoundland and Labrador.

4.4.1.3 Package Deals

Total expenses on package deals amounted to \$395 million in 2010. 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 become increasingly popular throughout the years, as more and more anglers started taking advantage of the deals offered by fishing lodges, guide services, outfitters and travel agencies. However, in current dollars, expenditures on package deals for angling fell by almost 19% when compared to 2005. In 2010, the package deals share of total expenditures has fallen back to almost 16%. Anglers in the Northwest Territories, BC Tidal Waters and in Nunavut, primarily non-Canadian anglers, spent a relatively higher proportion of their trip expenses on packages purchased in 2010 (Figure 4.11).

Figure 4.11 Share of Total Direct Recreational Fishing Expenditures, by Expense Category, Northwest Territories, BC Tidal Waters, Nunavut and Canada, 2010



Source: DFO, Economic Analysis and Statistics.

4.4.1.4 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, totalled \$194 million in 2010. Their share of total direct recreational fishing expenditures increased to 8% in 2010, up from 7% in 2005.

As in other expenditure categories, there was a wide range in the average fishing services expenditure per angler in 2010. It could be as low as \$10 per angler as in the case of resident anglers in Newfoundland and Labrador and as high as the \$427 average amount paid by non-resident anglers in New Brunswick, mainly to pay for club memberships and fees paid for guide services.

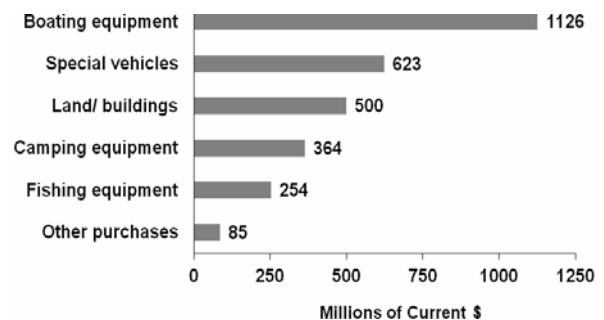
Expenses related to purchases of lures, lines, tackle, bait, and other fishing supplies were \$201 million in 2010 (or 8% of total direct expenditures). Resident anglers across Canada spent a relatively higher proportion of their fishing expenditures on fishing supplies (as high as 16% for resident anglers in Prince Edward Island), in comparison with non-resident anglers. In general, non-resident Canadian and other non-resident anglers spent approximately 4% of their total fishing expenditures on these supplies.

4.5 Major Purchases and Investments

In 2010, anglers invested \$5.8 billion in boats, motors, camping gear, special vehicles, real estate and other durable goods related to their recreational fishing activities (Annex A.10). Of this total, an estimated \$3.0 billion was directly or wholly attributable to recreational fishing (Annex A.11). Expenditures on recreational fishing investments in 2010 increased by 16% over 2005.¹² Part of this increase may have been a result of a change in how investments for boating equipment and special vehicles were covered. In 2010, all jurisdictions asked anglers to differentiate between new and used equipment purchases.

Boating equipment and special vehicles accounted for just under 60% of the \$3.0 billion investments wholly attributable to recreational fishing. This was followed by investments on land and buildings (\$500 million) and camping equipment (\$364 million). The remaining amount (almost 12%) was for major purchases of fishing equipment and other miscellaneous investments (Figure 4.12).

Figure 4.12 Major Purchases and Investments Wholly Attributable to Recreational Fishing, by Investment Category, Canada, 2010



Source: DFO, Economic Analysis and Statistics.

Investment activities by resident anglers essentially determined the general profile of investments attributable to recreational fishing, as their investments represented \$2.8 billion or 95% the overall total in 2010 (Annex A.12).

Non-resident Canadians and foreign anglers invested \$93 million and \$44 million, respectively, in 2010. Investment spending by both of these angler categories was mostly on land and/or buildings purchases (close to 59% of attributable investments).

¹² Based on current dollar investment estimates.

5.0 Survey Methodology and Data Quality

The diversity of recreational fishing licensing procedures across Canada required the use of several approaches in order to conduct a national survey across the various jurisdictions.

This section aims to describe the procedures used in the 2010 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.

5.1 Sampling Procedures

5.1.1 General

Resident and non-resident samples were selected using stratified, systematic random sampling of licence databases with stratification based on licence category. The only exceptions were in the case of sampling the resident anglers in two jurisdictions: Quebec and Newfoundland and Labrador (Sections 5.1.2 and 5.1.3).

In British Columbia (freshwater) and in the Northwest Territories, the licence strata were further defined by the area in which the licences were sold. In Saskatchewan, Nova Scotia and Ontario, 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 2005 Survey of Recreational Fishing in Canada.

5.1.2 Resident Anglers in Quebec and Newfoundland and Labrador

Due to limitations in the licence databases available for residents of Quebec and Newfoundland and Labrador, sampling for the populations of resident anglers was conducted by using household samples of the general population. The households in each province were geographically stratified. The required sample of angling households was determined in consultation with representatives of each province based on the distribution of households in the 2006 census.

The overall sample size was determined using the proportion of angling households to all households in each geographic area as estimated for 2005 combined with reliability of days fished for each area in 2005.

Households were pre-screened by telephone to establish the eligibility for inclusion in the survey. Profiles were obtained by determining for each selected household the age (under/over base age for *adult* anglers in the province) and sex of all individuals residing in the household. It was

then further requested for those individuals identified as *adults*, how many in the household fished for recreation in 2010. In households where anglers were identified, one was selected at random to respond to the questionnaire. For verification purposes, the selected respondent was asked for the number of days fished in 2010.

The actual pre-screening operations were handled by private research firms under joint contract with DFO and the respective provincial governments. The results of the pre-screening were provided to DFO for population estimation and survey weighting procedures.

5.1.3 Non-resident Anglers in Quebec

Historically, the Quebec licence database was used to sample the non-resident anglers in the province. However, with the implementation of the province's *Act Respecting Access to Documents Held by Public Bodies and the Protection of Personal Information*, non-resident anglers are not required to provide complete personal and contact information when obtaining their recreational fishing licence.¹³ Therefore, as in 2005, it was not possible to survey the non-resident angling population in Quebec for 2010 due to the absence of a survey frame (i.e., a list containing all necessary information from which the survey sample can be drawn).

The number of active non-resident anglers in Quebec was estimated at 46,579 in 2000. Based on the observed trend in non-resident licence sales in Quebec since 2000, falling at an average annual rate of 2%, it would be reasonable to expect that the number of active non-resident anglers in Quebec would also have been on a similar downward trend in 2010. There was no attempt, however, to impute the non-surveyed portion of the Quebec angling population in this report due to methodological constraints.

5.1.4 Special Sampling: Atlantic Salmon Licence Holders

In Newfoundland and Labrador, a special sample of resident Atlantic salmon licence holders was selected to ensure adequate sampling for special analyses of these important sub-populations required for an Atlantic-wide analysis of Atlantic salmon angling. A similar effort was made in Quebec, but with supplementary resident samples of both Atlantic salmon licence holders and general licence-holders to augment the results found in the household pre-screening phase of the survey. These licences were subsequently allocated for weighting based on the administrative region of residence as found in the pre-screening survey.

The decision to select special resident samples to augment the pre-screening phase was made because results of earlier surveys had shown that there was inadequate information for certain licence types based solely on the pre-screening results. Augmenting the samples allowed for the detailed analyses required by both provinces.

¹³ Commission d'accès à l'information du Québec, <http://www.cai.gouv.qc.ca>.

5.2 Data Collection, Processing, Coding and Estimation

The survey was launched in January 2011 through a coordinated press release led by DFO Headquarters (Ottawa). Each jurisdiction was responsible for survey mail out and coding of survey responses.

Due to variations across questionnaires, and specialized identification requirements, all coding was provided on the documents by each participating jurisdiction before being sent to Ottawa for processing. In some cases, all that was required after assessing completeness of the questionnaire was identification coding on each document. In others, far more involved coding was required ranging from special codes for sub-components of questions to geographic codes in order to allow for sub-provincial/territorial data analysis.

A major requirement in the editing and coding phase was verification that the information provided by anglers was both reasonable and sound for the jurisdiction 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 other than the designated respondent), etc. Once questionnaires had been completely assessed and coded, they were sent to Ottawa for analysis.

Working under contract to DFO Headquarters, BriLev Consulting Inc. coordinated the questionnaire imaging, data capture and validation of survey responses in cooperation with the coordinators for each jurisdiction. This was done on a staggered basis, depending on the province or territory. All documents were verified prior to data capture, and those with significant levels of incomplete coding, missing information, etc. were set aside. Data capture procedures were written in-house for each jurisdiction. All data collection, coding, and data capture were completed in the Fall of 2011.

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.

5.3 Weighting Procedures

Weighted estimates were produced to ensure that the raw survey data reflect the estimates for the population. This procedure for most jurisdictions where licence sales were known was a simple application of inverse weighting by stratum (population of licence-holders divided by resultant sample). In all jurisdictions where additional stratification was done based on geographic information, adjustments were made on the basis of both licence-holding and geographic stratification. In jurisdictions where anglers could hold 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.

For residents of Quebec and Newfoundland a more complex procedure was required. First, it was necessary to estimate the total population by age-group and sex in each stratum based on the pre-screening data. Household weights, determined from the estimated households in each stratum divided by the sample of households pre-screened, were used to generate estimates of population. Of primary interest were the estimated populations of *adult* anglers by sex. The definition of *adult* varied with Quebec using 15 years of age and, Newfoundland and Labrador, 18. Using the pre-screening data, it was possible to determine the proportion of anglers in each geographic area of each province.

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 2006 census with post-censal estimates as at July 1, 2010. 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.

5.4 Post-Survey Adjustment Procedures

Preliminary survey results were distributed to various jurisdictions from late 2011 to early 2012. All jurisdictions were provided with the opportunity to review the preliminary estimates.

The province of Ontario conducted a non-response follow-up survey in mid-2011. The results of this survey were used to adjust the estimates based on the results of the mail survey. The adjustment procedure resulted in an overall reduction of 17% in activity information and, for expenditure information, 6%.

In all other jurisdictions, adjustments were made provided that they were based on identifiable errors or changes required due to revised administrative information. The area of primary concern to most jurisdictions was catch and retention of specific species by geographic area.

Most errors were the result of incorrect identification of species and the changes were relatively straightforward. Revisions were completed by February 2012 and the survey results were finalized.

5.5 Data Quality

5.5.1 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.13 presents the statistical reliability of key variables for all anglers.

The ranges of coefficient of variation (c.v.) below provide guidelines as to the use of the data:

Coefficient of variation	Guideline
less than 16.5%	Data can be used without condition
16.5% to 33.5%	Data should be used with caution
greater than 33.5%	Data should be used with extreme caution

Source: Statistics Canada.

5.5.2 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.¹⁴ These efforts included a complete verification of the reported data, validity and consistency edits and ongoing consultations with the coordinators in each jurisdiction.

5.5.3 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:

1. Estimates of recreational saltwater fisheries in Quebec and the Atlantic provinces: Anglers are not required to hold a licence to fish in saltwater for most species. The survey results (harvests, days fished, etc.) pertaining to recreational saltwater fisheries in Quebec and Newfoundland and Labrador are based on the pre-screening estimates of angler populations who fished in 2010. In the other provinces, estimates of recreational saltwater fishing activities are based only on anglers who held a freshwater fishing licence.
2. Quebec non-resident estimates: there are no survey estimates on recreational fishing activities of anglers who fished in Quebec but lived outside the province in 2010 (see Section 5.1.3 for details).
3. The survey did not cover nor did it attempt to measure the illegal, unreported activities related to recreational fisheries in Canada, for example, the days fished and harvests of individuals who conducted recreational fishing activities without a licence where/when a licence or permit is required.

¹⁴ 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 Mathematical Guide-Second Edition, Catalogue No. 12-602E, Ottawa.

5.6 Data comparability

The 2010 detailed provincial and territorial results are directly comparable with the 2005 surveys, with one main exception. While most of the core survey questions remained unchanged throughout these survey cycles, investment information was refined in 2010 to include estimates for purchase of new or used boating equipment and special vehicles. It is assumed that most of these purchases identified in earlier years focussed on new purchases, however, we cannot say so with any degree of certainty.

The issue of potentially obtaining information on the non-resident anglers in Quebec through alternate sources will be addressed in future surveys.

6.0 References

Fisheries and Oceans Canada, Economic and Commercial Analysis, 2005 Survey of Recreational Fishing in Canada, 2007, Ottawa.

Statistics Canada, Annual Demographic Statistics, Catalogue no. 91-520-X, 2010, Ottawa.

Statistics Canada, The Consumer Price Index, Catalogue no. 62-001-X, Volume 90, Number 4, May 2011, Ottawa.

Statistics Canada, Quality Guidelines, Fourth Edition, Catalogue no. 12-539-XIE, 2003, Ottawa.

Annex A: Summary Tables

Annex A.1 Number of all licensed anglers, by angler category and jurisdiction, 2010

Jurisdiction	Resident	Non-resident Canadian	Non-resident Other	All Non-residents	All Anglers
Newfoundland and Labrador ¹	71,382	4,007	865	4,872	76,254
Prince Edward Island	6,779	1,381	520	1,901	8,680
Nova Scotia	62,143	1,339	630	1,969	64,112
New Brunswick	61,226	2,156	4,127	6,283	67,509
Quebec ²	734,848	..	..	..	734,848
Ontario	1,116,163	31,351	313,446	344,797	1,460,960
Manitoba	140,873	11,844	17,784	29,628	170,501
Saskatchewan	156,920	26,764	10,915	37,679	194,599
Alberta	238,789	8,885	4,357	13,242	252,031
British Columbia Freshwater	280,709	35,417	22,437	57,854	338,563
British Columbia Tidal Waters	181,469	29,480	34,623	64,103	245,572
Yukon	8,380	3,544	3,217	6,761	15,141
Northwest Territories	5,008	4,436	1,302	5,738	10,746
Nunavut ³	659	..	..	751	1,410
Canada	3,065,348	160,604	414,223	575,578	3,640,926

Annex A.2 Number of active anglers, by angler category and jurisdiction, 2010

Jurisdiction	Resident	Non-resident Canadian	Non-resident Other	All Non-residents	All Anglers
Newfoundland and Labrador ¹	71,382	3,654	799	4,454	75,836
Prince Edward Island	6,413	1,381	520	1,901	8,314
Nova Scotia	55,951	1,206	598	1,804	57,756
New Brunswick	52,770	2,134	4,087	6,221	58,991
Quebec ²	711,610	..	..	..	711,610
Ontario	924,549	29,783	308,211	337,994	1,262,542
Manitoba	130,224	11,461	17,630	29,091	159,315
Saskatchewan	142,550	25,886	10,802	36,689	179,238
Alberta	223,007	8,239	4,161	12,400	235,407
British Columbia Freshwater	236,682	27,627	21,857	49,485	286,167
British Columbia Tidal Waters	166,824	28,004	33,333	61,337	228,162
Yukon	6,755	3,469	2,847	6,315	13,070
Northwest Territories	4,500	4,273	1,242	5,514	10,014
Nunavut ³	545	..	..	636	1,181
Canada	2,733,762	147,116	406,088	553,841	3,287,603

Annex A.3 Number and average age of active anglers, by gender and jurisdiction, 2010

Jurisdiction	Anglers	Males	Average	Females	Average
Newfoundland and Labrador	75,835	49,376	54	26,460	51
Prince Edward Island	8,314	7,555	49	760	52
Nova Scotia	57,755	52,786	52	4,970	47
New Brunswick	58,991	50,378	51	8,614	47
Quebec ²	711,610	466,068	53	245,542	50
Ontario	1,262,543	997,023	50	265,519	45
Manitoba	159,315	123,209	51	36,106	46
Saskatchewan	179,238	126,452	49	52,786	46
Alberta	235,408	181,579	45	53,827	44
British Columbia Freshwater	286,167	231,953	51	54,214	48
British Columbia Tidal Waters	228,162	181,681	53	46,481	50
Yukon	13,068	10,485	51	2,586	45
Northwest Territories	10,013	8,193	47	1,821	42
Nunavut ³	1,184	942	45	239	39
Canada	3,287,603	2,487,679	51	799,924	47

Notes:

- Figures may not add up to total due to rounding.
 - Due to licensing limitations, the number of resident anglers reflects the number of active anglers only.
 - Resident anglers only; there are no estimates for non-resident anglers in Quebec.
 - Non-resident origins were not recorded during fieldwork.
- Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.4 Origin of all licensed non-resident anglers in Canada, 2010¹

Province/State/Country of Origin	Number	%
Canadian Provinces/Territories:		
Maritimes	6,487	1.1
Quebec	12,857	2.2
Ontario	16,692	2.9
Prairies	111,186	19.3
British Columbia	10,728	1.9
Territories	2,653	0.5
Sub-total: Canadian Provinces/Territories	160,605	27.9
United States:		
New England	7,495	1.3
Mid Atlantic	57,956	10.1
East North Central	133,129	23.1
West North Central	117,060	20.3
Mountain	16,666	2.9
Pacific	40,283	7.0
South Atlantic	17,464	3.0
East South Central	5,738	1.0
West South Central	10,387	1.8
Alaska	837	0.1
Hawaii	146	0.0
Other Countries:		
United Kingdom	1,748	0.3
Other Europe	3,828	0.7
Mex., C.A., S.A., Caribbean ²	14	0.0
Africa	15	0.0
Asia	120	0.0
Australia/Pacific Region	432	0.1
Other countries	904	0.2
Sub-total: United States and Other Countries	414,223	72.0
Unknown origin (Nunavut only) ³	751	0.1
Grand Total	575,578	

Notes:

Figures may not add up to total due to rounding.

1. Includes active and non-active licensed anglers.

2. Mexico, Central America, South America, Caribbean.

3. Non-resident origins were not recorded during fieldwork.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.5 Trip information summary for all non-resident anglers, 2010

Jurisdiction	Total Trips	Trip Days	Fishing Trips	Days Fished	Day Trips	Nights
Newfoundland and Labrador	6,961	99,567	4,975	27,716	845	65,138
Prince Edward Island	6,605	44,375	3,771	16,602	589	26,039
Nova Scotia	7,958	45,968	3,899	12,949	1,463	23,326
New Brunswick	21,328	67,138	11,919	34,738	5,122	34,577
Quebec ¹	..	..	..	..	..	..
Ontario	1,164,958	4,113,265	670,535	2,553,475	185,796	2,541,876
Manitoba	130,605	385,038	64,885	200,412	22,731	203,838
Saskatchewan	302,754	782,715	87,981	252,972	23,682	308,402
Alberta	91,180	312,232	22,196	68,770	10,122	112,196
British Columbia Freshwater	201,857	941,494	103,215	357,095	32,477	459,055
British Columbia Tidal Waters	148,167	883,975	76,585	262,671	13,383	441,041
Yukon	9,415	108,596	7,853	34,795	806	85,728
Northwest Territories	7,211	64,553	6,498	27,220	649	44,864
Nunavut	1,595	27,901	828	3,870	476	9,991
Canada	2,100,593	7,876,816	1,065,140	3,853,286	298,140	4,356,071

Notes:

Figures may not add up to total due to rounding.

1. There are no estimates for non-resident anglers in Quebec.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.6 Number of days fished by angler category and jurisdiction, 2010

Jurisdiction	Freshwater		Saltwater		Total	
	Number of days	Average per angler ¹	Number of days	Average per angler ²	Number of days	Average per angler ³
Newfoundland and Labrador						
Resident	664,680	13.1	415,397	8.4	1,080,077	15.1
Non-resident Canadian	19,323	5.4	2,848	4.0	22,171	6.1
Non-resident Other	4,891	6.3	654	6.7	5,546	6.9
All non-residents	24,214	5.6	3,502	4.3	27,716	6.2
Total	688,894	12.5	418,900	8.4	1,107,793	14.6
Prince Edward Island						
Resident	108,996	19.1	47,942	14.3	156,938	24.5
Non-resident Canadian	8,854	7.5	2,154	4.1	11,007	8.0
Non-resident Other	4,693	9.2	902	4.3	5,595	10.8
All non-residents	13,546	8.0	3,055	4.2	16,602	8.7
Total	122,543	16.6	50,997	12.5	173,540	20.9
Nova Scotia						
Resident	819,313	14.8	218,030	9.9	1,037,343	18.5
Non-resident Canadian	7,345	6.1	1,145	4.4	8,490	7.0
Non-resident Other	4,103	6.9	356	4.2	4,459	7.5
All non-residents	11,448	6.4	1,501	4.3	12,949	7.2
Total	830,761	14.6	219,532	9.8	1,050,293	18.2
New Brunswick						
Resident	664,814	12.7	56,712	8.2	721,527	13.7
Non-resident Canadian	10,843	5.1	193	2.6	11,036	5.2
Non-resident Other	23,569	5.8	134	2.3	23,702	5.8
All non-residents	34,411	5.6	326	2.5	34,738	5.6
Total	699,226	11.9	57,039	8.1	756,264	12.8
Quebec⁴						
Resident	9,199,143	13.1	410,650	10.3	9,609,792	13.5
Non-resident Canadian	..	..	..	..	..	..
Non-resident Other	..	..	..	..	..	..
All non-residents	..	..	..	..	..	..
Total	9,199,143	13.1	410,650	10.3	9,609,792	13.5
Ontario						
Resident	14,364,947	15.5	...	...	14,364,947	15.5
Non-resident Canadian	302,283	10.1	...	...	302,283	10.1
Non-resident Other	2,251,192	7.3	...	...	2,251,192	7.3
All non-residents	2,553,475	7.6	...	...	2,553,475	7.6
Total	16,918,421	13.4	...	...	16,918,421	13.4
Manitoba						
Resident	1,819,031	14.0	...	...	1,819,031	14.0
Non-resident Canadian	85,356	7.5	...	...	85,356	7.5
Non-resident Other	115,056	6.5	...	...	115,056	6.5
All non-residents	200,412	6.9	...	...	200,412	6.9
Total	2,019,443	12.7	...	...	2,019,443	12.7
Saskatchewan						
Resident	2,008,339	14.1	...	...	2,008,339	14.1
Non-resident Canadian	192,961	7.5	...	...	192,961	7.5
Non-resident Other	60,011	5.6	...	...	60,011	5.6
All non-residents	252,972	6.9	...	...	252,972	6.9
Total	2,261,311	12.6	...	...	2,261,311	12.6
Alberta						
Resident	3,289,524	14.8	...	...	3,289,524	14.8
Non-resident Canadian	48,787	5.9	...	...	48,787	5.9
Non-resident Other	19,984	4.8	...	...	19,984	4.8
All non-residents	68,770	5.5	...	...	68,770	5.5
Total	3,358,294	14.3	...	...	3,358,294	14.3

Annex A.6 Number of days fished by angler category and jurisdiction, 2010 (cont'd)

Jurisdiction	Freshwater		Saltwater		Total	
	Number of days	Average per angler ¹	Number of days	Average per angler ²	Number of days	Average per angler ³
British Columbia Freshwater						
Resident	3,458,221	14.6	...	...	3,458,221	14.6
Non-resident Canadian	205,488	7.4	...	...	205,488	7.4
Non-resident Other	151,607	6.9	...	...	151,607	6.9
All non-residents	357,095	7.2	...	...	357,095	7.3
Total	3,815,316	13.3	...	...	3,815,316	13.3
British Columbia Tidal Waters						
Resident	...	...	1,790,286	10.7	1,790,286	10.7
Non-resident Canadian	...	...	115,579	4.1	115,579	4.1
Non-resident Other	...	...	147,093	4.4	147,093	4.4
All non-residents	...	...	262,671	4.3	262,671	4.3
Total	...	...	2,052,957	9.0	2,052,957	9.0
Yukon						
Resident	83,280	12.3	...	...	83,280	12.3
Non-resident Canadian	16,247	4.7	...	...	16,247	4.7
Non-resident Other	18,548	6.6	...	...	18,548	6.6
All non-residents	34,795	5.5	...	...	34,795	5.5
Total	118,076	9.0	...	...	118,076	9.0
Northwest Territories						
Resident	60,918	13.5	...	...	60,918	13.5
Non-resident Canadian	20,171	4.7	...	...	20,171	4.7
Non-resident Other	7,050	5.7	...	...	7,050	5.7
All non-residents	27,220	4.9	...	...	27,220	4.9
Total	88,139	8.8	...	...	88,139	8.8
Nunavut⁵						
Resident	5,367	11.3	1,607	7.3	6,974	12.8
Non-resident Canadian	..	..	..	..	..	..
Non-resident Other	..	..	..	..	..	..
All non-residents	2,866	5.7	1,004	3.9	3,870	6.1
Total	8,233	8.4	2,610	5.5	10,844	9.2
Canada						
Resident	36,546,573	14.4	2,940,624	10.2	39,487,197	14.4
Non-resident Canadian	917,657	7.7	121,919	4.1	1,039,576	7.1
Non-resident Other	2,660,702	7.1	149,138	4.4	2,809,840	6.9
All non-residents	3,581,225	7.3	272,061	4.3	3,853,286	7.0
Total	40,127,798	13.3	3,212,685	9.1	43,340,483	13.2

Notes:

Figures may not add up to total due to rounding.

1. This average is based on the anglers who fished in freshwater in 2010.
2. This average is based on the anglers who fished in saltwater in 2010.
3. This average is based on the anglers who fished in freshwater and/or saltwater in 2010.
4. Resident anglers only; there are no estimates for non-resident anglers in Quebec.
5. Non-resident origins were not recorded during fieldwork.

Annex A.7a Summary of fish caught by angler category, 2010

Fish Caught (number of fish, all species)					
Jurisdiction	Resident	Non-resident Canadian	Non-resident Other	All Non-residents	Total Fish Caught
Newfoundland and Labrador	4,823,012	82,762	15,552	98,314	4,921,325
Prince Edward Island	507,031	57,871	26,180	84,051	591,082
Nova Scotia	3,984,929	26,843	9,032	35,875	4,020,804
New Brunswick	2,765,976	28,065	111,638	139,703	2,905,680
Quebec ¹	40,738,579	..	..	..	40,738,579
Ontario	63,625,767	1,741,675	30,639,134	32,380,809	96,006,577
Manitoba	6,812,368	446,599	2,088,930	2,535,528	9,347,897
Saskatchewan	7,644,384	1,051,664	933,967	1,985,631	9,630,015
Alberta	11,811,477	175,681	114,235	289,915	12,101,392
British Columbia Freshwater	7,585,046	624,949	739,794	1,364,744	8,949,790
British Columbia Tidal Waters	2,648,105	275,298	361,170	636,469	3,284,574
Yukon	174,724	82,868	79,621	162,489	337,213
Northwest Territories	176,622	160,249	110,215	270,464	447,086
Nunavut ²	7,413	..	..	15,841	23,254
Canada	153,305,434	4,754,526	35,229,467	39,999,834	193,305,268

Annex A.7b Summary of fish kept by angler category, 2010

Fish Kept (number of fish, all species)					
Jurisdiction	Resident	Non-resident Canadian	Non-resident Other	All Non-residents	Total Fish Kept
Newfoundland and Labrador	3,702,692	29,210	5,575	34,786	3,737,477
Prince Edward Island	220,832	26,843	6,493	33,336	254,168
Nova Scotia	1,599,257	5,449	1,152	6,601	1,605,859
New Brunswick	1,253,896	5,721	12,692	18,413	1,272,310
Quebec ¹	25,128,818	..	..	..	25,128,818
Ontario	15,243,717	271,282	4,695,665	4,966,947	20,210,664
Manitoba	1,670,714	74,822	172,287	247,109	1,917,823
Saskatchewan	2,476,495	238,519	89,689	328,207	2,804,702
Alberta	1,643,561	19,870	4,497	24,367	1,667,928
British Columbia Freshwater	2,160,591	109,804	60,243	170,046	2,330,638
British Columbia Tidal Waters	1,335,610	143,417	187,854	331,271	1,666,882
Yukon	36,857	7,752	10,763	18,516	55,373
Northwest Territories	36,858	12,719	2,993	15,713	52,570
Nunavut ²	3,947	..	..	1,857	5,804
Canada	56,513,846	945,409	5,249,903	6,197,170	62,711,016

Notes:

Figures may not add up to total due to rounding.

1. Resident anglers only; there are no estimates for non-resident anglers in Quebec.

2. Non-resident information did not include origin of the angler, hence non-resident data is presented only as a total

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.8 Summary of fish caught and kept, 2010

Jurisdiction	Fish Caught		Fish Kept	
	Total	Average per Angler	Total	Average per Angler
Newfoundland and Labrador	4,921,325	64.9	3,737,477	49.3
Prince Edward Island	591,082	71.1	254,168	30.6
Nova Scotia	4,020,804	69.6	1,605,859	27.8
New Brunswick	2,905,680	49.3	1,272,310	21.6
Quebec ¹	40,738,579	57.2	25,128,818	35.3
Ontario	96,006,577	76.0	20,210,664	16.0
Manitoba	9,347,897	58.7	1,917,823	12.0
Saskatchewan	9,630,015	53.7	2,804,702	15.6
Alberta	12,101,392	51.4	1,667,928	7.1
British Columbia Freshwater	8,949,790	31.3	2,330,638	8.1
British Columbia Tidal Waters	3,284,574	14.4	1,666,882	7.3
Yukon	337,213	25.8	55,373	4.2
Northwest Territories	447,086	44.6	52,570	5.2
Nunavut	23,254	19.7	5,804	4.9
Canada	193,305,268	58.8	62,711,016	19.1

Notes:

Figures may not add up to total due to rounding.

1. Resident anglers only; there are no estimates for non-resident anglers in Quebec.

Annex A.9 Direct expenditures made by all anglers, 2010

Jurisdiction	Package Deals	Food and Lodging	Transportation Costs	Fishing Services	Fishing Supplies	Other	Total
(\$)							
Newfoundland and Labrador	3,033,369	10,755,521	15,933,461	1,260,344	3,616,840	31,880	34,631,415
Prince Edward Island	...	1,244,358	1,303,417	204,379	380,672	2,940	3,135,766
Nova Scotia	54,593	6,852,696	9,603,757	1,956,541	3,265,767	180,887	21,914,242
New Brunswick	5,550,255	8,620,238	8,762,389	5,148,215	2,464,254	40,014	30,585,364
Quebec ¹	81,554,362	136,843,028	160,596,889	39,534,260	45,940,660	8,796,785	473,265,983
Ontario	126,342,343	325,625,319	303,930,120	75,562,248	77,805,352	3,519,825	912,785,206
Manitoba	16,002,392	30,770,941	37,468,322	5,553,828	7,861,246	62,985	97,719,714
Saskatchewan	15,027,915	44,568,614	53,398,149	10,650,892	9,410,732	764,193	133,820,495
Alberta	5,095,762	61,296,431	79,763,669	10,045,826	14,940,713	537,100	171,679,500
British Columbia Freshwater	27,470,093	79,853,839	94,867,322	25,954,696	18,109,611	927,868	247,183,428
British Columbia Tidal Waters	107,359,665	76,212,524	150,610,473	16,708,913	15,654,584	1,027,617	367,573,776
Yukon	2,107,582	3,673,324	4,519,788	445,586	537,395	43,170	11,326,844
Northwest Territories	5,590,320	2,417,253	3,339,565	533,348	473,269	408,355	12,762,110
Nunavut	253,410	193,613	492,096	59,745	43,701	6,247	1,048,813
Canada	395,442,060	788,927,697	924,589,416	193,618,821	200,504,797	16,349,865	2,519,432,656
Average per active angler	120.28	239.97	281.24	58.89	60.99	4.97	766.34

Notes:

Figures may not add up to total due to rounding.

1. Resident anglers only; there are no estimates for non-resident anglers in Quebec.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.10 Major purchases and investments wholly or partly attributable to recreational fishing, made by all anglers, 2010

Jurisdiction	Fishing Equipment	Boating Equipment	Camping Equipment	Special Vehicles	Land &/or Building	Other	Total
(\$)							
Newfoundland and Labrador	4,401,708	42,493,090	18,654,715	42,524,751	13,400,591	1,688,072	123,162,927
Prince Edward Island	351,734	546,208	156,953	1,795,600	889,600	232,546	3,972,640
Nova Scotia	3,477,979	14,881,550	6,649,411	17,906,780	19,751,104	1,055,472	63,722,296
New Brunswick	3,850,538	11,532,769	8,663,190	22,980,058	16,580,977	1,605,983	65,213,515
Quebec ¹	42,941,595	295,111,972	132,738,943	740,118,690	321,239,963	27,693,271	1,559,844,435
Ontario	93,815,387	501,220,294	153,722,331	377,197,172	415,983,456	31,748,715	1,573,687,354
Manitoba	9,866,488	47,315,572	26,620,612	75,905,921	54,835,585	4,076,325	218,620,501
Saskatchewan	9,666,103	104,073,576	65,326,164	72,311,147	106,700,513	4,322,332	362,399,835
Alberta	24,048,483	138,726,956	220,590,040	161,613,756	123,142,717	8,416,559	676,538,510
British Columbia Freshwater	33,456,888	144,768,027	112,345,162	184,848,649	140,453,289	10,457,468	626,329,483
British Columbia Tidal Waters	36,005,144	263,692,980	40,210,477	110,636,839	62,322,541	7,010,177	519,878,158
Yukon	585,446	4,132,528	4,834,179	4,798,392	8,646,247	186,577	23,183,370
Northwest Territories	317,752	2,572,604	229,556	2,246,936	1,466,649	101,135	6,934,632
Nunavut	27,597	274,773	9,732	664,564	282,353	18,042	1,277,061
Canada	262,812,843	1,571,342,898	790,751,465	1,815,549,253	1,285,695,585	98,612,673	5,824,764,717

Notes:

Figures may not add up to total due to rounding.

1. Resident anglers only; there are no estimates for non-resident anglers in Quebec.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.11 Major purchases and investments wholly attributable to recreational fishing, made by all anglers, 2010

Jurisdiction	Fishing Equipment	Boating Equipment	Camping Equipment	Special Vehicles	Land &/or Building	Other	Total
(\$)							
Newfoundland and Labrador	4,401,708	37,111,208	7,417,137	18,984,824	7,520,346	1,662,653	77,097,876
Prince Edward Island	351,734	408,605	66,033	1,236,709	222,400	213,398	2,498,878
Nova Scotia	3,477,979	12,334,644	2,657,654	10,359,866	4,714,593	966,080	34,510,816
New Brunswick	3,850,538	9,465,238	4,883,971	9,336,967	8,775,711	1,469,827	37,782,253
Quebec ¹	42,941,595	223,698,675	62,993,815	237,211,679	132,747,617	22,496,021	722,089,402
Ontario	93,815,387	346,248,208	64,285,311	145,228,889	160,956,517	27,876,759	838,411,071
Manitoba	9,866,488	34,585,988	10,105,933	17,936,855	25,653,561	3,909,728	102,058,553
Saskatchewan	9,666,103	74,368,119	29,420,671	23,734,793	26,880,309	4,063,150	168,133,146
Alberta	24,048,483	79,241,912	98,827,515	46,254,253	35,335,120	7,677,665	291,384,950
British Columbia Freshwater	28,787,378	93,032,841	60,162,673	61,213,010	72,765,791	9,006,143	324,967,836
British Columbia Tidal Waters	31,707,223	210,311,875	20,975,624	48,955,020	20,691,873	5,604,959	338,246,574
Yukon	585,446	3,042,178	2,398,900	1,290,589	2,415,651	158,765	9,891,529
Northwest Territories	317,752	2,124,461	139,507	901,333	860,059	89,834	4,432,946
Nunavut	27,597	154,927	7,770	303,906	207,059	15,783	717,042
Canada	253,845,412	1,126,128,880	364,342,514	622,948,693	499,746,607	85,210,765	2,952,222,870
Average per active angler	77.21	342.54	110.82	189.48	152.01	25.92	897.99

Notes:

Figures may not add up to total due to rounding.

1. Resident anglers only; there are no estimates for non-resident anglers in Quebec.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.12 Major purchases and investments, wholly attributable to recreational fishing, by angler category, 2010

Category	Resident	Non-resident Canadian ^{1,2}	Non-resident Other ^{1,2}	All Non-residents ^{1,2}	Total
	(\$)				
Fishing Equipment	241,523,722	6,633,785	5,682,612	12,321,689	253,845,412
Camping Equipment	360,954,780	1,822,687	1,563,572	3,387,735	364,342,514
Boating Equipment	1,092,064,626	26,486,343	7,575,451	34,061,795	1,126,128,880
- new	561,550,740	12,427,781	4,982,059	17,409,840	578,960,580
- used	530,513,886	14,058,562	2,593,392	16,654,414	547,168,299
Special Vehicles	619,366,828	3,082,262	487,855	3,581,866	622,948,693
- new	410,601,466	1,684,916	54,271	1,739,187	412,340,654
- used	208,765,361	1,397,345	433,584	1,842,678	210,608,039
Land &/or Buildings	419,424,453	52,961,014	27,361,140	80,322,154	499,746,607
Other	81,971,255	1,840,982	1,393,957	3,239,509	85,210,765
Total	2,815,305,664	92,827,073	44,064,587	136,917,207	2,952,222,870

Notes:

Figures may not add up to total due to rounding.

1. There are no estimates for non-resident anglers in Quebec.
2. Nonresident origins for Nunavut were not recorded during fieldwork.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex A.13 Statistical reliability of selected variables, all active anglers, 2010

Jurisdiction	Sample Size	Days Fished	Fish Caught	Fish Kept	Direct Expenditures	Major Purchases and Investments (W/P) ²	Major Purchases and Investments (W) ³
	(number)	(Coefficient of variation in %) ¹					
Newfoundland and Labrador	1,217	3.4	6.5	5.9	4.6	12.6	12.3
Prince Edward Island	346	7.7	11.7	15.2	9.8	34.2	40.5
Nova Scotia	1,303	3.6	6.7	9.4	6.5	16.6	19.3
New Brunswick	1,730	3.3	6.6	10.2	5.5	15.0	19.1
Quebec ⁴	3,930	1.8	3.6	3.2	2.0	5.3	5.4
Ontario	11,849	1.3	2.4	3.3	1.3	8.1	6.9
Manitoba	1,542	3.3	4.2	5.0	3.4	16.9	16.7
Saskatchewan	3,091	2.4	3.3	3.6	2.5	23.2	33.5
Alberta	1,606	3.5	6.1	8.7	4.0	10.8	9.4
British Columbia Freshwater	3,692	2.3	3.4	3.9	2.7	8.5	10.4
British Columbia Tidal Waters	4,522	1.9	4.8	3.4	2.3	9.5	9.4
Yukon	702	5.3	11.5	6.8	7.1	27.6	21.8
Northwest Territories	631	4.7	6.9	7.8	5.7	18.9	19.9
Nunavut	359	6.4	16.0	11.7	11.7	24.8	27.2
Canada	36,520	0.7	1.4	1.7	0.9	3.7	4.4

Notes:

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

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics.

Annex B: 2010 Survey Contacts

Annex B: List of Survey Contacts by Jurisdiction, 2010

Jurisdiction	Contact Information and Mailing Address	Telephone/Fax/Email
Newfoundland and Labrador	Rob Perry Inland Fish and Wildlife Environment and Conservation 117 Riverside Drive P. O. Box 2007 Corner Brook, NL A2H 7S1	(709) 637-2023 637-2004 robperry@gov.nl.ca
Prince Edward Island	Roseanne MacFarlane Manager of Fish and Wildlife PEI Department of Environment and Energy Conservation & Management Division 183 Upton Rd., P.O. BOX 2000 Charlottetown, PE C1A 7N8	(902) 368-6082 368-4713 remacfarlane@gov.pe.ca
Nova Scotia	Al McNeill Agriculture and Fisheries 91 Beeches Road P.O. Box 700 Pictou, NS B0K 1H0	(902) 485-7024 485-4014 mcneilla@gov.ns.ca
New Brunswick	Chris Connell Fish and Wildlife Branch Natural Resources H. J. Flemming Forestry Centre P.O. Box 6000 Fredericton, NB E3B 5H1	(506) 444-2871 453-6699 chris.connell@gnb.ca
Quebec	Andrée Pelletier Ministère des Ressources naturelles et de la Faune Direction du développement socio-économique, des partenariats et de l'éducation 880, chemin Sainte-Foy, 2ième étage Québec QC G1S 4X4	(418) 627-8691 poste 7426 (418) 646-5179 andree.pelletier@fapaq.gouv.qc.ca
Ontario	Helen Ball Senior Fisheries Biologist Ministry of Natural Resources Biodiversity Branch Fisheries Section 5 th Floor, North Tower 300 Water Street Peterborough, Ontario K9J 8M5	(705) 755-2113 755-1957 helen.ball@ontario.ca
Manitoba	Katherine Ward Recreational Fisheries Manager Sport and Commercial Fisheries Fisheries Branch Box 20-200 Saulteaux Cres., Winnipeg, MB R3J 3W3	(204) 945-9816 948-2308 katherine.ward@gov.mb.ca
Saskatchewan	Murray Koob Team Lead, Fisheries Biologist Saskatchewan Environment 6 th Floor, L.F. McIntosh Building 800 Central Avenue Prince Albert, SK S6V 6G1	(306) 953-2885 953-2502 murray.koob@gov.sk.ca

Jurisdiction	Contact Information and Mailing Address	Telephone/Fax/Email
Alberta	David Park Aquatic Habitat Specialist Sustainable Resource Development, Resource Integration and Planning 2 nd Floor, Great West Life Building 9920-108 Street Edmonton, AB T5K 2M4	(780) 427-8347 422-9559 dave.park@gov.ab.ca
British Columbia Freshwater	Andrew Wilson Director, Fish, Wildlife and Habitat Management Branch Ministry of the Environment 2975 Jutland Road, 4th floor Victoria, BC V8T 5J9	(250) 387-5657 387-9568 andrew.wilson@gov.bc.ca
British Columbia Tidal Waters	Devona Adams Recreational Fisheries Coordinator Fisheries and Oceans Canada Pacific Region Suite 200-401 Burrard Street Vancouver, BC V6C 3S4	(604) 666-3271 666-9136 devona.adams@dfo-mpo.gc.ca
Yukon	Nathan Millar Environment Yukon Fish and Wildlife Branch Fisheries Section P.O. Box 2703 Whitehorse, YT Y1A 2C6	(403) 667-5117 393-6263 nathan.millar@gov.yk.ca
Northwest Territories	Susan Poulin Chief, Statistical Services Fisheries and Oceans Canada 200 Kent Street, 14 th Floor Ottawa, ON K1A 0E6	(613) 993-2264 991-3254 susan.poulin@dfo-mpo.gc.ca
Nunavut	Ron Brown Manager Fisheries and Sealing Economic Development and Transportation P.O. 1000, Station 1390 1104 Inuksigait Plaza – Phase 3 Iqaluit, NU X0A 0H0	(867) 975-7728 975-7754 ron.brown@gov.nu.ca

