Pêches et Océans Canada

## Survey of Recreational Fishing in Canada, 2015

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## Preface

The 2015 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.

## Acknowledgements

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. This report was prepared by Statistics Canada.

Symbols
The following symbols are used in this report:

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### 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

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

|  | Recreational Fisheries Management Responsibilities |  |  |
| :---: | :---: | :---: | :---: |
| Province/Territory | Federal (DFO) | Provincial/ <br> Territorial | Co-Management Boards |
| Newfoundland and Labrador | marine species |  |  |
| Prince Edward <br> Island, New <br> Brunswick, Nova <br> Scotia | freshwater species 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 salmon - tidal waters (licensing) other tidal water species | freshwater species inland salmon sport fishing (licensing) |  |
| Northwest Territories, Nunavut |  | sport fish licensing (Order-inCouncil) | fishery <br> 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.
management responsibilities for recreational fisheries in Canada.

The implementation of recreational fishery management programs at the provincial and territorial level is 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 several decades.

### 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 $53 \%$ of all active 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 72\% of all fishing trips taken by non-resident anglers in Canada.

The population of active adult anglers is older relative to the general population. Almost half of Canadian anglers (42\%), 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 was 15 days in 2015 compared with 13 days in 2010. Canadian non-resident and foreign anglers made over 2.6 million trips within Canada in 2015. Almost half of these trips ( $48 \%$ ) were made specifically to fish for recreation in the jurisdiction they visited.

Overall, walleye was the most predominant species caught nationally, representing $26 \%$ of the total catch, followed by trout, northern pike, perch and bass. Trout was the most predominant species harvested by resident anglers, while walleye was the predominant species among all non-resident anglers.

Anglers contributed a total of $\$ 7.9$ billion to various local economies in Canadian provinces and territories in 2015. Of this amount, $\$ 5.3$ 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.

### 2.0 Survey Overview

The 2015 Survey of Recreational Fishing in Canada was the $9^{\text {th }}$ 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 2015 provincial and territorial recreational fishing licence databases ${ }^{1}$. In 2015, the questionnaires were mailed out to 115,372 households within Canada and in other countries to obtain information on recreational fishing activities (Table 2.1).

Table 2.1 Final Sample Size, Resident and Non-resident Anglers, by Jurisdiction, 2015

| Jurisdiction | Resident | Non-resident | Total |
| :--- | :--- | :--- | :--- |
| Newfoundland and Labrador | 1,892 | 839 | 2,731 |
| Prince Edward Island | 883 | 307 | 1,190 |
| Nova Scotia | 2,212 | 519 | 2,730 |
| New Brunswick $_{\text {Quebec }^{2}}$ Ontario | 3,657 | 937 | 4,594 |
| Manitoba | 11,288 | .. | 11,288 |
| Saskatchewan | 30,196 | 15,888 | 46,084 |
| Alberta | 2,800 | 1,602 | 4,402 |
| British Columbia Freshwater | 3,900 | 3,000 | 6,900 |
| British Columbia Tidal Waters | 5,000 | 800 | 5,800 |
| Yukon | 10,513 | 2,587 | 13,100 |
| Northwest Territories | 8,555 | 3,445 | 12,000 |
| Nunavut | 895 | 805 | 1,700 |
| Canada | 941 | 879 | 1,820 |
| Notes: | 367 | 666 | 1,033 |

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 2015 Survey of Recreational Fishing in Canada. Refer to Section 5.1.3 for details.
Source: DFO, Economic Analysis and Statistics.
The 2015 survey collected information on:

- angler profile (age, sex, residence, etc.)
- recreational fishing activities
o fishing effort by region; ${ }^{2}$
o number of fish caught and retained; and
o 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, such as
o major purchases or investments attributable to fishing activities;
o package deals purchased; and
o direct expenditures related to recreational fishing trip activities.

Each province/territory asked supplementary questions on recreational fishing activities and programs in their respective jurisdictions.

[^0]
### 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 2015; 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-screening ${ }^{3}$ and from responses from individual respondents.

Adult Anglers: the total adult angler population in 2015; 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.

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: 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 nonresident 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 2015.

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.

[^1]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 2015, 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 Percent Change: calculated using the formula $r=\left(\left(\left(p_{n}-p_{0}\right) / p_{0}\right) * 100\right) / n$ where $r$ is average annual percent change, $p_{n}$ and $p_{0}$ are the final and initial observations in the period, $n$ is the number of years in the period.

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.

### 4.0 Survey Results

### 4.1 Angler Profile

In 2015, more than 3.2 million adult anglers actively participated in a variety of recreational fishing activities in Canada (Annex A.2) ${ }^{4}$. This was slightly lower than the 3.3 million in 2010 (Figure 4.1). The number of anglers has remained steady since 2005.

Figure 4.1 Total Active Adult Anglers, All Angler Categories, Canada, 2005, 2010, 2015


Source: DFO, Economic Analysis and Statistics.
The majority of active anglers in 2015 were residents fishing within their home province or territory (roughly 2.6 million). The remaining active adult angler population consisted of just over 191,700 Canadian nonresidents (those fishing outside their home province or territory) and visitors to Canada (approximately 404,400). Resident angler numbers declined from 2010 by $3 \%$, while all non-resident angler numbers, including Canadian non-residents and foreign anglers, increased 9\%.

Note that for Newfoundland and Labrador, it was not possible to fully differentiate between Canadian nonresidents and foreign non-residents based on the survey, so Newfoundland and Labrador does not contribute to any counts or percentages in this report when nonresidents are broken down into Canadian and nonCanadians. Some tables include a column that contains all non-residents, so results for Newfoundland and Labrador will be included in this column. This clarification does not impact residents of Newfoundland and Labrador, as they were fully identifiable during the survey.

### 4.1.1 Resident Anglers

Resident anglers were mainly concentrated in Ontario and Quebec (Annex A.2). Given their large population base, this was not surprising and it has been a consistent trend since 1995. In 2015, resident anglers from these
two provinces accounted for $53 \%$ of all active resident anglers in Canada. In terms of actual numbers, 2015 saw fewer active resident anglers in both Ontario and Quebec compared to 2010 (Table 4.1).

In addition to Ontario and Quebec, a few other jurisdictions (Nova Scotia, New Brunswick, Prince Edward Island, Nunavut and Yukon) had fewer active anglers in 2015 compared to 2010. The remaining jurisdictions had more active resident anglers in 2015 compared to 2010.

Table 4.1 Number of Active Resident Anglers by Jurisdiction, Canada, 2005, 2010, 2015

| Jurisdiction | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 5}$ |
| :--- | ---: | ---: | ---: |
| Newfoundland and Labrador | 131,578 | 71,382 | 110,772 |
| Prince Edward Island | 6,929 | 6,413 | 5,967 |
| Nova Scotia | 43,775 | 55,951 | 49,714 |
| New Brunswick | 43,382 | 52,770 | 50,896 |
| Quebec | 656,543 | 711,610 | 652,919 |
| Ontario | 764,374 | 924,549 | 754,617 |
| Manitoba | 121,788 | 130,224 | 150,518 |
| Saskatchewan | 119,824 | 142,550 | 145,157 |
| Alberta | 179,461 | 223,007 | 282,880 |
| British Columbia Freshwater | 211,403 | 236,682 | 247,582 |
| British Columbia Tidal Waters | 169,863 | 166,824 | 176,819 |
| Yukon | 5,048 | 6,755 | 6,001 |
| Northwest Territories | 2,138 | 4,500 | 4,883 |
| Nunavut | 769 | 545 | 497 |
| Canada | $\mathbf{2 , 4 5 6 , 8 7 6}$ | $\mathbf{2 , 7 3 3 , 7 6 2}$ | $\mathbf{2 , 6 3 9 , 2 2 4}$ |
| Source: DFO, Eonemic Andysis |  |  |  |

Source: DFO, Economic Analysis and Statistics.
In general, resident angler participation rates showed a downward trend in most provinces and territories since 2010 (Table 4.2). Resident angler participation rates have consistently been the highest in Newfoundland and Labrador, Yukon and Saskatchewan.

Yukon saw a decline in resident participation in 2015, but still retained its second spot. In Newfoundland and Labrador, although the rate increased compared to 2010, it was still lower than its 2005 one.

Table 4.2 Resident Angler Participation Rate, by Jurisdiction, Canada, 2005, 2010, 2015

| Jurisdiction | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 5}$ |
| :--- | ---: | ---: | ---: |
|  | \% |  |  |
| Newfoundland and Labrador | 25.5 | 14.0 | 21.0 |
| Prince Edward Island | 5.0 | 4.5 | 4.1 |
| Nova Scotia | 4.7 | 5.9 | 5.3 |
| New Brunswick | 5.8 | 7.0 | 6.7 |
| Quebec | 8.6 | 9.0 | 8.0 |
| Ontario | 6.1 | 7.0 | 5.5 |
| Manitoba | 10.3 | 10.5 | 11.7 |
| Saskatchewan | 12.1 | 13.7 | 13.0 |
| Alberta | 5.5 | 6.0 | 6.8 |
| British Columbia Freshwater | 5.0 | 5.2 | 5.2 |
| British Columbia Tidal Waters | 4.0 | 3.7 | 3.7 |
| Yukon | 16.3 | 19.5 | 16.0 |
| Northwest Territories | 5.0 | 10.3 | 11.0 |
| Nunavut | 2.6 | 1.7 | 1.4 |
| Canada | $\mathbf{7 . 6}$ | $\mathbf{8 . 0}$ | $\mathbf{7 . 4}$ |

1. Participation rate is defined as the resident anglers' share of total population in the province or territory.
Source: DFO, Economic Analysis and Statistics.
[^2]
### 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 more than 601,000 anglers in these two non-resident angler categories (Table 4.3).

Table 4.3 Total Number of Active Canadian Non-resident and Foreign Anglers, by Jurisdiction, Canada 2005, 2010, 2015

| Jurisdiction | $\mathbf{2 0 0 5}$ |  | $\mathbf{2 0 1 0}$ |
| :--- | ---: | ---: | ---: | $\mathbf{2 0 1 5} 9$.

Source: DFO, Economic Analysis and Statistics.

Just under a third of non-resident anglers (with known or unknown origins) were Canadians who fished outside their own province/territory. The remainder (67\%) were foreign anglers, a part of the millions of travellers who entered Canada in 2015 (Annex A.4). The overall trend shows an average annual increase of almost $2 \%$ in the total non-resident angler population in the last five years.

### 4.1.3 Gender Profile

Male anglers made up 79\% of all resident anglers, 81\% of Canadian non-resident anglers and 76\% of all other non-resident anglers (Figure 4.2).

Figure 4.2 Distribution of Active Anglers by Angler Category and Gender, Canada, 2015 ${ }^{1,2}$


Notes:
${ }^{1}$ Non-resident origins were not recorded during fieldwork for Newfoundland and Labrador, so they are not included in the non-resident categories.
${ }^{2}$ In Quebec, there are no estimates for non-resident anglers
Source: DFO, Economic Analysis and Statistics.
${ }^{5}$ Fisheries and Oceans Canada, 2010 Survey of Recreational Fishing in Canada, http://www.dfo-mpo.gc.ca/stats/rec/can/2010/index-eng.htm.

Figure 4.3 illustrates the average age of male and female active anglers. In 2015, the average male angler was 49 years old whereas female anglers were generally 45 years old, compared with 51 and 47 years, respectively, five years ago ${ }^{5}$.

Non-resident anglers from outside Canada were noticeably older than either resident or Canadian nonresident anglers, with males averaging 52 years and females 53 years of age.

Figure 4.3 Average Age of Active Anglers, by Angler Category and Gender, Canada, 2015 ${ }^{1,2}$


Angler category
Notes:
${ }^{1}$ Non-resident origins were not recorded during fieldwork for Newfoundland and Labrador, so they are not included in the non-resident categories.
${ }^{2}$ In Quebec, there are no estimates for non-resident anglers.
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 2015 Canadian angler age profile with that of the general population (Figure 4.4).

In 2015, for example, 42\% of Canadian anglers were in the 45-64 age group, whereas only $28 \%$ of Canadians, in general, were in the same age range. The relative percentage of Canadian anglers 65 years of age and over was higher in 2015 than 2010, $14 \%$ and $11 \%$, respectively.

In contrast, the relative percentage of this age group in the general population increased between 2010 and 2015, from $14 \%$ compared to $16 \%$ for the latter year. The overall population increased by just $1 \%$ since 2010.

Figure 4.4 Age Group Distribution, Canadian Active Anglers and General Population, Selected Age Groups (share of total), 2015 ${ }^{1,2,3}$


Notes:

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.
2. Non-resident Canadians that fished in Newfoundland and Labrador are not included since non-resident origins were not recorded during field work.
3. Non-resident Canadians that fished in Quebec are not included since this group was not covered during the survey due to a lack of a licence frame (see Section 5.1.3)
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 2015, anglers fished a total of 47 million days in Canada compared with 43 million day five years earlier. Of the fishing effort expended in 2015, over 43 million days (91\%) were fished by Canadian anglers fishing in their home jurisdictions (Annex A.6). Canadian anglers fishing in other jurisdictions accounted for only 3\% of total fishing effort (just over 1.5 million days) in 2015, while foreign anglers accounted for the remaining $6 \%$ ( 2.8 million days).

The average number of days fished per angler was 15 days compared with 13 days in $2010^{6}$. In terms of the average days fished for each angler category, resident anglers fished an average of 16 days, while the nonresident Canadian and foreign anglers groups averaged 8 days and 7 days, respectively (Annex A.6).

### 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 2015 (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 just over 2.6 million trips within Canada in 2015

[^3]and almost $48 \%$ of their trips were for fishing (Annex A.5). ${ }^{7}$

Canadian non-resident anglers fished on 35\% of their trips to jurisdictions other than their own province/territory. Foreign anglers fished on 77\% of their trips to Canada in 2015.

Ontario continued to be the destination of choice for the majority of foreign anglers, accounting for $77 \%$ of all foreign anglers in 2015. British Columbia was the destination of choice for $13 \%$ of foreign anglers, followed by Manitoba (5\%) and Saskatchewan (3\%), with 20,206 and 10,541 active foreign anglers, respectively. ${ }^{8}$

### 4.3 Harvest

### 4.3.1 Fish Caught and Retained

Anglers caught over 194 million fish of all species and retained nearly 59 million (Annex A.7a, Annex A.7b). Resident anglers in all provinces and territories caught 156 million of this total harvest, retaining just $34 \%$ of their catch. Canadian non-resident anglers caught a relatively small proportion of the total fish harvest (3\%), or roughly 6 million, retaining $21 \%$ of all fish caught in 2015 (Figure 4.5 and Annex A.7a). Non-resident foreign anglers caught almost 32 million fish of all species and kept just $12 \%$ of all fish they caught in 2015 (Annex A.7b).

On average, each active resident angler kept 20 fish in 2015. Every Canadian non-resident angler kept an average of 7 fish, while foreign anglers retained an average of 10 fish of various species. Note that these counts and averages for non-resident Canadians and foreign anglers do not include results from Newfoundland and Labrador, as has been previously mentioned.

Figure 4.5 Total Fish Harvest, All Species, by Angler Category, Canada, 2015


Source: DFO, Economic Analysis and Statistics.

[^4]Roughly $38 \%$ of all reported 2015 fish harvests were caught in Ontario ( 73 million), followed by Quebec (43 million) and four western provinces with a combined fish harvest of 65 million (Figure 4.6).

The total number of fish harvests in the Maritime Provinces, or Prince Edward Island, Nova Scotia and New Brunswick, was 6 million accounting for $3 \%$ of all fish harvests. Newfoundland and Labrador alone recorded close to 6 million of fish caught. Northwest Territories and Yukon recorded 693,942 and 199,897 fish caught in 2015 respectively. At 13,372, Nunavut had the lowest total fish caught in the country.

Figure 4.6 Total Fish Harvest by All Anglers, All Species, Selected Provinces, 2015 ${ }^{1}$


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 19\%, compared to 49\% for anglers in Quebec (Figure 4.7). Anglers who fished in Newfoundland and Labrador retained $79 \%$ of their catch in 2015 compared to $76 \%$ in 2010.

Anglers who fished in freshwater west of Ontario released $84 \%$ of their catch. Anglers who fished in the Maritime Provinces and Quebec released 50\% of their catch on average.

Figure 4.7 Fish Retained, Share of Total Harvest, All Species, Selected Provinces, 2015 ${ }^{1}$


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 $81 \%$ of the total fish harvest in 2015 (Figure 4.8). Walleye was the most predominant species caught nationally, representing $26 \%$ of the total catch, followed by trout, pike, perch and bass.

Figure 4.8 Total Fish Harvest, Selected Species, Canada, 2015


Source: DFO, Economic Analysis and Statistics.
In 2015, the top species of fish caught varied by jurisdiction. Walleye was the top species caught in Ontario, Saskatchewan, Alberta and Manitoba (Table 4.4). Walleye caught in Ontario accounted for over 44\% of the walleye harvest by all anglers in 2015.

Trout was the most predominant species harvested by resident anglers, while walleye was the predominant species among all non-resident anglers (Figure 4.9). Speckled trout, in particular, was the main species in Quebec, brook trout was the most harvested species in PEI and Nova Brunswick, while rainbow trout was the most caught species in BC fresh waters. Cod, shrimp, arctic grayling, pike and arctic char dominated the species caught in Newfoundland and Labrador, BC tidal waters, Yukon, Northwest Territories, and Nunavut in 2015.

Table 4.4 Main Species Caught By All Anglers, by Jurisdiction, Canada, 2015

| Jurisdiction | Species 1 | Species 2 | Species 3 |
| :--- | :--- | :--- | :--- |
| Newfoundland and Labrador | cod | brook trout | smelt |
| Prince Edward Island | brook trout | mackerel | rainbow trout |
| Nova Scotia | smallmouth <br> bass | mackerel | brook trout |
| New Brunswick | brook trout | smallmouth <br> bass | striped bass |
| Quebec | speckled <br> trout | walleye | perch |
| Ontario | walleye | yellow <br> perch | smallmouth bass |
| Manitoba | walleye | pike | perch |
| Saskatchewan | walleye | pike | perch |
| Alberta | walleye | pike | rainbow trout |
| British Columbia Freshwater | rainbow <br> trout | salmon | cutthroat trout |
| British Columbia Tidal Waters | shrimp | crab | chinook salmon |
| Yukon | arctic <br> grayling | lake trout | pike |
| Northwest Territories | pike | lake trout | walleye |
| Nunavut | arctic char | lake trout | arctic grayling |
| Canada | walleye | trout | pike |
| Source: DFO, Economic Analysis and Statistics. |  |  |  |

Figure 4.9 Total Fish Harvested by Resident and Non-resident Anglers, Top Species Caught, Canada, 2015


Source: DFO, Economic Analysis and Statistics.

### 4.4 Direct Recreational Fishing Expenditures

### 4.4.1 Total Direct Expenditures

All anglers spent over $\$ 2.5$ billion in direct recreational fishing expenditures in 2015 (Annex A.9). In current dollar terms, this total changed little in the past 5 years (Table 4.5).

The inflation-adjusted estimates, however, show that total direct recreational fishing expenditures declined at an average annual rate of $1.4 \%$ in the past five years and, 1.3\% since 2005.

Table 4.5 Total Direct Recreational Fishing Expenditures, All Active Anglers, Canada, 2005, 2010, 2015

| Year | Current \$ |
| :--- | :---: | ---: | ---: |
| (million \$) | CPI 2002=100 |

Transportation and food and lodging were the principal expenditure items of all anglers in 2015 (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 angler spent, on average, \$262 to cover transportation and travel costs and another $\$ 233$ on food and lodging expenses during fishing trips throughout 2015.

Figure 4.10 Total Direct Recreational Fishing Expenditures, All Active Anglers, by Expense Category, Canada, 2015


Source: DFO, Economic Analysis and Statistics. Bouquet

### 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 2015, the total current dollar transportation expenditures of all anglers reached \$914 million. In contrast, the total transportation expenditures associated with fishing in 2010 were $\$ 925$ million.

The average transportation cost per angler varied widely across the provinces and territories and were the highest for Canadian non-resident anglers who fished in North West Territories and resident anglers who fished in B.C.'s tidal waters (\$695 and \$579, respectively). On average, non-resident Canadian anglers paid $\$ 296$ per angler, the highest of the three angler groups.

### 4.4.1.2 Food and Lodging

Total food and lodging expenditures ( $\$ 810$ million) represented one-third of the total direct recreational fishing expenditures in Canada. On average, an angler paid $\$ 233$ to cover food, lodging and accommodation expenses. However, the average per angler cost could more than double the overall average, depending on the resident category and fishing jurisdiction.

### 4.4.1.3 Package Deals

Total expenses on package deals amounted to \$372 million in 2015 compared 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.

In 2015, the package deals share of total expenditures was almost $15 \%$, the third highest expenditure after transportation and food and lodging expenditures. Anglers in BC Tidal Waters, the Northwest Territories and Ontario, primarily non-Canadian anglers, were the only three jurisdictions that were above the national average for the proportion of their trip expenses spent on packages purchased in 2015 (Figure 4.11).

Figure 4.11 Share of Total Direct Recreational Fishing Expenditures, by Expense Category, Northwest Territories, BC Tidal Waters, Ontario and Canada, 2015


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 $\$ 203$ million in 2015. Their share of total direct recreational fishing expenditures was $8 \%$, the same percentage as in 2010.

As in other expenditure categories, there was a wide range in the average fishing services expenditure per angler in 2015. It was as low as $\$ 7$ per angler for resident anglers in Newfoundland and Labrador and was as high as $\$ 375$ average amount paid by non-resident foreign anglers in the Northwest Territories.

Expenses related to purchases of lures, lines, tackle, bait, and other fishing supplies were $\$ 224$ million in 2015 (or $9 \%$ of total direct expenditures). Resident anglers across Canada spent a relatively higher proportion of their fishing expenditures on fishing supplies (as high as $22 \%$ for resident anglers in Prince Edward Island), in comparison with non-resident anglers. In general, nonresident Canadian and other non-resident anglers spent approximately $4 \%$ of their total fishing expenditures on these supplies.

### 4.5 Major Purchases and Investments

In 2015, anglers invested $\$ 5.3$ 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 \$2.6 billion was directly or wholly attributable to recreational fishing (Annex A.11). The corresponding figures for 2010 were 5.8 billion for total expenditure on major purchases and investments, with 3.0 billion of this directly or wholly attributable to recreational fishing.

Boating equipment and special vehicles accounted for $57 \%$ of the $\$ 2.6$ billion investments wholly attributable to recreational fishing (Annex A.11). This was followed by investments on land and buildings (\$474 million) and fishing equipment ( $\$ 285$ million). The remaining amount (13\%) was for major purchases of camping equipment and other miscellaneous investments (Figure 4.12).

Figure 4.12 Major Purchases and Investments Wholly Attributable to Recreational Fishing, by Investment Category, Canada, 2015


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 $\$ 2.4$ billion or $92 \%$ the overall total in 2015 (Annex A.12).

Non-resident Canadians and foreign anglers invested \$144 million and \$48 million, respectively, in 2015. Investment spending by both of these angler categories was mostly on land and/or buildings purchases (close to $62 \%$ of attributable investments). Again note that these amounts for non-resident Canadian and foreign anglers do not include Newfoundland and Labrador. The nonresidents of Newfoundland and Labrador contributed approximately $\$ 2$ million in major purchases wholly attributable to recreation fishing.

### 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 2015 survey as well as the strengths and limitations of the data so that they could be effectively used and analysed. Information on the methodology used and the data quality of survey results would be 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 either on licence category, area of residence or a combination of the two. The only exceptions to this general strategy were in the case of sampling the resident anglers in two jurisdictions: Newfoundland and Labrador and Quebec (Sections 5.1.2 and 5.1.3).
The sample sizes were determined from the reliability estimates for days fished for each stratum as calculated from the results of previous editions of the Survey of Recreational Fishing in Canada.

### 5.1.2 Resident Anglers in Newfoundland and Labrador and Quebec

Due to limitations in the licence databases available for residents of Newfoundland and Labrador and Quebec, a different sampling strategy had to be used for resident anglers in these two jurisdictions. In Newfoundland and Labrador, the sample file of the resident non-salmon angler population was created by using a household prescreen survey of the general population.

This was required because non-salmon anglers in Newfoundland and Labrador do not require a licence and therefore there was no database available from which to select a sample for the survey of recreational fishing in Canada. For the pre-screen survey, the households were geographically stratified to represent the province.

Note that the samples for resident salmon anglers and non-resident anglers (salmon and trout) were selected from licence databases, as these were available for these three types of licences.

A geographically stratified household pre-screen survey was also used in Quebec to generate the sample for the resident angler population but an additional sample was used to increase the coverage. This additional sample was selected from a database of resident hunters, as this database contained a flag that indicated if a hunter also had an angling licence. Hunters that did not have an angling licence were excluded from this additional sample.

The required sample of angling households was determined in consultation with representatives of each province based on the distribution of households in the 2011 census. The overall sample size was determined using the proportion of angling households to all households in each geographic area as estimated for 2010 combined with reliability of days fished for each area in 2010.

For the two household surveys, households were prescreened by telephone to establish the eligibility for inclusion in the survey. In households where anglers were identified, one was selected at random to respond to the survey of recreational fishing in Canada.

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 ${ }^{9}$.
Therefore, as in 2010, it was not possible to survey the non-resident angling population in Quebec for 2015 due to the absence of a survey frame (i.e., a list containing all necessary information from which the survey sample can be drawn). It is possible to produce estimates for Canadian anglers fishing in Quebec but this would require a national survey and is therefore not feasible to perform.

### 5.1.4 Special Sampling: Atlantic Salmon Licence Holders

In Newfoundland and Labrador, a special sample of Newfoundland and Labrador resident Atlantic salmon licence holders was selected to ensure adequate sampling for special analyses of these important sub-populations

[^5]required for an Atlantic-wide analysis of Atlantic salmon angling.

The decision to select a special resident sample from the salmon database 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 sample allowed for the detailed analyses required by Newfoundland and Labrador.

### 5.2 Data Collection, Processing, Coding and Estimation

The survey was launched in early 2016 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.

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, etc. Once questionnaires had been completely assessed and coded, they were sent to Ottawa for analysis.

Working under contract to DFO Headquarters, Nanos coordinated the questionnaire imaging and data capture 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 by the end of 2016.

The validation of survey responses, including the data editing, the majority of the outlier detection and the imputation, as well as the survey weighting and the creation of tables and figures in this report were performed by Statistics Canada in 2018. Some outlier detection was performed on preliminary raw data by subject matter experts in each jurisdiction and this was often taken into account during the process.
Outlier detection performed by Statistics Canada used the Sigma-Gap method and was only done on non-zero
responses, focusing mainly on the number of fish caught and kept and the expenditure variables. All outliers were imputed using nearest neighbour or mean imputation. All steps in weighting, outlier detection and imputation used Statistics Canada approved generalized survey methodology systems.

### 5.3 Weighting Procedures

### 5.3.1 Weighting for all jurisdictions other than Newfoundland and Labrador and Quebec

Weighted estimates were produced to ensure that the survey data reflected the estimates for the population. Statistics Canada had to make some assumptions during the weighting process to account for information about the survey design and/or data collection that were unknown or not completely apparent.

The weighting procedure for jurisdictions where a sample was selected from a licence frame will be described first. Initial design weights were calculated using the inverse of the probability of selection. Weights were then adjusted to account for non-response, usually taking into account licence type, place of residency and mode of collection.

At this point, the generalized weight share method was used to adjust the weights to account for the fact that an angler could have had more than one valid angling licence. The final step of the weighting process was to adjust the weights to the known licence totals in a step called calibration.

The level at which calibration was performed varied between jurisdictions due to the level of detail of the information available from the licence databases. Most jurisdictions used a combination of licence type, residency, age group and sex during calibration.

### 5.3.2 Weighting for Newfoundland and Labrador and Quebec

For residents of Newfoundland and Labrador and Quebec, modifications to the weighting procedures were required. For Newfoundland and Labrador, the weighting for the samples selected from the two non-resident licence types (salmon and trout) followed the general strategy used by the other jurisdictions outlined earlier.
The initial weighting steps of the Newfoundland and Labrador household pre-screen survey included deriving the initial design weights at the Census Division level and then performing a non-response adjustment for those that did not respond to the pre-screen survey.

Basically the nonresponse was assumed to be missing at random which is equivalent to working with the subset of respondents when deriving the initial weights.

Then, another nonresponse adjustment was made for respondents from the pre-screen survey that were not willing to take part in the full survey of recreational fishing in Canada. This was also performed at the Census Division level. At this step in the weighting process, the anglers from the household pre-screen survey that were willing to participate were combined with the initial weights derived for the sample of resident salmon anglers.

A non-response adjustment to the full survey of recreational fishing in Canada was then performed, taking into account licence type, residency and mode of collection. The generalized weight share method was then used to account for anglers with more than one licence and to account for the fact that the samples for residents were selected from overlapping frames.

The final weighting step for the Newfoundland and Labrador residents was the calibration to the known licence totals from the salmon database for those respondents that indicated having a salmon licence.

For Quebec, the goal of the weighting for the sample selected from the hunter/angler database was for it to represent the known number of total anglers on the hunter/angler database. The weighting for this sample was done using the same methodology used in the rest of the country, with the final step being the calibration to the known totals of licences from the hunter/angler database.

As the total number of resident licences sold in Quebec was known (by licence type), the goal of the sample selected from the household pre-screen survey was to represent the licences in the population that were not covered by the hunter/angler database.

Hence the weighting of the household survey in Quebec was done in a similar fashion to that done in Newfoundland and Labrador except that the final weights were calibrated to the total of known licences not covered by the hunter/angler database. Once finalized, the weights from the household pre-screen survey were combined with the weights from the hunter/angler sample to produce the final weights for Quebec.

### 5.4 Data Quality

### 5.4.1 Sampling Error

Information on reliability is presented in terms of the coefficient of variation. Annex A. 13 presents the statistical reliability of key variables for all anglers.

[^6]The ranges of coefficient of variation (C.V.) below provide guidelines as to the use of the data:

| Coefficient of variation | Grades | Guideline |
| :--- | :--- | :--- |
| Less than $\mathbf{5 . 0 0 \%}$ | A | Data can be used without condition |
| $\mathbf{5 . 0 1 \%}$ to $\mathbf{1 5 . 0 0 \%}$ | B | Data can be used with caution |
| $\mathbf{1 5 . 0 1 \%}$ to $\mathbf{2 5 . 0 0 \%}$ | C | Data should be used with caution |
| $\mathbf{2 5 . 0 1 \%}$ to $\mathbf{3 5 . 0 0 \%}$ | D | Data should be used with caution |
| Greater than $\mathbf{3 5 . 0 0 \%}$ | E | Data should be used with extreme caution |

### 5.4.2 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. ${ }^{10}$ These efforts included a complete verification of the reported data, validity and consistency edits and ongoing consultations with the coordinators in each jurisdiction.

### 5.4.3 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 2015. 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 2015 (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 was required.

### 5.5 Data comparability

There were no changes to the core survey questions between 2010 and 2015. But as there were changes in the data validation and weighting strategies from 2010 to 2015, care should be taken when making comparisons between the results of these two surveys. Estimates for larger domains should see less impact due to the minor changes in the validation and weighting strategies. The CVs of the final estimates should also be taken into account when trying to make comparisons to earlier editions of the survey.

### 6.0 References

Fisheries and Oceans Canada, Economic and Commercial Analysis, 2010 Survey of Recreational Fishing in Canada, 2012, Ottawa.

Statistics Canada, Annual Demographic Statistics, Catalogue no. 91-2015-X, 2016, Ottawa.

Statistics Canada, The Consumer Price Index, Catalogue no. 62-001-X, Volume 90, Number 4, May 2015, Ottawa.

Statistics Canada, Quality Guidelines, Fourth Edition, Catalogue no. 12-539-XIE, 2009, Ottawa.

## Annex A: Summary Tables

## Annex A. 1 Number of all licensed anglers, by angler category and jurisdiction, 2015

| Jurisdiction | Resident |  | Non-resident Canadian |  | Non-resident Other |  | All Non-residents |  | All Anglers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador ${ }^{1}$ | 111,003 | B | .. |  | .. |  | 5,034 | A | 116,037 | A |
| Prince Edward Island | 6,344 | A | 394 | B | 415 | B | 808 | A | 7,152 | A |
| Nova Scotia | 55,696 | A | 1,317 | B | 600 | B | 1,917 | A | 57,613 | A |
| New Brunswick | 54,391 | A | 3,598 | B | 2,502 | B | 6,101 | A | 60,491 | A |
| Quebec ${ }^{2}$ | 667,252 | A | .. |  | .. |  | .. |  | 667,252 | A |
| Ontario | 887,508 | A | 54,236 | A | 318,552 | A | 372,788 | A | 1,260,296 | A |
| Manitoba | 156,575 | A | 13,751 | A | 20,442 | A | 34,194 | A | 190,769 | A |
| Saskatchewan | 149,549 | A | 34,208 | A | 10,786 | A | 44,994 | A | 194,543 | A |
| Alberta | 291,877 | A | 10,137 | A | 4,212 | A | 14,349 | A | 306,226 | A |
| British Columbia Freshwater | 273,094 | A | 37,289 | A | 17,426 | B | 54,715 | A | 327,808 | A |
| British Columbia Tidal Waters | 196,199 | A | 38,177 | B | 36,011 | A | 74,187 | A | 270,387 | A |
| Yukon | 7,149 | A | 1,714 | B | 925 | B | 2,640 | A | 9,789 | A |
| Northwest Territories | 5,043 | A | 5,815 | A | 1,456 | A | 7,271 | A | 12,314 | A |
| Nunavut | 547 | B | 753 | B | 166 | D | 918 | A | 1,465 | A |
| Canada | 2,862,225 | A | 201,388 | A | 413,493 | A | 619,916 | A | 3,482,141 | A |

Notes:
Figures may not add up to total due to rounding.

1. Non-resident origins were not recorded during fieldwork.
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.

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

Annex A. 2 Number of active anglers, by angler category and jurisdiction, 2015

| Jurisdiction | Resident |  | Non-resident Canadian |  | Non-resident Other |  | All Non-residents |  | All Anglers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador ${ }^{1}$ | 110,772 | B | .. |  | . |  | 5,034 | A | 115,806 | A |
| Prince Edward Island | 5,967 | A | 394 | B | 385 | B | 779 | A | 6,746 | A |
| Nova Scotia | 49,714 | A | 1,291 | B | 600 | B | 1,892 | A | 51,606 | A |
| New Brunswick | 50,896 | A | 3,598 | B | 2,473 | B | 6,071 | A | 56,967 | A |
| Quebec ${ }^{2}$ | 652,919 | A | .. |  | .. |  | .. |  | 652,919 | A |
| Ontario | 754,617 | A | 50,692 | A | 312,783 | A | 363,474 | A | 1,118,092 | A |
| Manitoba | 150,518 | A | 13,751 | A | 20,206 | A | 33,957 | A | 184,475 | A |
| Saskatchewan | 145,157 | A | 33,628 | A | 10,541 | A | 44,169 | A | 189,326 | A |
| Alberta | 282,880 | A | 8,560 | B | 4,045 | B | 12,605 | B | 295,485 | A |
| British Columbia Freshwater | 247,582 | A | 35,726 | A | 16,695 | B | 52,420 | A | 300,002 | A |
| British Columbia Tidal Waters | 176,819 | A | 36,265 | B | 34,380 | A | 70,646 | A | 247,464 | A |
| Yukon | 6,001 | A | 1,631 | B | 810 | B | 2,441 | A | 8,442 | A |
| Northwest Territories | 4,883 | A | 5,664 | A | 1,417 | A | 7,081 | A | 11,965 | A |
| Nunavut | 497 | B | 550 | B | 69 | E | 619 | B | 1,117 | B |
| Canada | 2,639,224 | A | 191,751 | A | 404,404 | A | 601,189 | A | 3,240,413 | A |

Notes:
Figures may not add up to total due to rounding.

1. Non-resident origins were not recorded during fieldwork.
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.

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

Annex A. 3 Number and average age of active anglers, by gender and jurisdiction, 2015

| Jurisdiction | Anglers |  | Males |  | Average |  | Females |  | Average |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador | 115,806 | A | 81,518 | B | 58 | A | 34,289 | C | 52 | A |
| Prince Edward Island | 6,746 | A | 6,118 | A | 48 | A | 628 | B | 44 | B |
| Nova Scotia | 51,606 | A | 42,996 | A | 50 | A | 8,610 | B | 44 | B |
| New Brunswick | 56,967 | A | 46,525 | A | 50 | A | 10,442 | B | 44 | A |
| Quebec ${ }^{1}$ | 652,919 | A | 573,801 | A | 51 | A | 79,119 | B | 48 | B |
| Ontario | 1,118,092 | A | 866,981 | A | 49 | A | 251,110 | A | 47 | A |
| Manitoba | 184,475 | A | 133,122 | A | 48 | A | 51,354 | A | 46 | A |
| Saskatchewan | 189,326 | A | 135,386 | A | 43 | A | 53,940 | A | 41 | A |
| Alberta | 295,485 | A | 225,176 | A | 40 | A | 70,309 | A | 38 | A |
| British Columbia Freshwater | 300,002 | A | 239,252 | A | 49 | A | 60,751 | A | 44 | A |
| British Columbia Tidal Waters | 247,464 | A | 196,404 | A | 50 | A | 51,061 | A | 47 | A |
| Yukon | 8,442 | A | 6,049 | A | 48 | A | 2,394 | B | 42 | A |
| Northwest Territories | 11,965 | A | 9,203 | A | 46 | A | 2,761 | B | 40 | A |
| Nunavut | 1,117 | B | 909 | B | 49 | B | 207 | D | 37 | C |
| Canada | 3,240,413 | A | 2,563,439 | A | 49 | A | 676,974 | A | 45 | A |

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. 4 Origin of all licensed non-resident anglers in Canada, 2015 ${ }^{\mathbf{1}}$

| Province/State/Country of Origin | Number |  | \% |  |
| :---: | :---: | :---: | :---: | :---: |
| Canadian Provinces/Territories |  |  |  |  |
| Maritimes | 5,065 | A | 0.8 | A |
| Quebec | 29,136 | A | 4.7 | A |
| Ontario | 13,105 | A | 2.1 | A |
| Prairies | 107,867 | A | 17.4 | A |
| British Columbia | 10,191 | A | 1.6 | A |
| Territories | 1,945 | A | 0.3 | A |
| Sub-total: Canadian Provinces/Territories | 167,309 | A | 27.0 | A |
| United States |  |  |  |  |
| New England | 2,887 | A | 0.5 | A |
| Mid Atlantic | 11,675 | A | 1.9 | A |
| Eastern North Central | 55,589 | A | 9.0 | A |
| Western North Central | 59,573 | A | 9.6 | A |
| Mountain | 11,860 | A | 1.9 | A |
| Pacific | 28,784 | A | 4.6 | A |
| South Atlantic | 8,188 | A | 1.3 | A |
| Eastern South Central | 1,004 | A | 0.2 | A |
| Western South Central | 4,264 | A | 0.7 | A |
| Alaska | 153 | A | 0.0 | A |
| Hawaii | 287 | A | 0.0 | A |
| Other Countries |  |  |  |  |
| United Kingdom | 2,276 | A | 0.4 | A |
| Other Europe | 7,186 | A | 1.2 | A |
| Mexico., Central America, South America, Caribbean | 414 | A | 0.1 | A |
| Africa | .. |  | .. |  |
| Asia | 1,833 | A | 0.3 | A |
| Australia/Pacific Region | 1,464 | A | 0.2 | A |
| Other Countries | .. |  | .. |  |
| Sub-total: United States and Other Countries | 197,438 | A | 31.8 | A |
| Unknown Origin ${ }^{2}$ | 210,174 | A | 33.9 | A |
| Unknown Origin (Saskatchewan only) ${ }^{3}$ | 44,994 | A | 7.3 | A |
| Grand Total | 619,916 | A |  |  |

## Notes:

Figures may not add up to total due to rounding.

1. Includes active and non-active licensed anglers.
2. State or country of residence was not recorded during fieldwork.
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, 2015

| Jurisdiction | Total Trips |  | Trip Days |  | Fishing Trips |  | Days Fished |  | Day Trips |  | Nights |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador | 6,088 | B | 82,075 | C | 4,841 | B | 37,852 | B | 9,077 | E | 37,315 | D |
| Prince Edward Island | 1,340 | C | 9,570 | B | 830 | B | 6,419 | D | 344 | D | 4,346 | C |
| Nova Scotia | 7,972 | C | 33,381 | B | 4,659 | C | 15,263 | B | 3,766 | D | 14,876 | B |
| New Brunswick | 20,739 | E | 79,974 | C | 8,173 | B | 38,112 | B | 3,462 | E | 45,333 | D |
| Quebec ${ }^{1}$ | .. |  | .. |  | .. |  | .. |  | .. |  | .. |  |
| Ontario | 1,278,940 | B | 4,127,022 | A | 755,439 | A | 2,707,925 | A | 314,210 | B | 2,714,915 | A |
| Manitoba | 100,444 | B | 423,624 | B | 56,129 | B | 239,744 | B | 38,207 | C | 206,868 | B |
| Saskatchewan | 687,908 | C | 1,078,533 | B | 207,176 | B | 450,458 | B | 109,782 | C | 445,105 | B |
| Alberta | 79,908 | D | 436,693 | D | 29,026 | D | 135,708 | E | 35,793 | E | 141,291 | D |
| British Columbia Freshwater | 234,328 | B | 1,102,303 | B | 102,921 | B | 380,844 | B | 102,700 | C | 534,603 | B |
| British Columbia Tidal Waters | 178,536 | B | 1,019,635 | B | 88,136 | A | 265,801 | A | 49,045 | B | 406,446 | B |
| Yukon | 4,129 | B | 65,931 | C | 3,328 | B | 22,788 | C | 2,229 | D | 38,826 | C |
| Northwest Territories | 13,323 | E | 96,394 | C | 6,480 | B | 46,301 | B | 3,384 | D | 39,350 | C |
| Nunavut | 691 | C | 13,050 | D | 582 | C | 6,536 | D | 564 | E | 5,014 | E |
| Canada | 2,614,345 | B | 8,568,185 | A | 1,267,719 | A | 4,353,752 | A | 672,561 | B | 4,634,288 | A |

## 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. 6 Number of days fished by angler category and jurisdiction, 2015

|  |  | Freshwater ${ }^{3}$ |  |  |  | Saltwater ${ }^{4}$ |  |  |  | Total ${ }^{5}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jurisdiction |  | Number of days |  | Average per angler |  | Number of days |  | Average per angler |  | Number of days |  | Average per angler |  |
| Newfoundland and Labrador ${ }^{1}$ | Resident | 812,821 | B | 11 | B | 748,992 | B | 8 | B | 1,561,813 | B | 14 | B |
|  | Non-resident Canadian | .. |  | .. |  | .. |  | .. |  | .. |  | .. |  |
|  | Non-resident Other | .. |  | .. |  | .. |  | .. |  | .. |  | .. |  |
|  | All Non-residents | 29,866 | B | 6 | B | 7,986 | D | 6 | C | 37,852 | B | 8 | B |
|  | Total | 842,687 | B | 10 | B | 756,978 | B | 8 | B | 1,599,664 | B | 14 | B |
| Prince Edward Island | Resident | 97,624 | B | 18 | B | 56,401 | C | 14 | C | 154,025 | B | 26 | B |
|  | Non-resident Canadian | 1,482 | C | 4 | C | 423 | D | 3 | C | 1,905 | C | 5 | B |
|  | Non-resident Other | 2,447 | D | 7 | D | 2,067 | E | 23 | E | 4,514 | E | 12 | E |
|  | All Non-residents | 3,929 | C | 6 | C | 2,490 | E | 10 | E | 6,419 | D | 8 | D |
|  | Total | 101,553 | B | 16 | B | 58,891 | C | 14 | C | 160,444 | B | 24 | B |
| Nova Scotia | Resident | 732,302 | B | 15 | B | 252,076 | B | 9 | B | 984,378 | B | 20 | B |
|  | Non-resident Canadian | 8,150 | B | 6 | B | 1,973 | E | 6 | E | 10,122 | B | 8 | B |
|  | Non-resident Other | 4,825 | D | 8 | D | 315 | E | 5 | D | 5,141 | D | 9 | D |
|  | All Non-residents | 12,975 | B | 7 | B | 2,288 | E | 6 | D | 15,263 | B | 8 | B |
|  | Total | 745,277 | B | 15 | B | 254,364 | B | 9 | B | 999,641 | B | 19 | B |
| New Brunswick | Resident | 773,996 | B | 15 | B | 125,190 | C | 10 | C | 899,186 | B | 18 | B |
|  | Non-resident Canadian | 15,224 | B | 4 | B | 1,151 | E | 3 | D | 16,375 | B | 5 | B |
|  | Non-resident Other | 21,397 | C | 9 | C | 341 | E | 6 | E | 21,737 | C | 9 | C |
|  | All Non-residents | 36,621 | B | 6 | B | 1,492 | E | 4 | D | 38,112 | B | 6 | B |
|  | Total | 810,617 | B | 14 | B | 126,681 | C | 10 | C | 937,298 | B | 16 | B |
| Quebec ${ }^{2}$ | Resident | 9,478,578 | A | 15 | A | 355,470 | D | 8 | C | 9,834,048 | A | 15 | A |
|  | Non-resident Canadian | .. |  | . |  | .. |  | .. |  | .. |  | . |  |
|  | Non-resident Other | .. |  | .. |  | .. |  | .. |  | .. |  | .. |  |
|  | All Non-residents | .. |  | .. |  | . |  | . |  | .. |  | .. |  |
|  | Total | 9,478,578 | A | 15 | A | 355,470 | D | 8 | C | 9,834,048 | A | 15 | A |
| Ontario | Resident | 13,123,075 | A | 17 | A | .. |  | .. |  | 13,123,075 | A | 17 | A |
|  | Non-resident Canadian | 435,695 | B | 9 | B | .. |  | .. |  | 435,695 | B | 9 | B |
|  | Non-resident Other | 2,272,231 | A | 7 | A | .. |  | .. |  | 2,272,231 | A | 7 | A |
|  | All Non-residents | 2,707,925 | A | 7 | A | .. |  | .. |  | 2,707,925 | A | 7 | A |
|  | Total | 15,831,001 | A | 14 | A | .. |  | . |  | 15,831,001 | A | 14 | A |
| Manitoba | Resident | 2,417,788 | B | 16 | B | .. |  | .. |  | 2,417,788 | B | 16 | B |
|  | Non-resident Canadian | 92,223 | B | 7 | B | .. |  | .. |  | 92,223 | B | 7 | B |
|  | Non-resident Other | 147,521 | B | 7 | B | .. |  | .. |  | 147,521 | B | 7 | B |
|  | All Non-residents | 239,744 | B | 7 | B | .. |  | .. |  | 239,744 | B | 7 | B |
|  | Total | 2,657,533 | B | 14 | B | .. |  | .. |  | 2,657,533 | B | 14 | B |
| Saskatchewan | Resident | 3,425,303 | A | 24 | A | .. |  | .. |  | 3,425,303 | A | 24 | A |
|  | Non-resident Canadian | 389,072 | B | 12 | B | .. |  | .. |  | 389,072 | B | 12 | B |
|  | Non-resident Other | 61,386 | B | 6 | A | .. |  | .. |  | 61,386 | B | 6 | A |
|  | All Non-residents | 450,458 | B | 10 | B | .. |  | .. |  | 450,458 | B | 10 | B |
|  | Total | 3,875,761 | A | 20 | A | . |  | .. |  | 3,875,761 | A | 20 | A |
| Alberta | Resident | 4,992,573 | B | 18 | B | .. |  | .. |  | 4,992,573 | B | 18 | B |
|  | Non-resident Canadian | 116,625 | E | 14 | E | .. |  | .. |  | 116,625 | E | 14 | E |
|  | Non-resident Other | 19,083 | C | 5 | C | .. |  | .. |  | 19,083 | C | 5 | C |
|  | All Non-residents | 135,708 | E | 11 | E | .. |  | .. |  | 135,708 | E | 11 | E |
|  | Total | 5,128,281 | B | 17 | B | .. |  | .. |  | 5,128,281 | B | 17 | B |

## Notes:

1. Non-resident origins were not recorded during fieldwork.
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
3. The average is based on the anglers who fished in freshwater in 2015.
4. The average is based on the anglers who fished in saltwater in 2015.
5. The average is based on the anglers who fished in freshwater and/or saltwater in 2015.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics

## Annex A. 6 Number of days fished by angler category and jurisdiction, 2015 (cont’d)

|  |  | Freshwater ${ }^{3}$ |  |  |  | Saltwater ${ }^{4}$ |  |  |  | Total ${ }^{5}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jurisdiction |  | Number of days |  | Average per angler |  | Number of days |  | Average per angler |  | Number of days |  | Average per angler |  |
| British Columbia Freshwater | Resident | 3,773,342 | A | 15 | A | .. |  | .. |  | 3,773,342 | A | 15 | A |
|  | Non-resident Canadian | 258,574 | B | 7 | B | .. |  | .. |  | 258,574 | B | 7 | B |
|  | Non-resident Other | 122,270 | B | 7 | B | .. |  | .. |  | 122,270 | B | 7 | B |
|  | All Non-residents | 380,844 | B | 7 | B | .. |  | .. |  | 380,844 | B | 7 | B |
|  | Total | 4,154,186 | A | 14 | A | .. |  | .. |  | 4,154,186 | A | 14 | A |
| British Columbia Tidal Waters | Resident | .. |  | .. |  | 1,748,470 | A | 10 | A | 1,748,470 | A | 10 | A |
|  | Non-resident Canadian | .. |  | .. |  | 136,232 | B | 4 | B | 136,232 | B | 4 | B |
|  | Non-resident Other | .. |  | .. |  | 129,569 | A | 4 | A | 129,569 | A | 4 | A |
|  | All Non-residents | .. |  | .. |  | 265,801 | A | 4 | A | 265,801 | A | 4 | A |
|  | Total | .. |  | .. |  | 2,014,271 | A | 8 | A | 2,014,271 | A | 8 | A |
| Yukon | Resident | 78,632 | B | 13 | B | .. |  | .. |  | 78,632 | B | 13 | B |
|  | Non-resident Canadian | 16,249 | C | 10 | C | .. |  | .. |  | 16,249 | C | 10 | C |
|  | Non-resident Other | 6,538 | C | 8 | B | .. |  | .. |  | 6,538 | C | 8 | B |
|  | All Non-residents | 22,788 | C | 9 | C | .. |  | .. |  | 22,788 | C | 9 | C |
|  | Total | 101,420 | B | 12 | B | .. |  | .. |  | 101,420 | B | 12 | B |
| Northwest Territories | Resident | 85,251 | B | 17 | B | .. |  | .. |  | 85,251 | B | 17 | B |
|  | Non-resident Canadian | 35,208 | B | 6 | B | .. |  | .. |  | 35,208 | B | 6 | B |
|  | Non-resident Other | 11,094 | B | 8 | B | .. |  | .. |  | 11,094 | B | 8 | B |
|  | All Non-residents | 46,301 | B | 7 | B | .. |  | .. |  | 46,301 | B | 7 | B |
|  | Total | 131,552 | B | 11 | B | . |  | .. |  | 131,552 | B | 11 | B |
| Nunavut | Resident | 4,902 | C | 10 | C | 1,407 | D | 6 | C | 6,309 | C | 13 | C |
|  | Non-resident Canadian | 4,694 | E | 10 | E | 518 | D | 3 | C | 5,212 | D | 9 | D |
|  | Non-resident Other | 359 | E | 8 | A | 964 | E | 14 | E | 1,324 | E | 19 | C |
|  | All Non-residents | 5,053 | D | 10 | E | 1,482 | E | 5 | E | 6,536 | D | 11 | D |
|  | Total | 9,955 | C | 10 | C | 2,889 | D | 6 | C | 12,845 | C | 12 | C |
| Canada | Resident | 39,796,186 | A | 16 | A | 3,288,006 | A | 9 | A | 43,084,192 | A | 16 | A |
|  | Non-resident Canadian | 1,373,197 | B | 9 | B | 140,296 | B | 4 | B | 1,513,493 | B | 8 | B |
|  | Non-resident Other | 2,669,151 | A | 7 | A | 133,257 | A | 4 | A | 2,802,408 | A | 7 | A |
|  | All Non-residents | 4,072,214 | A | 8 | A | 281,538 | A | 4 | A | 4,353,752 | A | 7 | A |
|  | Total | 43,868,400 | A | 15 | A | 3,569,544 | A | 8 | A | 47,437,944 | A | 15 | A |

Notes:

1. Non-resident origins were not recorded during fieldwork.
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
3. The average is based on the anglers who fished in freshwater in 2015.
4. The average is based on the anglers who fished in saltwater in 2015.
5. The average is based on the anglers who fished in freshwater and/or saltwater in 2015.

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics

Annex A.7a Summary of fish caught by angler category, 2015

| Jurisdiction | Resident |  | Non-resident Canadian |  | Non-resident Other |  | All Non-residents |  | All Anglers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador ${ }^{1}$ | 5,737,639 | B | .. |  | .. |  | 106,817 | C | 5,844,455 | B |
| Prince Edward Island | 451,825 | B | 6,445 | C | 7,990 | D | 14,435 | C | 466,261 | B |
| Nova Scotia | 3,522,824 | B | 31,367 | C | 7,041 | D | 38,408 | C | 3,561,233 | B |
| New Brunswick | 2,178,039 | B | 54,224 | D | 55,155 | D | 109,379 | C | 2,287,418 | B |
| Quebec ${ }^{2}$ | 43,014,413 | B | .. |  | .. |  | .. |  | 43,014,413 | B |
| Ontario | 44,095,029 | A | 2,007,393 | B | 27,266,215 | A | 29,273,608 | A | 73,368,638 | A |
| Manitoba | 9,901,328 | B | 522,551 | C | 2,171,610 | B | 2,694,161 | B | 12,595,489 | B |
| Saskatchewan | 15,059,332 | B | 1,883,938 | B | 863,752 | B | 2,747,690 | B | 17,807,022 | B |
| Alberta | 15,665,095 | B | 144,583 | D | 118,196 | C | 262,779 | C | 15,927,875 | B |
| British Columbia Freshwater | 5,999,292 | B | 639,030 | B | 526,341 | C | 1,165,371 | B | 7,164,663 | A |
| British Columbia Tidal Waters | 10,152,648 | B | 718,261 | B | 499,717 | B | 1,217,978 | B | 11,370,625 | B |
| Yukon | 136,926 | C | 52,374 | C | 10,597 | C | 62,971 | C | 199,897 | B |
| Northwest Territories | 209,641 | B | 283,950 | B | 200,351 | B | 484,301 | B | 693,942 | B |
| Nunavut | 6,773 | D | 5,641 | E | 957 | E | 6,599 | D | 13,372 | C |
| Canada | 156,130,805 | A | 6,349,758 | B | 31,727,923 | A | 38,184,498 | A | 194,315,303 | A |

## Notes:

1. Data not yet ready for inclusion; coming soon.
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.

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

## Annex A.7b Summary of fish kept by angler category, 2015

| Jurisdiction | Resident |  | Non-resident Canadian |  | Non-resident Other |  | All Non-residents |  | All Anglers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Newfoundland and Labrador ${ }^{1}$ | 4,548,027 | B | .. |  | .. |  | 66,749 | C | 4,614,776 | B |
| Prince Edward Island | 161,365 | C | 2,496 | D | 1,759 | E | 4,255 | C | 165,619 | C |
| Nova Scotia | 937,666 | B | 5,336 | D | 1,653 | E | 6,989 | C | 944,655 | B |
| New Brunswick | 747,028 | B | 4,937 | E | 2,038 | E | 6,975 | D | 754,003 | B |
| Quebec ${ }^{2}$ | 20,866,268 | B | .. |  | .. |  | .. |  | 20,866,268 | B |
| Ontario | 9,917,280 | A | 368,363 | B | 3,296,888 | A | 3,665,251 | A | 13,582,531 | A |
| Manitoba | 1,743,854 | B | 84,589 | C | 171,353 | B | 255,942 | B | 1,999,796 | B |
| Saskatchewan | 3,239,875 | B | 378,981 | B | 95,899 | B | 474,880 | B | 3,714,755 | A |
| Alberta | 1,482,655 | B | 14,287 | E | 349 | E | 14,636 | E | 1,497,292 | B |
| British Columbia Freshwater | 1,471,114 | A | 76,047 | C | 18,194 | D | 94,241 | B | 1,565,355 | A |
| British Columbia Tidal Waters | 8,108,021 | B | 404,329 | C | 332,038 | B | 736,367 | B | 8,844,388 | B |
| Yukon | 27,336 |  | 3,278 | E | 2,906 | C | 6,184 | C | 33,520 | B |
| Northwest Territories | 39,230 | B | 12,033 | B | 6,836 | E | 18,869 | C | 58,099 | B |
| Nunavut | 3,584 | D | 1,543 | D | 705 | E | 2,248 | D | 5,832 | C |
| Canada | 53,293,304 | A | 1,356,218 | B | 3,930,618 | A | 5,353,585 | A | 58,646,889 | A |

Notes:

1. Non-resident origins were not recorded during fieldwork
2. Resident anglers only, there are no estimates for non-resident anglers in Quebec.

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

## Annex A. 8 Summary of fish caught and kept, 2015

|  | Fish Caught |  |  | Fish Kept |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jurisdiction | Total |  | Average per angler |  | Total |  | Average per angler |  |
| Newfoundland and Labrador | 5,844,455 | B | 50 | B | 4,614,776 | B | 40 | B |
| Prince Edward Island | 466,261 | B | 69 | B | 165,619 | C | 25 | C |
| Nova Scotia | 3,561,233 | B | 69 | B | 944,655 | B | 18 | B |
| New Brunswick | 2,287,418 | B | 40 | B | 754,003 | B | 13 | B |
| Quebec ${ }^{1}$ | 43,014,413 | B | 66 | B | 20,866,268 | B | 32 | B |
| Ontario | 73,368,638 | A | 66 | A | 13,582,531 | A | 12 | A |
| Manitoba | 12,595,489 | B | 68 | B | 1,999,796 | B | 11 | B |
| Saskatchewan | 17,807,022 | B | 94 | B | 3,714,755 | A | 20 | A |
| Alberta | 15,927,875 | B | 54 | B | 1,497,292 | B | 5 | B |
| British Columbia Freshwater | 7,164,663 | A | 24 | A | 1,565,355 | A | 5 | A |
| British Columbia Tidal Waters | 11,370,625 | B | 46 | B | 8,844,388 | B | 36 | B |
| Yukon | 199,897 | B | 24 | B | 33,520 | B | 4 | B |
| Northwest Territories | 693,942 | B | 58 | B | 58,099 | B | 5 | B |
| Nunavut | 13,372 | C | 12 | C | 5,832 | C | 5 | C |
| Canada | 194,315,303 | A | 60 | A | 58,646,889 | A | 18 | A |

Notes:

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. 9 Direct expenditures made by all anglers, 2015

| Jurisdiction | Package Deals ${ }^{2}$ |  | Food and Lodging ${ }^{3}$ |  | Transportation Costs ${ }^{4}$ |  | Fishing Services ${ }^{5}$ |  | Fishing Supplies ${ }^{6}$ |  | Other ${ }^{7}$ |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (\$) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Newfoundland and Labrador | 2,449,677 | E | 10,449,387 | B | 21,170,499 | B | 1,116,786 | B | 3,015,469 | B | 1,935,667 | E | 40,137,484 | B |
| Prince Edward Island | 83,101 | E | 511,547 | B | 1,124,479 | B | 224,826 | C | 497,320 | B | 13,482 | E | 2,454,754 | B |
| Nova Scotia | 38,494 | E | 5,931,913 | B | 8,651,544 | B | 1,816,262 | C | 3,334,231 | B | 162,248 | E | 19,934,692 | B |
| New Brunswick | 3,824,080 | B | 7,356,078 | B | 8,429,593 | B | 3,139,117 | B | 3,277,798 | B | 363,436 | E | 26,390,101 | B |
| Quebec ${ }^{1}$ | 54,888,503 | B | 125,379,890 | B | 135,367,527 | B | 43,208,567 | B | 36,409,886 | B | 3,366,966 | D | 398,621,340 | B |
| Ontario | 138,639,332 | A | 290,831,804 | A | 277,285,501 | A | 84,542,171 | A | 77,970,346 | A | 7,055,992 | B | 876,325,145 | A |
| Manitoba | 18,573,414 | B | 41,781,381 | B | 47,079,808 | B | 6,195,299 | B | 11,610,832 | B | 2,223,417 | E | 127,464,151 | B |
| Saskatchewan | 22,938,419 | B | 67,321,882 | B | 82,352,506 | B | 10,463,003 | A | 20,832,006 | B | 2,472,840 | D | 206,380,655 | A |
| Alberta | 1,201,037 | E | 88,395,843 | B | 98,583,285 | B | 12,732,890 | B | 29,745,682 | B | 313,638 | E | 230,972,375 | B |
| British Columbia Freshwater | 22,641,068 | B | 80,829,636 | A | 82,457,848 | A | 16,613,079 | A | 20,547,721 | A | 1,323,546 | D | 224,412,898 | A |
| British Columbia Tidal Waters | 103,319,109 | B | 83,749,864 | A | 142,534,971 | A | 21,720,136 | B | 15,814,709 | A | 3,133,969 | D | 370,272,758 | A |
| Yukon | 612,048 | E | 1,888,364 | B | 2,776,208 | B | 165,371 | B | 382,346 | B | 11,451 | E | 5,835,787 | B |
| Northwest Territories | 2,624,856 | C | 5,221,822 | B | 5,717,711 | C | 1,022,146 | C | 423,520 | B | 208,912 | C | 15,218,967 | B |
| Nunavut | 4,688 | E | 148,746 | D | 285,947 | D | 52,223 | E | 54,073 | C | . |  | 545,676 | C |
| Canada | 371,837,824 | A | 809,798,156 | A | 913,817,426 | A | 203,011,876 | A | 223,915,938 | A | 22,585,564 | B | 2,544,966,783 | A |
| Average per angler ${ }^{8}$ | 106.78 | A | 232.56 | A | 262.43 | A | 58.30 | A | 64.30 | A | 6.49 | B | 730.86 | A |

1. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
2. Only includes costs tied to fishing packages.
3. Includes costs related to household owned boats, shared ownership boats, travel within the province by vehicle, by ferry, by air, by fares (airline, bus, etc.), by aircraft rentals/charters, and/or by other means.
4. Includes costs tied to rentals for fishing, fishing guide services, charter boat fees, fishing license fees, tournament entry fees, access fees, and/or club memberships and annual club dues.
5. Includes costs tied to rentals for fishing, fish
6. Includes costs tied to souvenirs, arts and crafts items over \$, and/or other costs.
7. The average estimate was calculated as household expenditure / total number of (active and inactive) anglers (cf. Table A.1).

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, 2015

| Jurisdiction | Fishing Equipment ${ }^{2}$ |  | Camping Equipment ${ }^{3}$ |  | Boating Equipment ${ }^{4}$ |  | Special Vehicles ${ }^{5}$ |  | Land \&/or Building ${ }^{6}$ |  | Other ${ }^{7}$ |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (\$) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Newfoundland and Labrador | 6,586,109 | B | 12,723,587 | E | 49,750,075 | D | 79,455,642 | D | 14,209,381 | E | 2,211,766 | C | 164,936,561 | C |
| Prince Edward Island | 433,482 | D | 77,518 | D | 3,356,378 | E | 785,024 | E | 392,629 | E | 202,752 | D | 5,247,783 | E |
| Nova Scotia | 4,493,171 | B | 2,234,455 | D | 12,198,501 | D | 25,245,489 | E | 627,746 | E | 1,782,170 | C | 46,581,532 | C |
| New Brunswick | 4,331,864 | B | 2,823,859 | D | 11,436,140 | D | 27,478,754 | D | 9,807,774 | E | 1,316,834 | C | 57,195,225 | C |
| Quebec ${ }^{1}$ | 43,094,932 | B | 64,476,985 | C | 207,728,575 | C | 373,266,085 | C | 142,614,001 | D | 18,478,625 | B | 849,659,203 | B |
| Ontario | 80,064,613 | A | 125,502,727 | B | 276,284,110 | B | 291,182,356 | B | 559,984,596 | D | 26,425,781 | B | 1,359,444,182 | B |
| Manitoba | 12,797,093 | B | 17,470,194 | E | 57,626,264 | D | 121,496,243 | D | 121,267,016 | E | 6,506,783 | C | 337,163,593 | C |
| Saskatchewan | 29,546,875 | B | 64,492,472 | C | 145,853,629 | C | 118,537,016 | C | 246,458,076 | D | 15,005,176 | B | 619,893,244 | C |
| Alberta | 47,168,943 | B | 145,948,238 | C | 134,184,576 | C | 303,126,326 | C | 495,701,403 | E | 15,337,853 | B | 1,141,467,339 | D |
| British Columbia Freshwater | 30,491,885 | B | 71,474,010 | C | 87,697,728 | B | 141,111,532 | B | 48,575,947 | E | 8,717,835 | B | 388,068,937 | B |
| British Columbia Tidal Waters | 25,547,783 | B | 21,505,328 | C | 178,311,634 | B | 55,842,646 | D | 47,516,368 | E | 5,823,208 | B | 334,546,966 | B |
| Yukon | 434,431 | C | 852,861 | E | 3,034,678 | E | 2,564,464 | D | 534,450 | E | 169,119 | D | 7,590,003 | C |
| Northwest Territories | 459,531 | C | 475,602 | D | 3,577,382 | D | 3,640,771 | E | 4,473,841 | E | 176,456 | D | 12,803,584 | D |
| Nunavut | 38,683 | D | 51,157 | E | 84,209 | E | 1,781,297 | E | 151,814 | E | 25,299 | E | 2,132,459 | D |
| Canada | 285,489,395 | A | 530,108,994 | B | 1,171,123,880 | B | 1,545,513,644 | B | 1,692,315,041 | C | 102,179,658 | A | 5,326,730,612 | B |

Notes:

1. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
2. Cost associated with major spending for fishing equipment only.

3 . Cost associated with major spending for camping equipment only.
4. Cost associated with major spending for new and used boating equipment.
5. Cost associated with major spending for new and used special vehicles.
6. Cost associated with major spending for land and/or buildings.
7. Cost associated with other major spending.

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, 2015

| Jurisdiction | Fishing Equipment ${ }^{2}$ |  | Camping Equipment ${ }^{3}$ |  | Boating Equipment ${ }^{4}$ |  | Special Vehicles ${ }^{5}$ |  | Land \&/or Building ${ }^{6}$ |  | Other ${ }^{7}$ | Total |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (\$) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Newfoundland and Labrador | 6,586,109 | B | 3,584,384 | D | 36,350,367 | C | 20,459,584 | D | 4,284,371 | E | 2,066,274 | C | 73,331,088 | B |
| Prince Edward Island | 433,482 | D | 22,055 | E | 1,878,451 | E | 375,749 | E | 77,399 | E | 178,989 | E | 2,966,124 | D |
| Nova Scotia | 4,493,171 | B | 1,820,869 | E | 8,725,841 | C | 8,182,526 | E | 114,976 | E | 1,710,586 | C | 25,047,969 | C |
| New Brunswick | 4,331,864 | B | 2,382,486 | E | 7,284,430 | D | 7,582,193 | C | 7,113,707 | E | 1,164,078 | C | 29,858,759 | C |
| Quebec ${ }^{1}$ | 43,094,932 | B | 33,752,232 | C | 167,465,165 | C | 132,259,893 | C | 58,526,136 | C | 16,219,426 | B | 451,317,782 | B |
| Ontario | 80,064,613 | A | 59,141,741 | C | 215,775,505 | B | 114,177,469 | B | 130,713,067 | C | 23,817,435 | B | 623,689,829 | B |
| Manitoba | 12,797,093 | B | 6,529,099 | C | 45,167,160 | E | 24,349,266 | D | 56,790,061 | E | 5,679,841 | C | 151,312,519 | C |
| Saskatchewan | 29,546,875 | B | 27,875,889 | C | 134,977,813 | C | 35,561,767 | B | 106,460,332 | D | 14,338,529 | B | 348,761,205 | B |
| Alberta | 47,168,943 | B | 63,349,470 | C | 109,070,250 | C | 134,735,901 | D | 63,158,807 | E | 14,329,197 | C | 431,812,569 | C |
| British Columbia Freshwater | 30,491,885 | B | 42,716,822 | C | 70,485,366 | B | 49,121,379 | C | 26,700,970 | E | 8,041,234 | B | 227,557,656 | B |
| British Columbia Tidal Waters | 25,547,783 | B | 11,305,382 | C | 133,254,446 | B | 17,055,071 | C | 16,063,697 | E | 4,641,776 | B | 207,868,155 | B |
| Yukon | 434,431 | C | 283,184 | E | 2,781,577 | E | 833,314 | E | 131,168 | E | 134,574 | D | 4,598,248 | D |
| Northwest Territories | 459,531 | C | 364,986 | E | 2,904,342 | D | 1,444,900 | E | 4,269,466 | E | 135,116 | D | 9,578,340 | D |
| Nunavut | 38,683 | D | 25,579 | E | 31,906 | E | 1,051,133 | E | 70,270 | E | 25,299 | E | 1,242,869 | E |
| Canada | 285,489,395 | A | 253,154,176 | B | 936,152,619 | B | 547,190,146 | B | 474,474,425 | B | 92,482,352 | A | 2,588,943,114 | A |
| Average per angler ${ }^{8}$ | 81.99 | A | 72.70 | B | 268.84 | B | 157.14 | B | 136.26 | B | 26.56 | A | 743.49 | A |

Notes:

1. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
2. Cost associated with major spending for fishing equipment only.
3. Cost associated with major spending for camping equipment only.
4. Cost associated with major spending for new and used boating equipment.
5. Cost associated with major spending for new and used special vehicles.
6. Cost associated with major spending for land and/or buildings.
7. Cost associated with other major spending.
8. The average estimate was calculated as household expenditure / total number of (active and inactive) anglers (cf. Table A.1).

Source: Fisheries and Oceans Canada, Economic Analysis and Statistics

Annex A.12 Major purchases and investments, wholly attributable to recreational fishing, by angler category, 2015

| Category | Resident |  | Non-resident Canad |  | Non-resident Oth |  | All Non-residen |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (\$) |  |  |  |  |  |  |  |  |  |  |
| Fishing Equipment | 274,407,488 | A | 6,812,509 | B | 4,051,119 | B | 11,081,907 | B | 285,489,395 | A |
| Camping Equipment | 247,618,021 | B | 4,899,316 | E | 471,372 | D | 5,536,155 | E | 253,154,176 | B |
| Boating Equipment | 895,241,156 | B | 36,936,762 | D | 3,784,728 | D | 40,911,463 | C | 936,152,619 | B |
| - New | 533,141,875 | B | 24,611,691 | E | 2,902,620 | E | 27,562,761 | D | 560,704,635 | B |
| - Used | 362,099,281 | B | 12,325,071 | E | 882,108 | E | 13,348,703 | E | 375,447,984 | B |
| Special Vehicles | 533,907,458 | B | 5,690,113 | E | 6,566,850 | E | 13,282,689 | D | 547,190,146 | B |
| - New | 314,392,807 | B | 3,206,344 | E | 771,061 | E | 4,973,925 | E | 319,366,732 | B |
| - Used | 219,514,651 | C | 2,483,768 | E | 5,795,790 | E | 8,308,764 | E | 227,823,415 | C |
| Land \&/or Building | 354,144,677 | C | 87,907,860 | D | 32,004,552 | E | 120,329,748 | C | 474,474,425 | B |
| Other | 89,394,556 | A | 1,753,979 | C | 1,265,865 | C | 3,087,796 | B | 92,482,352 | A |
| Total | 2,394,713,356 | A | 144,000,539 | C | 48,144,486 | D | 194,229,758 | C | 2,588,943,114 | A |

Notes:

1. Resident anglers only, there are no estimates for non-resident anglers in Quebec.
2. Non-resident origins were not recorded during fieldwork for Newfoundland and Labrador, so they only contribute to the "All non-residents" column. Source: Fisheries and Oceans Canada, Economic Analysis and Statistics

## Annex A. 13 Statistical reliability of selected variables, all active anglers, 2015

| Jurisdiction | Sample Size: Active anglers | Days <br> Fished | Fish Caught | Fish Kept | $\begin{gathered} \text { Sample } \\ \text { size: } \\ \text { All anglers } \\ \hline \end{gathered}$ | Direct Expenditures | Major Purchases and Investments (W/P) ${ }^{2}$ | Major Purchases and Investments (W) ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Number) |  |  | (Coefficient of Variation in \%) ${ }^{1}$ |  |  |  |  |
| Newfoundland and Labrador | 655 | 7.73 | 10.65 | 10.39 | 657 | 10.19 | 17.83 | 14.99 |
| Prince Edward Island | 227 | 10.14 | 14.32 | 21.41 | 237 | 11.21 | 37.45 | 34.86 |
| Nova Scotia | 563 | 5.82 | 12.98 | 14.18 | 622 | 8.07 | 21.36 | 17.41 |
| New Brunswick | 1,029 | 6.36 | 8.20 | 12.08 | 1,078 | 6.17 | 16.67 | 15.19 |
| Quebec ${ }^{4}$ | 2,732 | 4.33 | 7.97 | 10.39 | 2,831 | 5.36 | 10.16 | 9.28 |
| Ontario | 8,305 | 1.96 | 2.31 | 3.43 | 9,168 | 1.68 | 13.09 | 7.33 |
| Manitoba | 963 | 5.17 | 8.53 | 6.88 | 998 | 6.13 | 21.10 | 23.12 |
| Saskatchewan | 1,738 | 3.49 | 5.42 | 4.90 | 1,786 | 4.23 | 15.03 | 13.32 |
| Alberta | 948 | 6.13 | 11.02 | 10.19 | 993 | 6.90 | 25.28 | 15.47 |
| British Columbia Freshwater | 2,502 | 3.42 | 4.64 | 3.86 | 2,777 | 3.54 | 9.83 | 9.46 |
| British Columbia Tidal Waters | 2,510 | 2.92 | 7.53 | 9.05 | 2,740 | 3.16 | 12.04 | 9.50 |
| Yukon | 317 | 8.20 | 14.06 | 12.87 | 374 | 10.00 | 23.70 | 29.14 |
| Northwest Territories | 366 | 8.24 | 7.93 | 9.85 | 376 | 10.32 | 25.65 | 28.18 |
| Nunavut | 58 | 16.72 | 20.98 | 23.65 | 72 | 24.01 | 34.49 | 41.66 |
| Canada | 22,913 | 1.49 | 2.45 | 4.14 | 24,709 | 1.35 | 6.84 | 4.29 |

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


[^0]:    ${ }^{1}$ 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 2015.

[^1]:    ${ }^{2}$ Recreational fishing regions were based on the definitions used by each province or territory
    ${ }^{3}$ Conducted in two provinces: Newfoundland and Labrador and Quebec.

[^2]:    4 This estimate reflects the total number of active anglers in the jurisdictions and angler categories covered in the survey only. In 2015, there is no available survey information for nonresident anglers in Quebec.

[^3]:    ${ }^{6}$ Average of 13 days for all active adult angler categories.
    ${ }^{7}$ This estimate includes all trips to other provinces/territories taken by Canadian non-resident anglers in 2015.

[^4]:    ${ }^{8}$ In 2015, there were 16,695 foreign anglers who fished in BC Freshwater and 34,380 foreign anglers who fished in BC Tidal Waters.

[^5]:    ${ }^{9}$ Commission d'accès à l'information du Québec, http://www.cai.gouv.qc.ca/english/

[^6]:    ${ }^{10}$ 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

