

Sport Fishing in Yukon 1990

Summary Report of the Fourth Survey of Recreational Fishing in Canada

1991
Fisheries Section
Fish and Wildlife Branch



Introduction

Preface

This report summarises the results of a survey of sport fishing in Yukon in 1990. The Yukon survey is part of a national survey that takes place in each province and territory across Canada: the National Survey of Recreational Fishing in Canada. The 1990 edition is the fourth in a series carried out every five years.

The survey collects information about the recreational fishery from both resident and non-resident anglers. Information on a broad array of topics is collected, including the origin of anglers, expenditures and investments related to angling, the kind and number of fish harvested, the amount of time spent fishing, and the quality of fishing in Yukon. These data are used to evaluate the importance of recreational fishing to the public, anglers, the sport fishing industry, and fisheries management agencies. Because of the long times series no available, survey data also provide information on trends in recreational fishing across Canada. These data are used by provincial and territorial fisheries management agencies to make informed management decisions.

The survey was conducted in 1991 by the Fisheries Section of the Fish and Wildlife Branch of the Yukon Department of Environment in co-operation with the Surveys Unit, Economic and Commercial Analysis Directorate, of Canada's Department of Fisheries and Oceans (DFO).

Survey Background

In 1970, recreational fisheries managers from across Canada met to discuss matters of common interest and concern. Participants realised that effective management of the recreational fisheries required a national dataset of basic information on the size, value, socio-economic performance and potential of Canada's sport fisheries. At the time no comprehensive information existed, but data from the only previous survey in 1961, indicated that millions of Canadians and hundreds of millions of dollars were involved.

The idea of a national survey was soon born and fisheries agencies from across the country launched the first nationally co-ordinated set of surveys for the 1975 calendar year. These surveys are intended to provide authoritative data on the magnitude and importance of Canada's sport fisheries and consistent and comparable data from a common group of questions. The success of the 1975 survey led to a second survey in 1980 and a strong commitment to continue the surveys at five-year intervals.

Methods

Survey design

Survey questionnaires are developed based on the common national survey design so that results can be compiled and compared across the country. In addition to the nationally common questions, the Yukon questionnaire also includes questions specific Yukon fisheries and issues. The survey included questions about:

- fishing activity: time spent fishing, type of waters, species caught and kept
- stocked lakes program
- satisfaction with the fishing experience
- assessment of the status and trends of Yukon's fisheries
- opinion on fisheries management
- financial expenditure information on fishing and fishing related activities
- basic demographic information.

Survey implementation

Resident and non-resident anglers were selected using stratified, systematic random sampling of data sets of anglers who held a fishing licence during the survey year. Surveys were mailed out to the random subset of anglers along with a cover letter that explained the purpose of the survey and encouraged respondents to participate. Seven weeks following the first mail-out a second mail-out to all non-respondents was done, which increased the response rate. Completed surveys were sorted, screened, coded, and analyzed.

Results and Discussion

Angler Profile

There were 15,959 licensed adult anglers in the Yukon in 1990, of that 49% (7,824) were residents of the territory (Table 1).

Table 1. Numbers and Characteristics of Anglers in Yukon, 1990.				
	Resident	Canadian non-resident	Other non-resident	Total
Total Licensed Adult Angling Population (a)	7,824	3,597	4,538	15,959
Active Adult Anglers				
-Males	4,888	2,297	3,587	10,772
(Average Age, Years)	38	55	51	48
-Females	1,703	274	696	2,673
(Average Age, Years)	36	59	49	48
Total Active Anglers - Adults	6,591	2,571	4,283	13,445
Children (b)	679	149	154	982
Total Active Anglers – All Ages	7,270	2,720	4,437	14,427

a) Individuals who purchased angling licence in the Yukon. This group provides the basis for the statistical information in this bulletin.

b) Individuals under 16 years of age.

About 84% of licenced resident anglers and 83% of non-residents actively fished in 1990. As well, 982 children under the age of 16 living in licensed anglers' households also fished, bringing the total number of active anglers in the Yukon to 14,427.

The impact on the Yukon's sport fishery of the large number of anglers under 16 years of age, who are not covered by this survey, is probably considerable. Seventy-four percent of the active resident adult anglers were male and 26% were female. For non-residents 86% were male and 14% were female. The average age of all anglers was 48 years.

Approximately 66% of resident anglers rated themselves as either average or experienced anglers, 3% as experts, and 18% as beginners. 83% of non-resident Canadians rated themselves as either average or experienced anglers, and 5% as experts. 5% of non-resident non-Canadian anglers rated themselves as beginners, 39% as experienced or average, and 13% as beginners.

The majority of resident and non-resident anglers consulted family or friends most often when deciding upon a place to fish. Travel agencies, tackle shops and tourism departments were rarely consulted.

In 1990, rainbow trout in the Kathleen River system and McLean lakes were subject to catch-and-release fishing only. The attitudes of active anglers towards catch-and-release fishing are summarised in Table 2.

Table 2. Attitude of Active Anglers on Catch and Release in Yukon, 1990.						
	Practised				Did not Practice %	Unknown %
	Mandatory %	Voluntary %	Both %	Unknown %		
Resident	0.3	50.9	7.5	0.7	39.8	0.8
Canadian non-resident	2.8	45.3	7	0.7	40.4	3.8
Other non-resident	1.1	49.9	6.4	2	37.7	3

Sixty-six percent of resident anglers, 50% of non-resident Canadian anglers and 43% of non-resident non-Canadian anglers support fishing derbies or tournaments (Table 3).

Table 3. Anglers who Agree with Holding Derbies or Tournaments in Yukon, 1990.			
	Resident %	Canadian non-resident %	Other non-resident %
Yes	66.3	49.8	43.3
No	31.8	45.3	49.4
Unknown	1.9	4.9	7.3

Only 10% of resident anglers and 5% of non-resident anglers actively participated in derbies or tournaments in 1990 (Table 4).

Table 4. Anglers who Participated in Fishing Derbies or Tournaments in Yukon, 1990.			
	Resident %	Canadian non-resident %	Other non-resident %
Yes	10.1	1.9	5
No	89.9	98.1	95

Fishing Effort

Anglers in the Yukon fished a total of 123,686 days in 1990. On average, each angler spent nine days fishing in 1990. Resident anglers fished an average of thirteen days, while non-resident Canadians spent an average of seven days at their sport and non-resident non-Canadians spent an average of six days at their sport.

Most fishing (95%) occurred during the period April through September. Resident anglers fished a total of 6,141 days through the ice, while non-resident non-Canadian's spent 328 days fishing through the ice.

For the purposes of analysis, the Yukon's sport fishery was divided into seven. Resident anglers showed a decided preference for the South Central region (which is the area that contains most of the resident population), where they spent over a third of their fishing time. Another third of their time was divided between the Central and South West regions. For their part, non-residents favoured the South Central, South West and South East regions. Overall, a third of the year's sport fishing activity took place in the South Central region.

Harvest

In 1990, anglers in the Yukon caught an estimated 320,810 fish of all species and retained 105,006 of them (Table 5).

Fish Species	Resident		Canadian non-resident		Other non-resident		Total	
	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept
Arctic Grayling	75,534	26,194	31,891	8,489	44,164	11,392	151,589	46,075
Lake Trout	28,154	14,708	13,568	3,130	23,019	6,378	64,741	24,216
Rainbow Trout	13,243	6,839	7,219	2,093	3,385	1,520	23,847	10,452
Northern Pike	29,873	11,824	4,514	891	27,112	3,969	61,499	16,684
Whitefish	908	844	1,292	551	1,309	245	3,509	1,640
Coho	1,586	407	0	0	594	155	2,180	562
Sockeye	4,465	2,035	112	35	160	29	4,737	2,099
Chinook	2,481	968	112	52	375	211	2,968	1,231
Arctic Charr	857	64	941	104	61	0	1,859	168
Other	1,354	681	432	121	2,095	1,077	3,881	1,879
Total	158,455	64,564	60,081	15,466	102,274	24,976	320,810	105,006

Resident anglers caught 49% of the total number of fish caught and kept 61%. Non-resident non-Canadian anglers caught 32% of the total number of fish caught, but kept 24% while non-resident Canadians kept only 15% of the

fish caught. Arctic grayling and lake trout were the most widely taken species, with Arctic grayling alone accounting for 44% of the harvest by number. Of the ten fish retained on average, five were Arctic grayling, three were lake trout, one was northern pike and one was "other" species. Arctic grayling, lake trout and rainbow trout were the species most sought after by resident and non-resident anglers. All anglers combined caught on average 24 fish, but kept only 7, with resident anglers keeping the most fish at 10, while non-residents kept 4 less at 6 fish (Table 6).

From the fish harvested by all anglers in the Yukon the total weight was approximately 253,895 pounds or (115,167 kilograms).

Table 6. Disposition of Fish Caught and Kept by Anglers in Yukon, 1990 (in pounds).				
	Resident	Canadian non-resident	Other non-resident	Total
Total Fish Caught	158,456	60,081	102,276	320,813
Ave. per Angler	24	23	24	24
Total Fish Kept	64,566	15,465	24,977	105,008
Ave. per Angler	10	6	6	7
Total weight of Fish Kept	167,830	29,800	56,265	253,895
Ave. per Angler	25	12	13	17
Total weight of Fish Eaten	155,843	27,831	47,042	230,716
Ave. per Angler	24	11	11	15

Motivations

Non-resident anglers made 14,608 trips to the Yukon in 1990, or about two trips per angler. Seventy-one percent of these trips were fishing trips.

The use of accommodations appears to reflect the origins of the non-resident anglers. Approximately 15% of the time they stayed with friends and relatives; 26% of the time they wilderness camped; and 17% of the time they stayed in territorial campgrounds (Table 7).

Table 7. Trip Characteristics of Non-resident Anglers in Yukon, 1990.	
Characteristics	Number
Trips to the Yukon (all reasons)	14,608
Fishing trips to the Yukon	10,378
Days spent for all reasons	109,777
Days fished	40,806
Fishing trips	
Main reason for visit	4,108
Secondary reason	4,340
Decided upon after arrival	1,931
Accommodation used on overnight trips	
Friends and relatives	9,177
Cottages	205
Wilderness camping	16,010
Camping in territorial parks	10,461
Camping on crown lands	3,401
Camping in commercial campgrounds	8,978
Lodge	5,634
Other commercial lodging	2,987
Other accommodation	5,770
Total night spent on fishing trips	62,623

Only 35% of licensed adult resident anglers fished outside the territory in 1990. They fished mainly in Alaska and British Columbia and usually while on vacation, at the cottage or on business.

Resident and non-residents alike listed the environment as the most important factor in their enjoyment of sport fishing in the Yukon. The quality of the water, the natural beauty of the area and the presence of wildlife were other important components of their fishing trip. Other important factors were the lack of pollutants in fish, the presence of favourite species and privacy from other fishing parties. Anglers assigned little importance to access to recreational facilities, and nearness to food, lodging and tackle shops (Table 8).

Table 8. Average Ratings of Factors Which Play a Role in Determining the Choice of Fishing Destination in Yukon, 1990.			
Factors Ratings: 1(not important) 5(very important)	Resident	Canadian non-resident	Other non-resident
Water quality	4.4	4.3	4.4
Natural Beauty	4	4	4.1
Presence of Wildlife	3.2	3.2	3.3
Shorefishing	3.4	3.3	3.3
Lack of Angler Crowding	4	3.9	4.2
Absence of Other Anglers	3.4	3	3.6
Nearness to Food/Lodging	1.5	1.8	2.1
Tourist Facility	1.8	2.5	2.1
Boat Launching/Marina	2.3	2.5	2.1
Access to Recreational Facilities	1.6	1.7	1.8
Nearness to TackleShops	1.3	1.6	1.8
Parking Availability	2.1	2.8	2.4
Availability of Handicapped Facilities	1.7	1.6	1.5
Lack of Pollutants in Fish	4.5	4.2	4.4
Size of Fish	3	3.2	3.3
Chance to Catch a Trophy Fish	2.2	2.3	2.5
Catch Rate of All Fish	3	3	3.4
Catch Rate of Fish You Keep	2.9	2.7	3.2
Presence of Favourite Species	3.2	3.1	3.3
Variety of Species	2.9	2.8	3.2
Distance/Travel Time	2.8	2.7	2.7
Information About the Area	2.7	3.5	3.6

The majority of anglers rated relaxation, enjoying nature and "getting away" as extremely important reasons to fish. Less important reasons were catching a trophy fish and a sense of achievement.

In 1990, 23% of resident anglers also hunted game in the Yukon (Table 9).

Table 9. Percentage of Anglers that Hunted for Game in Yukon, 1990.		
Residents		
Yes	No	Unknown
23	64	12.6

Out of the 7,824 resident adult anglers that fished in 1990; 2,207 performed volunteer work in support of the recreational fishery. Approximately 9% of licensed adult resident anglers were members of a national or territorial wildlife organisation or local fish and game association (Table 10).

Table 10. Percentage of Anglers who were members of an organised angling group in Yukon, 1990.		
Residents		
Yes	No	Unknown
8.9%	78%	12.8%

Approximately 18% of active non-resident Canadian anglers and 23% of active non-resident non-Canadian anglers indicated they would return to the Yukon to fish. Seventy-three percent of non-resident Canadian and 67% of non-resident non-Canadian anglers said they would not return to the Yukon for sport fishing (Table 11).

Table 11. Projected future participation of active non-resident Anglers to fish in Yukon, 1990.		
Return	Canadian non-resident	Other non-resident
Yes	18.4%	22.9%
No	73.0%	66.8%
No Opinion	8.7%	10.3%

Approximately 50% of non-resident anglers said they would have substituted other activities if there had been no fishing opportunities (Table 12).

Table 12. Attitude of Non-resident Anglers if there had been no Fishing Opportunities in Yukon, 1990.		
Activity	Canadian non-resident	Other non-resident
Stayed Shorter Time	18.8%	26.1%
Substitute Other Activities	48.8%	42.3%
Not Come At All	8.3%	16.4%
No Opinion	24.0%	15.2%

Sixty-six percent of non-resident Canadians and 73% of non-resident non-Canadians rated the quality of fishing in the Yukon as good to excellent; 16% of non-resident Canadians and 15% of non-resident non-Canadians rated the quality as fair; another 17% of non-resident Canadians and 12% of non-resident non-Canadians rated the quality as poor; and less than 2% chose not to answer the question or had no opinion (Table 13).

Rating	Resident %	Canadian non-resident %	Other non-resident %
Excellent	13.3	19.5	24.5
Very Good	17.2	25.8	21.9
Good	39.5	20.3	26.3
Fair	17.8	15.8	14.8
Poor	11.2	17.0	12.2
No Opinion	1.0	1.6	0.3

Willingness to Pay

Active anglers were asked, "If your fishing costs had been higher in the Yukon in 1990 due to increased costs for gasoline, accommodation, supplies and other services, at what additional daily cost would you have decided not to fish?" Multiple choice answers were set at \$10 intervals up to \$100 per day (Table 14). Eighteen percent indicated they were willing to pay less than \$10.00 additional costs per day. Forty five percent of anglers were willing to pay between \$10.00 to \$20.00 additional costs per day.

Seventy one percent of resident anglers and 60% of non-resident anglers were willing to pay additional costs for recreational fishing in the Yukon. Twenty-nine percent of resident anglers and 41% of non-resident anglers were not.

Additional Cost Per Day	Resident %	Canadian non-resident %	Other non-resident %	Total %
Unknown	5.1	3.3	3.5	4.3
Less than \$10.00	13.1	24.1	22.5	17.8
\$10.00	23.8	28.4	29.5	26.3
\$20.00	23.4	16.1	12.4	18.7
\$30.00	7.8	8.6	6.9	7.6
\$40.00	6.6	6.9	1.6	5
\$50.00	14.2	6	16	13.6
\$60.00	0	0.7	0.8	0.4
\$70.00	0.5	0	0.4	0.4
\$80.00	2.8	0	0.6	1.6
\$90.00	0	0.7	0	0.1
\$100.00	2.8	5.3	3.1	3.3
More than \$100.00	0	0	2.5	0.8

The majority of licensed anglers felt that the price of a Yukon fishing licence was appropriate (Table 15).

	Resident %	Canadian non-resident %	Other non-resident %
Too Low	4	1.9	1.1
Appropriate	64.1	66	82.2
Too High	18	27.5	10
Unknown	13.9	4.5	6.7

Anglers were asked if they would pay more for a fishing licence, or purchase a special stamp to directly fund recreational fishing enhancement projects in the Yukon. Residents were more willing than non-residents to pay for this (Table 16).

	Resident %	Canadian non-resident %	Other non-resident %
Yes	44	38	40.2
No	43.1	49.9	52.9
Unknown	12.8	12.1	6.9

Expenditures and Investments

Anglers in the Yukon invested \$7.5 million on major durables and property in 1990 (Table 17) of which \$4.2 million, or 56% was attributed to sport fishing activities.

Special vehicles (ATV's, snowmobiles, camper trucks etc) were popular items for residents, accounting for \$4 million (54% of the investments), while boats and fishing equipment attracted another \$1.7 million. Resident anglers alone accounted for \$7.4 million spent in the Yukon on major fishing related purchases, or 98% of the overall total.

Residents spent \$109,059 on major purchases outside of Canada and \$91,597 on mail-order purchases.

Yukon residents spent \$4.1 million attributed totally to sport fishing or 97% of the total spent by all anglers.

Expenditures \$	Resident	Canadian non-resident	Other non-resident	Total
Fishing Equipment	482,660	19,309	14,248	516,217
Boating Equipment	1,296,894	26,763	16,387	1,340,044
Camping Equipment	659,433	11,151	1,910	672,494
Special Vehicles	4,012,922	1,151	26,813	4,040,886
Land/Buildings	785,273	1,151	4,456	790,880
Other	168,520	11,632	8,835	188,987
Total	7,405,702	71,157	72,649	7,549,508
Total Attributable to Sport Fishing	4,106,367	67,992	45,296	4,219,655

In direct expenditures resident anglers accounted for the most money spent at \$3.4 million. The largest amount was spent on food and travel costs by all anglers (Table 18).

Expenditures \$	Resident	Canadian non-resident	Other non-resident	Total
Food/Lodging	1,288,488	670,179	959,963	2,918,630
Transportation	1,204,895	580,953	597,850	2,383,698
Fishing Services	66,925	12,726	38,654	118,305
Fishing Gear	458,471	117,024	173,659	749,154
Household Owned Boat Costs	435,629	13,298	10,041	458,968
Other	31,639	35,470	151,506	218,615
Total	3,486,047	1,429,650	1,931,673	6,847,370

Packages, which included the costs of aircraft, lodge facilities, and charter boats, accounted for 23% of non-resident expenditures. A total of \$2,374,575 was spent on packages purchased in the Yukon by all anglers (Table 19).

Package	Resident (62 households)		Canadian non-resident (237 Households)		Other non-resident (494 Households)		Total Cost \$
	Total Cost	Avg per Household	Total Cost	Avg per Household	Total Cost	Avg per Household	
Fly-in Camp	0	0	384,535	1,625	1,176,206	2,383	1,560,741
Lodge	35,668	574	122,016	516	145,188	294	302,872
Other	0	0	445,789	1,884	65,173	132	510,962
Total	35,668	574	952,340	4,025	1,386,567	2,809	2,374,575

Comparison with 1985 Results

Licence sales in the Yukon were up by 5% in 1990 and the total number of active anglers increased by 6%. While resident licence sales increased by 14%, the number of non-resident licences sold dropped by 3% from 8,349 licences

sold in 1985 to 8,135 licences sold in 1990, a difference of only 214 licences (Table 20).

Resident and non-resident anglers fished 368 more days in the Yukon in 1990 than in 1985. Non-residents increased their fishing activity by 13%, spending approximately 40,806 days fishing in 1990 as compared to 36,100 days in 1985. Residents fished approximately 4,320 fewer days in 1990, resulting in a 5% decrease.

The total harvest of all species combined was down by 4% from 108,712 thousand fish caught and retained in 1985 to 105,006 thousand caught and retained in 1990.

Direct expenditures by all licensed anglers in the Yukon were 21% higher in 1990, from \$5.6 million spent in 1985 to \$6.8 million in 1990. The major purchase and investment category increased by 29% and likewise, the amount of purchases and investments which were totally attributable to sport fishing was up 27%, but some of this difference was likely due to different wording of the question with a broader range of suggested categories in 1990.

Table 20. 1985-1990 Comparisons of Angler Characteristics, Days Fished, Species Harvested and Expenditures in Yukon.

	Resident			Non-resident			Total		
	1985	1990	Change	1985	1990	Change	1985	1990	Change
Total Licensed Angling Population	6,862	7,824	14.0%	8,349	8,135	-2.6%	15,211	15,959	4.9%
Total Active Adult Anglers	5,526	6,591	19.0%	7,132	6,854	-3.9%	12,658	13,445	6.2%
Total Days Fished	87,200	82,880	-5.0%	36,100	40,806	13.0%	123,300	123,686	0.3%
Total Fish Caught & Retained	70,772	64,564	-8.8%	37,940	40,442	6.6%	108,712	105,008	-3.4%
Total Direct Expenditures	2,567,200	3,486,047	35.8%	3,085,700	3,361,323	8.9%	5,652,900	6,847,370	21.0%
Major Purchases and Investments	5,576,700	7,405,702	32.8%	274,000	143,806	-47.5%	5,850,700	7,549,508	29.0%
Total Attributable to Sport Fishing	3,176,600	4,106,367	29.3%	142,000	113,288	-20.3%	3,318,800	4,219,655	27.1%

Conclusions

The results of the 1990 survey of sport fishing in the Yukon confirm that it is a significant form of outdoor recreation and an important socio-economic component of the natural resource sector in the territory. It is estimated anglers spent \$6.8 million on Total Direct Expenditures associated with sport fishing. These included expenditures for accommodation, food, travel, bait licenses, etc. Additionally, anglers invested \$7.5 million on major durables and property, of which \$4.2 million was used for sport fishing.

Economists generally agree that the first round of expenditures in most segments of the business world do not adequately reflect the full impact on spending as described above. As money circulates into associated businesses, the economic effect increases by a factor of 1.5 or more.

Anglers also indicated they were prepared to spend additional money above their current costs in 1990 before they would stop fishing. Although this information has not yet been taken into consideration in addressing the total value of the fishery, it does indicate that anglers place more value on the resource than they currently spend.

Overall, 13,445 adults actively fished for sport in the Yukon in 1990. 6,591 of these active adult anglers were residents of the territory. Anglers fished a total of 123,686 days in 1990, and they harvested 105,008 fish of all species. These fish weighed 115,167 kilograms or 253,895 pounds.

Yukon anglers indicated they were more concerned about the fishing experience than they were about catching fish. They rated natural beauty of the territory and quality of the water as the two most important factors, while nearness to food/lodging and access to recreational facilities were least important. Although fish provide the focus for angling activity, other elements must be considered by managers in order to provide a greater recreational fishing experience.

In summary, the average Yukon angler in 1990 was 48 years old, strongly preferred to fish for Arctic grayling and lake trout, and felt that natural beauty of surroundings and quality of water were the most important factors influencing a day's fishing. This average angler fished 9 days while catching 10 fish.