ANGLER HARVEST SURVEY

KATHLEEN RIVER 2004

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Foos, A. (2007). Angler Harvest Survey: Kathleen River 2004 Yukon Fish and Wildlife Branch Report TR-07-01, Whitehorse, Yukon, Canada.

Key Findings

- Harvest levels appear sustainable because they have been stable over time and fish catchability remains high.

- We estimate 3,757 hours of angling effort were expended by 1,398 anglers in 799 parties over the summer, for an average of 2.7 hours per angler. These results are high for a fishery on such a small section of river.

- Angler success, as measured by the number of fish caught per hour of angling, was high for all species compared to other Yukon fisheries surveyed to date and stable from past surveys.

- 2,383 Arctic grayling, 949 rainbow trout, 846 lake trout, and 132 round whitefish were estimated caught.

- Most fish were released. Retention rates were 0% for rainbow trout (required by regulation), 5% for Arctic grayling, 16% for lake trout and 25% for round whitefish.

- We estimate 141 kilograms of lake trout and 75 kilograms of Arctic grayling were harvested over the summer.

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Introduction

Kathleen River is a very popular fishery. It is in a beautiful setting, is easily accessible by major highway, and is close to communities. Good fishing is readily available from shore or with waders, and a variety of fish species (in particular native rainbow trout) are present seasonally. Most angler effort is focused on the small section of river adjacent to the highway.

Kathleen River has been identified as a priority by management agencies and advisory bodies. As a result, the fishery has been assessed on three previous occasions: 1990, 1995, and 1999.

The 2004 survey was done to monitor

- effort by both tourist and resident anglers;
- characteristics of the fishery and patterns of use;
- success rate of anglers for all species of fish; and
- levels of harvest in relation to productive capacity.

In addition to collecting information about the fishery, contractors

- provided anglers with information about new regulations in place for 2004; and
- established a fisheries management presence.

Harvest Regulations

In the 2004/2005 season the new lake trout catch limit was 1 fish per day and in possession, and all fish longer than 65 cm were required to be released. The new Arctic grayling catch limit was 2 fish per day and in possession, and all fish longer than 40 cm were required to be released. Round whitefish catch limits remained 5 fish per day (10 in possession) with no size restrictions. Anglers continued to be required by regulation to use single barbless hooks and release all rainbow trout caught. The regulation history for the Kathleen River is detailed in Appendix 1.

Survey Methods

Angler harvest surveys, also called creel surveys, are conducted on various Yukon recreational fisheries each year. These surveys, in combination with other fish and fishery-related assessments are used to determine if the angler effort and harvest are sustainable under the existing regulation regime.

In 1990 Environment Yukon adopted survey methodology and related analysis software developed by the Ontario Ministry of Natural Resources (Lester and Trippel, 1985). Environment Yukon endeavors to conduct this type of survey on key Yukon fisheries every 5 years or as angler patterns and management concerns dictate. This frequency is appropriate to detect significant changes in either harvest or effort and to be able to take any necessary management actions in a timely manner.

Surveys consist of a field worker conducting face to face interviews with anglers on selected sample days throughout the summer. Anglers are asked a standard set of questions used to characterize the social and biological aspects of the fishery. Data gathered includes such things as:

- How much time did anglers spend fishing?
- What fishing methods did anglers use?
- How did anglers fish (boat, shore, etc…)?
- Were anglers guided?
- Where were anglers from?
- What type of visitor were anglers (day users, campers, etc…)?
- What kinds of fish were anglers trying to catch?
- How many fish did anglers catch?
- How many fish did anglers release?

Any additional information offered by anglers relating to any aspect of their experience is also recorded.

The field worker also collects biological data from the catch of cooperative anglers. Biological data gathered includes: length (mm), mass (g), sex, maturity, the collection of an aging structure appropriate to the species, as well as the collection of stomachs for content analysis in the lab. Any additional information as to general health and condition of the fish is recorded by the field worker (for example, abnormalities, disease, or lesions).

Weather over the entire sample day is subjectively assessed by the field worker as to its effect on angling activity (no possible adverse effect, possible adverse effect, definite adverse effect).

Survey timing varies depending on management objectives, key species and the fishery, but typically runs from ice out in the spring until either just after Labour Day or to the end of September. The survey is subdivided into several related subsets or periods, rather than pooling across the entire survey, to allow more detailed assessment of the data. For example, data are typically subdivided into several seasonal periods (usually 3 or 4) which are further partitioned into weekends and weekdays. Sample days are selected from the total number of available days within the survey period to ensure that sample size in each period is sufficient to allow analysis and to weight sampling toward the periods

with the greatest angler use based on previous surveys and knowledge of the fishery. We attempt to sample at least 20% of the survey days.

Sample days are 14 hours long, 8:00 a.m. to 10:00 p.m. On sample days, all agreeable angling parties are interviewed by the field worker and angling parties observed but not interviewed are recorded.

At the completion of the survey, the data is entered and analyzed utilizing the computer program CREESYS (1985) developed by the Ontario Ministry of Natural Resources. Laboratory analysis is conducted on samples to determine stomach contents and ages.

2004 Kathleen River Survey

The survey began May 17 (ice out) and concluded September 30, 2004.

Access survey methodology was used, meaning the field worker was stationed at the roadside pullout adjacent to the Haines Road at the Kathleen River bridge (Figure 1) for the entire sample day and interviewed angling parties at the end of their fishing trip. Previous surveys and local knowledge indicated that most anglers access the Kathleen River at this point and fish downstream of the bridge, although a limited amount of angling activity has been recorded upstream of the bridge within Kluane National Park (requiring a National Park angling licence).

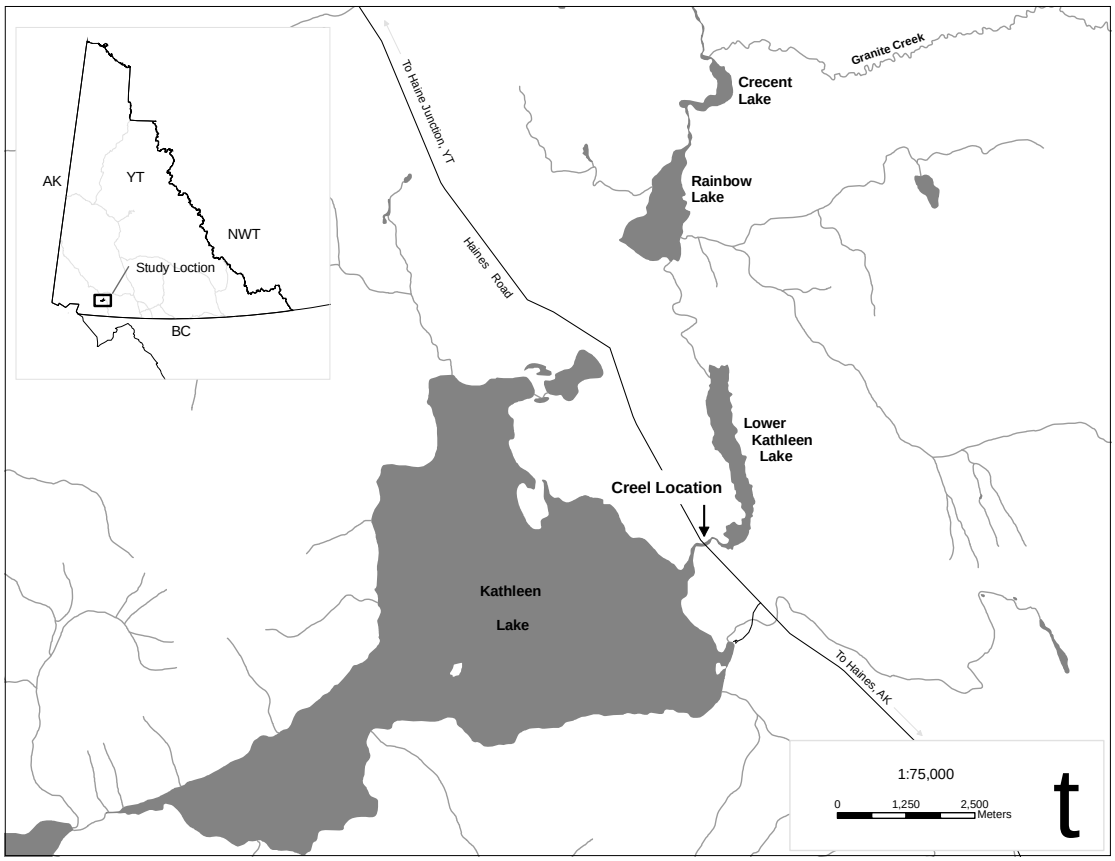

Figure 1. Location of 2004 Kathleen River angler harvest survey.

An angler harvest survey of Kathleen Lake, just upstream within Kluane National Park was done in cooperation with Park Canada concurrent with this survey and is reported elsewhere (Foos, in prep.).

The survey period was partitioned into 8 time periods, weekends and weekdays in late May/June, July, August/early September and late September. Of the 137 day survey period, 27 days were sampled, resulting in a sampling effort of 20%.

Data analysis was divided into two parts. In the first part, data was combined across all 8 time periods, and in the second part results were compared between time periods. All data were analyzed at the party level.

2004 Results: All Periods Combined

Effort

We estimate a total of 3,757 hours of angler effort were expended by 1,398 anglers on the Kathleen River over the 2004 survey period. This worked out to an average of 27.4 angler hours per day over the entire survey, or an average of 2.7 hours per angler. These estimates were based on the field worker observing 790 hours of angler effort expended by 294 anglers in 168 groups.

Methods of Angling

Fly casting was the most popular method of fishing in the Kathleen River in 2004, followed by spin casting and then combinations of methods (Table 1).

Table 1. Angling Methods, Kathleen River Angler Harvest Survey 2004.

Method of Angling	Percent of Parties
Fly casting	44%
Spin casting	35%
Combinations	17%
Jigging	2%
Drift fishing	1%
Still fishing	1%

Methods of Access

A majority of anglers accessed the Kathleen River fishery from shore in 2004. A few anglers used boats and canoes to access downstream portions of the river (Table 2).

Table 2. Angler Access Methods, Kathleen River Angler Harvest Survey 2004.

Access Method	Percent of Parties
Shore	87%
Motorboat	7%
Canoe	5%
Rowboat	1%

Guided Anglers

Few anglers (4% of the parties surveyed) were formally guided on Kathleen River in 2004. Although not formally guided, clients of Dalton Trail Lodge accounted for approximately 25% of anglers fishing in the river.

Angler Origin

Anglers originating from locations other than North America (mostly Europeans) were the most frequent fishers at the Kathleen River in 2004, followed by Whitehorse anglers (Table 3). The local angler category includes immediate residents as well as people from Haines Junction.

Table 3. Angler Origin, Kathleen River Angler Harvest Survey 2004.

Origin	Percent of Parties
Whitehorse	29%
Non-resident Canadians	13%
U.S	12%
Local	9%
Yukon	2%
Other (usually Europeans)	35%

Visitor Type

A majority of anglers were day users at the Kathleen River in 2004, with others utilizing local campgrounds and a few anglers camping out on unoccupied Crown land (Table 4).

Table 4. Angler Visitor Type, Kathleen River Angler Harvest Survey 2004.

User Type	Percent of Parties
Day users	77%
Camper – Territorial campground	16%
Camper – Crown Land	5%
Camper – Private campground	2%

Weather

Weather at the Kathleen River in 2004 had little adverse effect on fishing activity (Table 5).

Table 5. Sample Day Weather, Kathleen River Angler Harvest Survey 2004.

Did Weather Effect Angling?	Percent of Parties
No possible adverse effect	70%
Possible adverse effect	26%
Definite adverse effect	4%

Targeted Species

Anglers targeting a particular species were more successful than those that did not (Table 6). However, many Kathleen River anglers were very knowledgeable and experienced and targeted several species in a single visit.

Round whitefish data were the most notable in this category. Although only 4% of anglers specifically targeted whitefish, those anglers were responsible for 46% of the round whitefish catch and 43% of the round whitefish harvest. Fifty percent of anglers were targeting Arctic grayling, and were responsible for 63% of the catch and 86% of the Arctic grayling harvest. Thirty percent of anglers were targeting lake trout, and were responsible for 73% of the catch and 67% of the lake trout harvest. Although regulation prohibits rainbow trout harvest, 29% of anglers were targeting this species, and these anglers were responsible for 48% of the rainbow trout catch.

Table 6. Catch and Harvest by Anglers Targeting Specific Species, Kathleen River Angler Harvest Survey 2004.

	Percent of Parties	Percent of Total Catch	Percent of Total Harvest
Rainbow trout	29%	48%	No Harvest
Lake trout	30%	73%	67%
Round whitefish	4%	46%	43%
Arctic grayling	50%	63%	86%

Catch and Harvest

Arctic grayling were the most heavily caught and harvested species, but had the lowest retention rate (Table 7). Lake trout and rainbow trout were caught in similar numbers, but all rainbow trout were released (by regulation) while 16% of the lake trout are retained. Round whitefish were the least caught species, but had the highest retention rate.

Table 7. Angler Catch and Harvest, Kathleen River Angler Harvest Survey 2004.

	# Caught		# Kept		Retention Rate (Observed)
	Observed	Estimated	Observed	Estimated	
Rainbow trout	189	949	0	0	0%
Lake trout	186	846	30	125	16%
Round whitefish	28	132	7	17	25%
Arctic grayling	541	2383	29	157	5%

Estimated angler success rates, calculated over the entire survey as numbers of fish caught per hour of angling effort (CPUE), is presented for all anglers (regardless of target species) and for species anglers (those targeting a specific species) in Table 8. As expected, anglers targeting a specific species were more successful than those angling for all species, but particularly so for round whitefish, as these fish require skill and experience to catch. Results for all anglers and species exceed Yukon averages and range from good to excellent.

Table 8. Estimated Catch per Unit of Effort (Fish/Hour), Kathleen River Angler Harvest Survey 2004.

	All Anglers CPUE	Species Anglers CPUE
Rainbow trout	0.25	0.31
Lake trout	0.23	0.51
Round whitefish	0.04	0.36
Arctic grayling	0.63	0.70

2004 Results: Comparisons between Periods

Effort

Mean daily angler effort was comparatively low on both weekends and weekdays in late May/June. Effort increased on July weekdays, again on August/early Sept weekends and again on both weekends and weekdays in late September. Effort on weekdays in the August/early September period was the lowest of the sampling period. By far the heaviest use occurred in late September, with weekday effort nearly as high as weekend effort (Figure 2) as anglers targeted lake trout moving into the river to spawn.

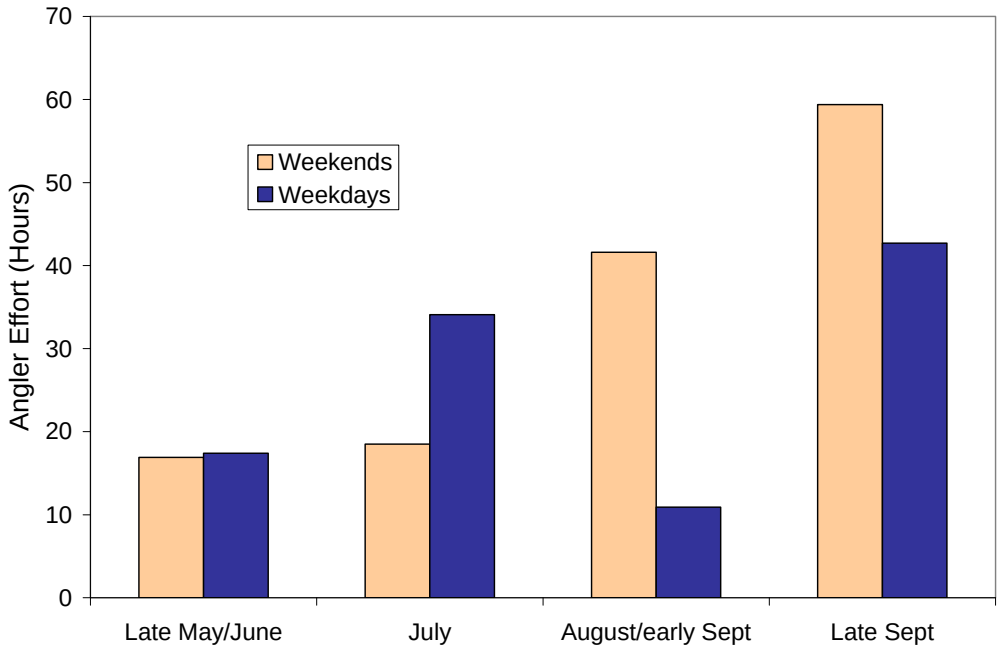

Figure 2. Estimated angler effort per day, Kathleen River Angler Harvest Survey 2004.

Fishing Methods

Fishing methods were relatively consistent throughout the first six periods of the survey, with a reasonably even split between spin casting and fly casting along with a scattering of combination methods. The only variations were July periods when spin casting was the most common method. Both weekends and weekday periods in late September showed a large increase in fly casting methods to more than triple the number of spin casters. There was also an increase in combination methods in both late September periods.

Guided Anglers

Guided parties were evenly distributed in all periods in which they occurred, but were absent on August/early September weekdays and late September weekends.

Angler Origin

Origin of anglers was relatively consistent over the survey period, with the following exceptions. Use of the area by local (including Haines Junction) anglers was highest on July weekends. Whitehorse anglers were at least three times more common on weekends as weekdays in all periods. Non-resident Canadian anglers were few in the early and later periods, peaking in the July periods. Numbers of American anglers were consistent over the early portions of the survey, but doubled in both late September periods. The number of anglers from elsewhere (mostly European) tripled in the late September periods.

User Type

Day users were by far the dominant users in all periods, followed by campground users. Private campground users only appeared on late May/June weekends, and campers staying on Crown land were present only on July and late September weekends.

Weather

The influence of weather on angling activity was not analyzed by period.

Catch

Rainbow trout CPUE was reasonably high over most of the summer, but decreased in the late September periods (Table 9). Lake trout CPUE was the opposite. It was lower in the early periods and then increased dramatically in the late September periods. Round whitefish were caught only in the second half of the summer, with relatively low success. Arctic grayling CPUE was low in the late May/June periods but then very high for all other periods of the survey.

Catch per unit effort of these species is consistent with what is known about patterns of habitat use within the river. Arctic grayling move into the river during the spring and are resident throughout summer. Rainbow trout move in through the spring and appear to remain only until lake trout numbers increase in the fall. Lake trout use the river system primarily in the fall as part of a pre-spawning movement. Research has shown that a portion of lake trout that normally reside in Kathleen Lake participate in this movement

(MacKenzie-Grieve, 2005). Round whitefish are also more abundant in the fall periods perhaps as part of a spawning movement.

Catch per unit of effort for all species is affected by the increasing angler effort in the fall periods which comprises many skilled anglers who are often targeting this lake trout movement. This focused effort contributes to the fall pattern of increasing lake trout CPUE and the corresponding decrease in rainbow trout CPUE as many anglers switch focus from rainbow trout to lake trout once they are present in the river.

Table 9. Estimated Catch per Unit of Effort (Fish/Hour) by Period, Kathleen River Angler Harvest Survey 2004.

	Rainbow Trout	Lake Trout	Round Whitefish	Arctic Grayling
Late May/June weekends	0.31	0.09	0.00	0.19
Late May/June weekdays	0.36	0.01	0.00	0.13
July weekends	0.21	0.10	0.00	0.74
July weekdays	0.32	0.02	0.00	0.48
August/early September weekends	0.41	0.10	0.01	0.99
August/early September weekdays	0.49	0.12	0.12	0.64
Late September weekends	0.12	0.37	0.06	0.75
Late September weekdays	0.08	0.58	0.08	0.92

Biological Data

Sixteen lake trout were sampled for biological data. Mean fork length was 472 mm, and mean weight was 1125 g, suggesting a mean condition factor of 1.07. This is an average condition factor (the relationship between length and weight) for lake trout in Yukon. Most of the harvested lake trout were between 475 and 500 mm (Figure 3). Estimated weight of lake trout harvested by anglers over the summer (harvest estimate *x* mean weight) was 141 kg.

Ages were only available from 10 of the sampled lake trout. Mean age was 12 years (ranging from 7 to 23 years). These ages show slightly younger than typical results, although the sample size is small. Note that young fish (less than 7 years) are not vulnerable to angling gear and regulation does not allow harvest of larger fish. These portions of the population are therefore under represented in the sample.

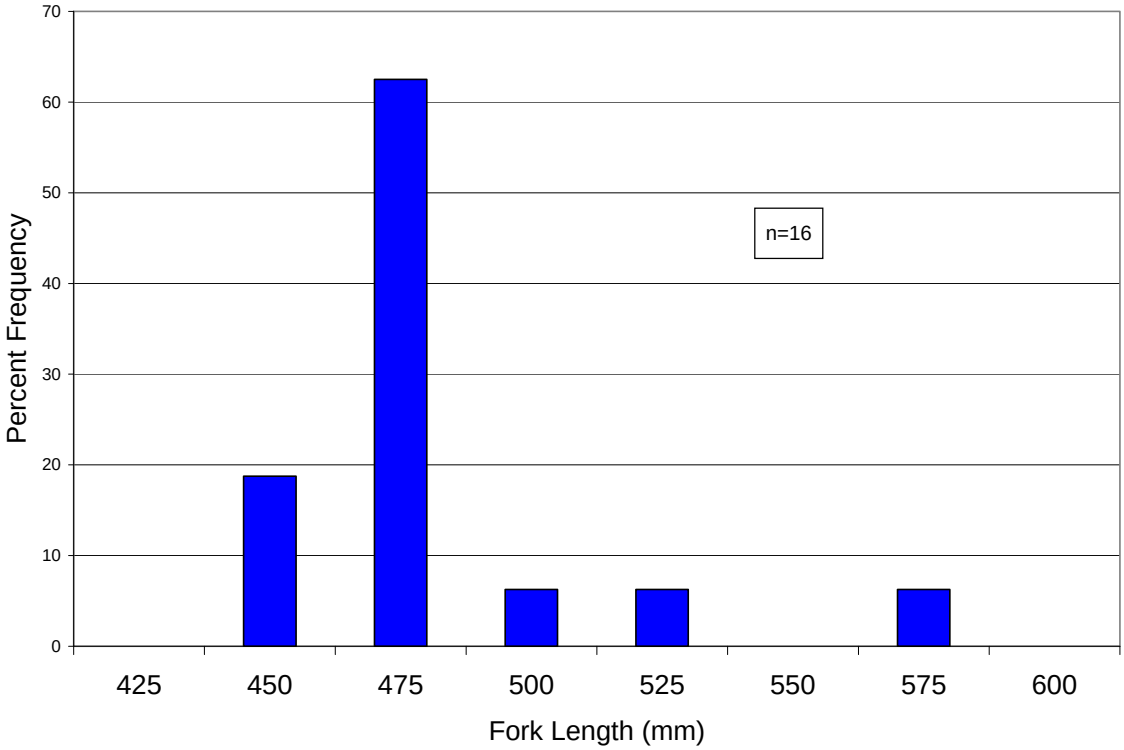

Figure 3. Sampled Lake Trout fork length frequency distribution, Kathleen River Angler Harvest Survey 2004.

Diet analysis was conducted on 10 lake trout stomachs. Of these, seven were empty, 2 were 30% full and 1 was 2% full. Snails were the most common diet item identified (Table 10).

Table 10. Sampled Lake Trout Stomach Contents, Kathleen River Angler Harvest Survey 2004.

	Percent Volume
Snails (*Gastropoda spp*.)	33%
Stone (rock)	33%
Unidentified fish	23%
Snails (*Limnaea spp*.)	7%
Caddisflies (*Tricoptera spp*.)	4%

Six Arctic grayling were sampled for biological data. Mean fork length was 359 mm, and mean weight was 480 g, suggesting a mean condition factor of 1.04. Estimated weight of Arctic grayling harvested by anglers over the summer (harvest estimate *x* mean weight) was 75 kg. Five Arctic grayling were aged and showed typical results. Mean age was 5 years, ranging from 4 to 8 years. Diet analysis was conducted on 5 Arctic grayling stomachs, which averaged 84% full. Stoneflies were the most common diet item identified, and interestingly, the Arctic grayling

stomachs contained 6% slimy sculpins, a small bottom feeding fish (Table 11).

Table 11. Sampled Arctic Grayling Stomach Contents, Kathleen River Angler Harvest Survey 2004.

	Percent Volume
Stoneflies (*Plecoptera spp*.)	42%
Unidentified invertebrates	19%
Ants (*Formicidae spp*.)	12%
Caddisflies (*Tricoptera spp*.)	10%
Unidentified vegetation	9%
Slimy sculpin (*Cottus cognatus*)	6%
Beetles (*Coleoptera spp*.)	2%
Water Boatmen (*Corixidae spp*.)	trace
Mayflies (*Ephemeroptera spp*.)	trace

Comparison with Previous Surveys

Angler harvest surveys were previously completed on Kathleen River in 1990, 1995, and 1999. These surveys were of similar methodology and design and are directly comparable with the 2004 survey with 2 exceptions. In 1999 the Labor Day weekend was not sampled. This could potentially result in an underestimate, as this is typically the busiest weekend of the year at Kathleen River. Second, the 1995 survey ended just after the Labour Day weekend and did not include the late September periods.

Effort

Estimated summer open water angler effort over the past 15 years has fluctuated but remained high on Kathleen River compared to other Yukon waterbodies. We estimated 3,757 angler hours of effort over the 2004 survey. This estimate was an increase of about 550 hours from the most recent survey in 1999, and approached the highest estimate from surveys to date of 4,154 in 1995 (Table 12). Angler effort in 1990 was much lower than the three most recent surveys, which Osborne (1996) suggested may have resulted from poor weather (higher than normal winds and precipitation) and deficiencies in survey design and execution.

Table 12. Total Estimated Angler Hours, Kathleen River Angler Harvest Surveys.	
Year	**Hours**
2004	3,757
1999	3,205
1995	4,154
1990	1,071

Fishing Methods

Fishing methods have been relatively similar between surveys since 1995 when we began collecting this data. Spin casting and fly casting remain the most popular methods, followed by combinations of methods (usually the above 2 methods). The 2004 data suggested that fly casting is increasing in popularity to nearly equal spin casting.

Guided Anglers

Formally guided parties have accounted for approximately 4% of the angler effort in all surveys since data collection began in 1995. Clients of Dalton Trail Lodge, although *unguided*, accounted for over 20% of anglers in all years and constituted a majority of the European origin users of Kathleen River.

Angler Origin

Angler origin, also collected since 1995, has remained relatively stable over categories and surveys, other than a 10% increase in the number of *other* or European anglers in 2004 compared to past surveys, and a continued decline in the number of US anglers (Table 13). Most of the *other* or European anglers in all years were clients of Dalton Trail Lodge and they are now the dominant origin users.

Table 13. Origin of Anglers (Percent of Parties), Kathleen River Angler Harvest Surveys.			
	2004	**1999**	**1995**
Local	9%	15%	9%
Whitehorse	29%	31%	33%
Yukon	2%	6%	0%
Non-resident Canadians	13%	11%	15%
U.S.	12%	15%	20%
Other (usually Europeans)	35%	24%	23%

User Type

Visitor type at Kathleen River was dominated by day users in all years, while a small percentage of anglers camped in local campgrounds or on vacant Crown land. These data were not collected in 1990.

Weather

The field worker's subjective assessment of weather effects on angling activity over entire sample day indicated that weather again had little influence in 2004, but there were a few more days than in past surveys in which the weather may have affected angling activity (Table 14). Sample day weather data was not collected in 1990.

Table 14. Weather Effects on Angling Activity (Percent of Parties), Kathleen River Angler Harvest Surveys.

	2004	1999	1995
No possible adverse effect	70%	75%	81%
Possible adverse effect	26%	25%	14%
Definite adverse effect	4%	0%	5%

Catch and Harvest

Rainbow trout catch has increased since 1999, but are still well below the highest levels estimated in 1995 (Table 15). For the first time since zero retention limits were introduced in 1991 no rainbow trout harvest was recorded (Table 16).

Lake trout catches have been relatively stable over the past 10 years (Table 15) but the number of lake trout harvested has been slowly declining (Table 16) as anglers release an increasing percentage of their catch.

Round whitefish catches have been reported in all years except 1990, but both catch and harvest remain low compared to other species, in spite of having the highest retention rate of all species.

Many more Arctic grayling were caught in 2004 than in 1999, but numbers were well below the 1995 high. Although retention rates remain very low (see Table 7), a moderate number of Arctic grayling are harvested from the Kathleen River.

Table 15. Estimated Number of fish caught, Kathleen River Angler Harvest Surveys.

	2004	1999	1995	1990
Rainbow trout	949	694	1658	166
Lake trout	846	833	996	122
Round whitefish	132	10	376	0
Arctic grayling	2383	1532	6208	1733

Table 16. Estimated number of fish kept, Kathleen River Angler Harvest Surveys.

	2004	1999	1995	1990
Rainbow trout	0	4	20	19
Lake trout	125	141	188	52
Round whitefish	17	0	5	0
Arctic grayling	157	59	244	285

NOTE: Since 1991, rainbow trout caught in Kathleen River must be released under the Yukon Territorial Fisheries Regulations.

Estimated CPUE (number of fish per angler hour) over the entire survey is the statistic that most truly reflects the changes in the fishery. Dramatic decreases in CPUE for a particular species could indicate problems in terms of the health or status of the fish species in question.

The 2004 data did not suggest any dramatic decreases in the catchability of fish species targeted in the Kathleen River (Table 17). Angling success was good for all species, with rainbow trout and lake trout results showing stability over the past 10 years and both being above Yukon wide averages for fisheries surveyed to date. Arctic grayling have shown a bit more fluctuation, but have increased since 1995 and are still well above Yukon averages.

Table 17. Estimated Catch per Unit of Effort (Fish/Hour), Kathleen River Angler Harvest Surveys.

	2004	1999	1995	1990
Rainbow trout	0.25	0.22	0.40	0.03
Lake trout	0.23	0.26	0.24	0.15
Round whitefish	0.04	0.00	0.09	
Arctic grayling	0.63	0.48	1.49	1.52

Rainbow trout CPUE increased dramatically in 1995 (the first survey after the 1991 introduction of the zero retention limit) but seems to have since stabilized at a lower level. Lake trout CPUE results also increased in 1995, but have changed little since then. Round whitefish were largely an incidental catch in the Kathleen River. As a result, CPUE was very low and did not necessarily reflect status of this species which is rarely targeted by the fishery. Arctic grayling CPUE has remained high on the Kathleen River in all surveys. Estimates were higher in 2004 than in 1999, but still well below the very high CPUE results from 1990 and 1995 (Table 17).

Fishery Sustainability

Kathleen River harvest regulations became more restrictive in 2004. The new regulations were put in place in response to concerns about increasing angler use and fishing effort brought forward by the Alsek Renewable Resources Council. Kathleen River is an attractive, high quality fishery, and although the native rainbow trout population was being sustained by the zero retention regulation, further restrictions were warranted for lake trout and Arctic grayling to prevent overharvest as angling effort increased.

Although the catch and possession limits for lake trout and Arctic grayling were reduced by half, harvest remained roughly stable from previous surveys. This suggests that Kathleen River anglers were already educated and aware of management issues on the system and were already in the habit of retaining many fewer fish than was legally allowed (Table 7).

The slot limit regulations were also changed in 2004 to maximum size limit regulations for lake trout and Arctic grayling. This change removed the possibility of keeping a trophy fish if one were caught. Because large, trophy lake trout are not common in the Kathleen River this new regulation had little impact on the lake trout fishery. Large Arctic grayling are more common in the Kathleen River, but based on the extremely low retention rate and lack of feedback from anglers, the impact of this new regulation was negligible.

Progressively more stringent regulations (see Appendix 1), combined with angler education, have maintained or improved angler success (measures of the quality of the fishery) in Kathleen River. A high quality fishery on small, vulnerable populations of fish has been successfully maintained without curtailing angler effort. The current regulations should ensure that if effort remains consistent harvest should remain within sustainable limits.

Unlike a lake fishery, productivity estimates and harvest thresholds are not calculated for Kathleen River because the fish are in

the river for only a part of the year. During winter fish move to the much larger lakes in the system. However, angler harvest is substantial for such a small section of stream. Lake trout harvest during the 2004 open water season was estimated at 141 kilograms, while Arctic grayling harvest was estimated at 75 kilograms (see biological data section). Because harvest levels and catchability of all species have been roughly stable over the past 10 years the current harvest appears to be sustainable.

The status of the Kathleen River fishery is scheduled to be assessed again in 2009.

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Appendix 1. Kathleen River angling regulation changes 1989 to 2004.

Year	Species	Catch limit	Possession limit	Size restrictions
1989/90*	Rainbow trout	2	4	none
	Lake trout	5	10	none
	Arctic grayling	5	10	none
	Whitefish	5	10	none
1990/91	Rainbow trout	2	2	none
1991/92	Rainbow trout	0	0	Release all fish
	Lake trout	2 1 only over 100cm	2	Release all fish 65-100cm
	Arctic grayling	4 1 only over 48cm	4	Release all fish 40-48cm
2004/05	Lake trout	1	1	Release all fish over 65cm
	Arctic grayling	2	2	Release all fish over 40cm

*Yukon Government obtained responsibility for freshwater fishery management responsibility from the Federal Government in 1989.
Since 1990 only single barbless hooks may be used in Kathleen River.