YUKON INDIAN HARVEST SURVEY PROGRESS REPORT 1988

Yukon
Renewable Resources

by Ray Quock & Kent Jingfors, 1989.

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SUMMARY

Data on the Indian harvest of big game species was collected in 10 communities, Pelly Crossing, Watson lake, Ross River, Teslin, Old Crow, Dawson, Carcross, Haines Junction, Burwash, and Whitehorse (Ta'an Kwach'an and Kwanlin Dun) in 1988, by the Department of Renewable Resources. Local fieldworkers contacted and surveyed 87% (793/910) of known Indian households and 96% (908/946) of all known Indian hunters. The high contact rate indicates very good co-operation with the survey by hunters.

The total reported harvest for the period January 1 to December 31, 1988 was 310 moose, 1,021 caribou, 58 sheep, 4 goats, 8 black bears, 4 grizzly bears, and 37 wolves. The proportion of males in the harvest was 82% for moose, 87% for caribou, and 96% for sheep. This suggests that Indian hunters select for males when hunting large ungulates. The majority (75%) of animals were taken in the fall months (August to October).

Most communities consumed substantially more meat than they reported harvesting. Exceptions were Old Crow, where there were more caribou harvested than consumed and Haines Junction where the harvest and consumption rates were about the same.

The per capita consumption rate of moose and caribou averaged 0.8 moose/household and caribou averaged 0.4 caribou/household in all communities except Old Crow. In comparison, Old Crow consumed 8.1 caribou/household or 3 caribou per person per year. We feel that the harvest is under reported and that the actual harvest is closer to the reported consumption of moose and caribou.

Sixty-one percent of hunters felt there is generally fewer big game now than ten years ago. Reasons given were over hunting 43%, predation 32%, and emigration 21%. The most prevalent categories of comments given by hunters centered around: Regulations and Enforcement 40%; Predator Control 16%; Disturbances to Traditional Hunting and Traditions 12%; and Outfitting 11%.

The trust relationship between bands, the DRR, and the delivery of DRR programs would be improved by providing each band with a Renewable Resource specialist.

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ACKNOWLEDGEMENTS

This study was funded by the Department of Renewable Resources, Government of Yukon. We thank field workers Alex Morrison, George Vanbibber, Dianne Jimmy, Grady Tom, John Atkinson, Dorothy Coulee, Neta Oeullet, George Mason, Larry Bill, Virginia Kemble, Viola Papaquash, and Lillian Johnson for their persistence in contacting hunters. We thank the band councils for their support for this study and we thank the hunters who took the time to respond to our questionnaire. Rick Farnell, Jean Carey, and Brian Pelchat reviewed early drafts of this report.

INTRODUCTION

In 1987 the Department of Renewable Resources began a questionnaire survey of Indian hunters to collect information on the harvest of big game species. The survey was carried out in 6 communities (Old Crow, Dawson, Teslin, Ross River, Watson Lake, Teslin, and Pelly Crossing). The first year of data collection was intended as a pilot project to establish a workable methodology to gather reliable harvest data. Contact rates of known hunters were high (96%) and hunters generally showed good cooperation in responding to the survey questionnaire (Quock and Jingfors 1987).

In 1988, the survey was expanded to include an additional 5 communities: Burwash, Haines Junction, Whitehorse (Kwanlin Dun and Ta'an Kwach'an), and Carcross for a total of 10 communities or 11 Indian Bands.

The previous minister of Renewable Resource, the Honourable David Porter, gave a written assurance to several bands that the harvest data collected by the DRR would not be used at the land claims negotiating table unless both parties agreed the information could be tabled. Joint agreement in effect gives the band or CYI a veto on the matter if they choose to exercise it. This assurance lead to a very successful harvest survey in 1988, without which, several bands would have withdrawn their support and participation.

The objectives for the 1988 Indian harvest survey were to:

1) Expand the harvest survey to the remaining Yukon Indian communities.
2) Improve the methodology used to collect, analyze, and interpret Indian harvest information.

3) Collect quantitative data on harvest characteristics (total kill, location, sex, and time of kill) of selected big game species as well as characteristics of the hunter population (size, harvest rates, meat consumption, and hunter perceptions of game abundance). Detailed kill location data is not presented in compliance with the bands that cooperated with this study.

4) Improve the trust relationship between the bands and the Department of Renewable Resources (DRR) to improve the delivery of the harvest program and all DRR programs.

METHODS

For a detailed description of methods, see Quock and Jingfors (1987). The following is a brief summary of the methods used in 1988 and an explanation of differences between the two years.

Local field workers, using a survey questionnaire contacted each hunter for a personal interview. Information collected included Indian household, population, and harvest characteristics, meat consumption and demand, and comments on relative game abundance based on traditional knowledge.

For 1988, field workers from previously surveyed communities added any Indian households or hunters to the community master list that were missed in 1987. Short questionnaire forms (Appendix A) which simply asked questions on harvest characteristics, were used for each hunter who had been contacted previously. Long questionnaire forms (Appendix B) which had additional questions on meat consumption and demand, and on hunter perceptions regarding game abundance were used in all newly surveyed communities and for all additional hunters in previously surveyed communities.

The harvest survey was started in four new communities: Carcross, Haines Junction, Burwash, and Whitehorse (Kwanlin Dun and Ta'an Kwach'an) which constituted 5 new Indian Bands. We did not conduct a field worker training workshop in 1988. Instead, field workers were trained on the job, in their respective communities.

Data was analyzed by merging 1987 with 1988 data (long forms) to compare household characteristics with data collected during 1988 (new communities).

Hence, Indian household maps and hunter lists from 1987 were updated to reflect the resulting changes over the previous year. Typical changes include people moving in or out of the community, or within the community, and young hunters coming of age or old hunters retiring or passing away.

Each band council was approached to discuss the Indian harvest survey and to listen to their concerns regarding wildlife management in an attempt to improve the trust relationship required to collect reliable harvest data.

RESULTS AND DISCUSSION

Indian Population Estimates

The total Indian population reported in 10 communities (11 Indian Bands) was 2,681, and was considerably lower when compared to the estimate of 3,580 from Census Canada (Table 1). This was largely due to the characteristics of the Indian community in Whitehorse. All Indian people contacted in Whitehorse were members of the Kwanlin Dun and Ta'an Kwach'an bands. Many Indian people from other Yukon bands reside in Whitehorse. Because of the difficulty in finding out where those people live, we did not attempt to contact them. There is, therefore, a large portion of the Whitehorse Indian population not surveyed. Overall we recorded higher population estimates in 6 out of 10 communities (Table 1), indicating what we believe to be a good sampling of the targeted Indian population.

There was a significant population increase from 1987 to 1988 in both Watson Lake and Old Crow (Table 1). During 1987, the field worker in Watson Lake simply mapped and contacted houses that belonged to members of the Liard Indian Band. During 1988, the field worker was instructed to contact every Indian household in Watson Lake, including members of the Kaska Dene Council and Tahltan Bands. As a result, there were an additional 42 Indian households surveyed, which included 63 hunters and a total population increase of 133 people.

During 1987, the field worker in Old Crow contacted only households believed to have hunters. Not all households with elders or non-hunters were contacted. During 1988, the field worker was instructed to map and contact

Table 1. Indian Population Estimates and Household (HH) Characteristics by Community, 1988.

Community	Indian Population Estimates		Total HHs Mapped[a]	Total HH Surveys Completed (%)	Ave. HH Size	Total HHs With Hunters (%)
	Census Canada (1986)	Harvest Survey[a]				
Pelly Crossing	155	192 (191)	62 (57)	57 (92)	3.4	47 (82)
Watson Lake	330	405 (272)	130 (88)	124 (95)	3.2	88 (71)
Ross River	250	234 (239)	72 (71)	69 (96)	3.3	61 (88)
Teslin	195	231 (232)	90 (80)	68 (76)	3.0	65 (96)
Old Crow	205	256 (210)	95 (69)	87 (92)	2.9	68 (78)
Dawson	240	199 (187)	71 (64)	71 (100)	2.8	50 (70)
Whitehorse	1960	688	190	179 (74)	3.8	135 (72)
Carcross	125	119	56	29 (52)	4.1	21 (72)
Haines Junction	75	170	70	47(67)	3.5	42 (89)
Burwash	45	87	33	33 (100)	2.6	25 (76)
Ta'an Kwach'an	b	100	41	29 (71)	3.4	20 (69)
Total	**3580**	**2681**	**910**	**793 (87%)**		**622 (78%)**

a Results from the 1987 Harvest Survey are shown in parenthesis.
b Included in the estimate for Whitehorse.

every Indian household in the community which resulted in an additional 16 households surveyed, which included 19 hunters, and a total population increase of 46 people. The addition of more non-hunters to the sampling population does not affect harvest levels, but does provide a more accurate estimate of total community meat consumption.

Household Coverage and Characteristics

There was a total of 910 households mapped (Table 1) in the 10 communities (11 Bands). Of these, 865 (95%) were contacted and surveys were completed in 793 households, for an average survey completion rate of 87%. The lowest contact rates were in Carcross (52%) and Haines Junction (67%). In both cases, time constraints and inadequate performance by field workers lead to poor household coverage. Two Indian bands, Na-Cho Nyak Dun and Little Salmon/Carmacks chose not to participate in the harvest survey. Both bands cited Land Claims negotiation concerns as their reason for not participating.

The household coverage in Whitehorse was good for the Kwanlin Dun and Ta'an Kwach`an bands, as mentioned previously the majority of Indian people living in Whitehorse belong to other bands and were not contacted. It is very difficult to locate these people because they have no reserves and are scattered throughout the city. Hence, there is a logistics problem; houses are located within a 60 mile area, and quite often people are not home when the field worker attempts to visit them. Because of these difficulties, we have thus far only contacted Kwanlin Dun and Ta'an Kwach'an members.

Out of 865 households contacted, a mere 24 (3%) were unwilling to cooperate in the harvest survey. But half of these households were in the Kwanlin Dun and

Ta'an Kwach'an Bands, where the survey was conducted for the first time. These respondents expressed caution towards the sensitivity of this data being collected during the presently critical stage in Land Claims negotiations between the first Nations and Canadian Government. The specific reasons people gave for not cooperating were:

1) Land Claims - people were afraid that these harvest figures would be used to establish quotas for Indian people and these figures are under-reported. Hence, it does not reflect their actual needs.
2) Judgement on Lifestyle - Many Indian people have been chastised by the non-native community for killing excessive numbers of animals. These people feel that if they keep their harvest numbers to themselves, they will not be harassed by people who do not understand their way of life.

Once accurate Indian harvest data is available, it will dispel the misconceptions that some non-native people have. Indian hunters are not "knowingly" taking excessive numbers of animals. Conservation was a key to historic, as well as present, Indian wildlife management practices. However, the methods and hunting practices of Indian hunters are not the same as traditional non-native hunting. One Indian hunter may supply many families with meat and therefore this one hunter may kill many animals. Most non-native hunters hunt only for themselves, or may share 1 moose or caribou. Once accurate harvest data is available, it will become clear that harvest of game animals by Indian people is not excessive when compared to non-natives.

There is an average of 3.3 people residing in each household (Table 1), 78% of households had at least 1 hunter residing in the house; this ranged from a high of 96% in Teslin to lows of 69% in Ta'an Kwach'an and 70% in Dawson.

Hunter Coverage and Characteristics

The total number of known (household contacted and hunters identified) Indian hunters for this study was 946 (Table 2). The real number of hunters is known to be higher because some households were not mapped and some mapped households were not contacted.

There was a significant increase in the hunter population in Watson Lake and Old Crow between 1987 and 1988. The reason for the increase being that 42 and 24 households were missed respectively in the 1987 survey, and these were included in the 1988 survey.

A total of 908 (96%) of all known hunters were contacted. This is a high contact rate and identical to that of 1987 (Quock and Jingfors 1987). Of all hunters contacted, 633 (70%) actually hunted in 1988. This is lower than in 1987 when an average of 80% of all hunters interviewed had hunted in that year (Quock and Jingfors 1987).

The average success rate (hunters who hunted and successfully bagged an animal) was 54%, which is similar to 1987 (55%) (Quock and Jingfors 1987). The success rate was highest in Old Crow (100%) and lowest in Dawson (28%), Carcross (29%) and Whitehorse (31%). The reason for differing success rates is largely related to the availability of game. In Old Crow, there is a seasonal abundance of caribou, while in the southwestern Yukon, game populations are scarce (Larson et. al 1987). Dawson City however, does not fit this pattern as there should be abundant game available and yet there is a low success rate. Possibly, people of Dawson are more involved in the wage

Table 2. Indian Hunter Characteristics by Community, 1988.

Community	Total Known Hunters[a]	Total Completed Hunter Surveys (%)	Total Hunters Who Hunted in 1988 (%)	Total Successful Hunters (%) [b]
Pelly Crossing	78 (76)	78 (100)	48 (62)	25 (52)
Watson Lake	131 (68)	125 (95)	86 (66)	58 (67)
Ross River	104 (105)	104 (100)	68 (65)	41 (60)
Teslin	102 (106)	102 (100)	55 (54)	29 (53)
Old Crow	87 (68)	86 (99)	66 (76)	66 (100)
Dawson	73 (62)	73 (100)	57 (78)	16 (28)
Whitehorse	217	203 (94)	150 (69)	47 (31)
Carcross	31	27 (87)	21 (68)	6 (29)
Haines Junction	62	54 (87)	43 (69)	27 (63)
Burwash	32	28 (88)	16 (50)	14 (88)
Ta'an Kwach'an	29	28 (97)	23 (79)	10 (43)
Total	**946**	**908 (96%)**	**633 (70%)**	**339 (54%)**

a Data from the 1987 Harvest Survey are shown in parenthesis.

b Defined as the number (or proportion) of hunters that reported harvesting big game out of all hunters that hunted during 1988.

economy and hunt less than other, more subsistence based, communities. Another possibility is that the actual harvest was under reported.

Harvest Characteristics

The total reported harvest of big game for January to December 1988 was 310 moose, 1,021 caribou, 8 black bear, 4 grizzly bear, 37 wolves, 58 sheep, and 4 goats (Table 3). The average harvest of moose per successful household was 1.4 and is similar among communities with a high of 1.9 in Old Crow (where 15 moose were harvested by 8 households) to a low of 1.0 in Ta'an Kwach`an (where each of 7 households harvested 1 moose). The average harvest of caribou per successful household was also similar among communities (1.0 in Ta'an to 3.3 in Carmacks) with the exception of Old Crow where it was 16.2 caribou per successful household (873 caribou taken by 54 households). This harvest rate clearly indicates the importance of the Porcupine Caribou Herd to the people of Old Crow.

Twice as many hunters were surveyed in 1988, yet the harvest of moose increased modestly from 226 to 310 and the harvest of caribou likewise increased from 915 to 1,021 (Quock and Jingfors 1987). The caribou harvest is largely influenced by the availability of the Porcupine Caribou Herd. The harvest of bears decreased despite more hunters. The only real increase was shown in the sheep harvest mainly as a result of including communities in southwestern Yukon where sheep densities are higher than elsewhere in the Territory.

The location of harvest by Game Management Zone is presented in Appendix C. Most of the harvest occurred within traditional Band areas. However, a

Table 3. Reported Indian Harvest of Big Game Species by Community, 1988.

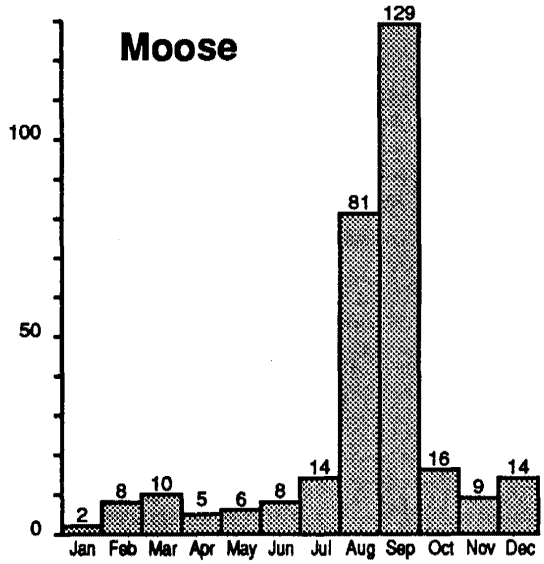
Community	Moose	Caribou	Black Bear	Grizzly Bear	Wolf	Sheep	Goat
Pelly Crossing	28	10	0	0	0	0	0
Watson Lake	71	42	0	0	2	0	2
Ross River	30	33	0	0	0	0	0
Teslin	34	7	2	0	9	2	0
Old Crow	15	873	4	0	2	0	0
Dawson	18	13	0	0	0	0	0
Whitehorse	52	17	2	0	0	19	2
Carcross	5	10	0	0	0	1	0
Haines Junction	36	6	0	2	20	24	0
Burwash	14	4	0	2	3	10	0
Ta'an Kwach'an	7	6	0	0	1	2	0
Total	**310**	**1021**	**8**	**4**	**37**	**58**	**4**

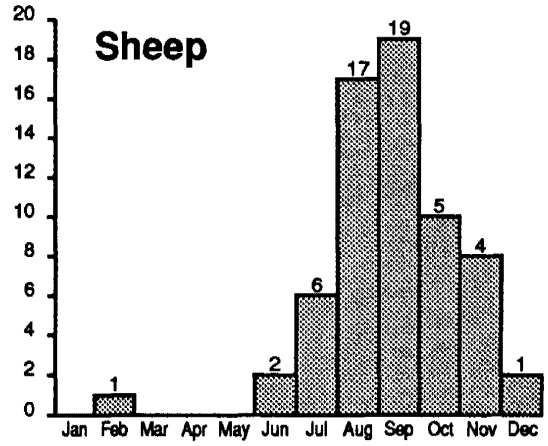
notable exception included the Whitehorse harvest, where 48% (25/52) of moose, 53% (9/17) of caribou and 47% (9/19) of Dall sheep harvest occurred outside of the Band area. Also, of 7 moose taken by Ta'an Kwach'an hunters, 5 were outside and of 10 caribou reported from Carcross, 7 were outside of their traditional Band area. We speculate that low game populations combined with a high concentration of development within the traditional territories of these three Bands, force their hunters to hunt elsewhere. By hunting in other areas, with less development and less hunting pressure, they increase their chance of success.

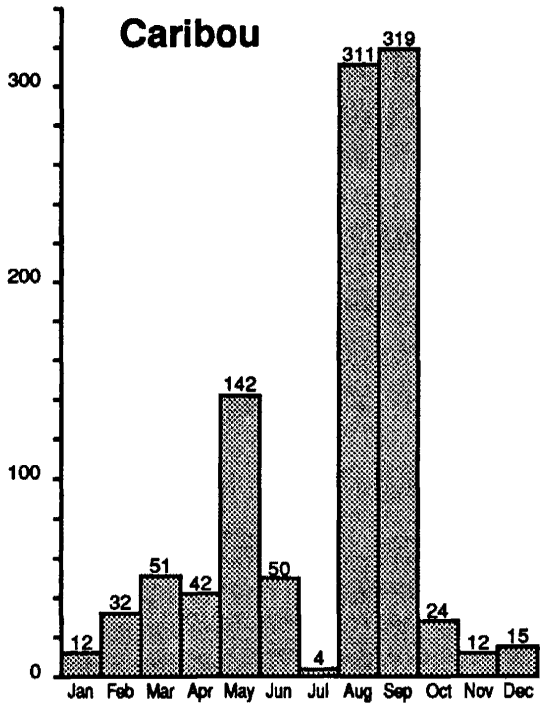
The sex characteristics of the harvest (% males) are: moose 82% (248/303); caribou 87% (870/1,000), and sheep 96% (53/55). This is similar to 1987 and suggests that most Indian hunters select for males when hunting big game. But this preference is related to season; in the fall, males are the choice sex and in winter and spring, females are in the best condition and therefore are the choice sex.

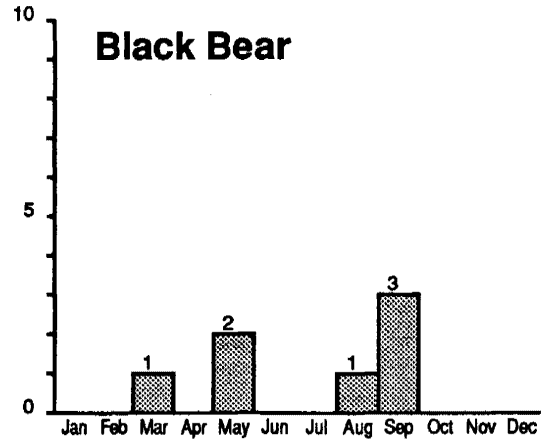
The dates of harvest by month are presented in Figure 1. The proportion of animals taken in fall (August to October) was: moose 75%, sheep 75%, woodland caribou (excluding Porcupine Caribou Herd) 67% with a further 19% taken in November to December. The Porcupine Caribou Harvest took place year round, with the majority of the harvest taken as the herd migrates through the Old Crow area in the spring and fall. Because most big game is taken in fall and male animals are desired then for their large body size and ample fat reserves, the sex of the kill is mostly males.

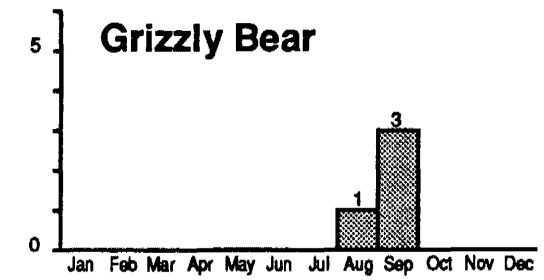
Figure 1: Species Harvest by Month, 1988

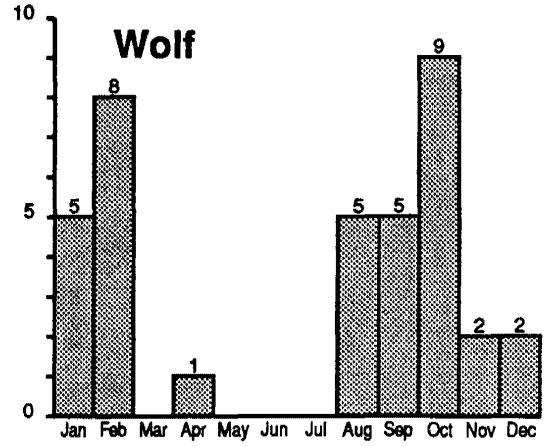












Moose and Caribou Consumption and Demand

Since data sets were merged (except harvest characteristics) for communities that participated in both years, the information about meat consumption and demand (Table 4) is from 1987, while reported harvest refers to 1988. However, per capita consumption rates were not substantially different between the two years and while harvest is likely to vary from one year to the next, meat consumption is likely to be more stable over time as a result of exchanging/trading/bartering between families and communities.

As in 1987, most communities consumed more meat than they reported harvesting and, in all cases, the demand for moose and caribou meat was higher than current consumption. We believe that hunters tend to under report their actual harvest, and that current meat consumption rates are closer to the actual harvest than is the reported harvest.

The annual per capita consumption rate of moose averaged 0.7 moose/household and ranged between 1.0 in Ross River to 0.3 in Ta'an Kwach'an (Table 4). The annual per capita consumption rate of caribou in all communities except Old Crow, averaged 0.4 caribou/household and ranged from a high of 0.9 in Ross River to 0.1 in Pelly and Haines Junction. In comparison, Old Crow consumed 8.1 caribou/household or 3 caribou per person per year. Again, this demonstrates the importance of the Porcupine Caribou Herd to Old Crow.

Hunter Perceptions and Comments

Sixty-one percent of hunters (437/713) felt there are fewer big game animals now than 10 years ago. The reasons given for lower numbers were overhunting 43% (281/657), predation 32% (211/657), and emigration 21% (135/657).

Table 4. Summary of Reported Harvest, Current Consumption, and Demand for Moose and Caribou by Community, 1988.

Community	Total Households (HHs)	Total Persons	Moose Harvest	Moose Consumption #Moose	Moose Consumption per HH[a]	Moose Demand	Caribou Harvest	Caribou Consumption #Caribou	Caribou Consumption per HH[a]	Caribou Demand
Pelly Crossing	57	192	28	53	0.9	100	10	6	0.1	103
Watson Lake	130	405	71	111	0.9	208	42	82	0.6	179
Ross River	71	234	30	71	1.0	169	33	66	0.9	198
Teslin	79	231	34	75	0.9	119	4	18	0.2	64
Old Crow	87	256	15	32	0.4	55	873	708	8.1	907
Dawson	71	199	18	25	0.4	72	13	41	0.6	140
Whitehorse	188	688	52	135	0.7	313	17	58	0.3	142
Carcross	41	119	5	18	0.4	37	10	12	0.3	33
Haines Junction	68	170	36	34	0.5	66	6	7	0.1	32
Burwash	33	87	14	26	0.8	32	4	15	0.5	20
Ta'an Kwach'an	40	100	7	13	0.3	32	6	8	0.2	14
Total	**865**	**2681**	**310**	**593**		**1203**	**1018**	**1021**		**1832**
Weighted Average					**0.7**				**1.2[b]**	

a Refers to the number of moose (or caribou) consumed per household annually.

b If Old Crow is excluded, the average annual consumption of caribou was 0.4 caribou per household.

Overhunting replaced predation as the main reason for declining wildlife populations when southwest Yukon communities were included in the harvest survey.

In contrast to other communities, most hunters in Ross River (59%) felt that caribou and moose numbers have increased, while wolf numbers have decreased in recent years. This is not surprising given that the Finlayson wolf control program has taken place for the last 7 years.

In comparison, 89% of all hunters in Carcross and Burwash believe there are now fewer moose than 10 years ago, while most Carcross hunters (61%) also felt caribou and sheep numbers have declined in recent years.

The most prevalent category of comments given by hunters dealt with regulation and enforcement of the big game harvest (40%; 167/414; Table 5). These respondents felt there is a need to regulate the harvest of big game (both Indian and non-Indian) and that more enforcement is required to ensure less poaching and meat wastage, etc. The second most common category of comments dealt with the need to control predators such as wolves and bears (16%; 65/414). The third dealt with the disturbances to traditional hunting territories and traditions of Indian people (12%; 49/414). Other categories of comments include the need to control the harvest and waste by outfitters (11%; 47/414) and the need to provide more education and jobs (9%; 36/414) with respect to wildlife management.

Band Wildlife Management Concerns

Most bands were pleased to have an opportunity to discuss their wildlife

Table 5. The Number of Responses to each Category of Hunter Comment by Community.

Community	Regulations and Enforcement	Predator Control	Disturbances to traditional hunting & traditions	Education and Jobs	Outfitting	Trapping	Other	Total
Pelly Crossing	3	5	0	1	1	0	0	10
Watson Lake	47	10	9	4	11	0	1	82
Ross River	3	0	2	0	0	0	5	10
Teslin	17	11	5	4	1	3	8	49
Old Crow	2	0	0	0	0	0	3	5
Dawson	0	0	0	0	0	0	2	2
Whitehorse	57	13	19	22	18	15	4	148
Carcross	5	3	1	0	4	0	2	15
Haines Junction	13	13	7	4	6	3	3	49
Burwash	11	8	3	1	5	1	0	29
Ta'an Kwach'an	9	2	3	0	1	0	0	15
Total (%)	**167 (40)**	**65 (16)**	**49 (12)**	**36 (9)**	**47 (11)**	**22(5)**	**28 (7)**	**414**

management concerns with an official from the DRR. Their concerns were many and varied, but the comments that were common to each band are the following:

1) Arrange a system to utilize the knowledge of Indian elders in game management.
2) Establish an Indian training program for renewable resource specialists.
3) Organize a system to collect and distribute meat from outfitter hunts.
4) Put all outfitters on a quota system.
5) Close moose and caribou season by Oct. 1 - most meat is not edible after that date due to rut.
6) Arrange a training program for young hunters to teach them traditional Indian and modern conservation practices, respect for wildlife and nature, proper handling of meat, current game management, complete with an outline of problem areas, and stress the need for hunter cooperation for proper management of wildlife.
7) Ban hunting with ATV's.
8) Establish no hunting corridors on roads.

CONCLUSIONS AND RECOMMENDATIONS

The harvest survey now includes most of the Yukon communities (11 out of 13) and a workable methodology has been developed. Contact rates and cooperation from hunters have been good in both previously surveyed and newly surveyed communities. The survey method implemented here, in our opinion, is the technique of choice and could be employed to satisfy Indian harvest information needs after the Yukon Indian land claim is settled. For the interim, the Yukon Indian harvest survey is becoming more reliable as Indian people become familiar with this system.

Some problems still occur in survey coverage, in particular, the Whitehorse area. This will be corrected however, through increased effort. We recommend hiring an additional field worker from the Bands that have large numbers of their members living in Whitehorse (eg. Champagne/Aishihik). For Bands with only a small population living in Whitehorse, we suggest bringing the existing field worker in from the outlying communities. Additional funding will be required to facilitate this increase in coverage with a corresponding improvement in the accuracy of the Yukon Indian harvest estimate.

The problem of under reporting of harvest will take time and the development of trust to resolve. For now, we assume that actual harvest is closer to the reported consumption rather than the reported harvest.

Recognizing the limited utility of only two years data from a harvest survey that is still improving in accuracy, we still believe that some initial conclusion can be drawn respecting Indian harvest trend.

The 1988 results indicate a lower harvest than that reported in 1987. A pattern of low game abundance hence availability seems clear, and is supported by hunter responses from southwest Yukon, and by wildlife survey information gathered by the Department of Renewable Resources. As a result, many hunters have probably opted to not hunt (due to increased effort and cost) or have moved to unfamiliar and non-traditional areas. Thus, lower success rates and per capita harvest have resulted.

There are also problems associated with hunting outside of traditional band areas. There is generally a feeling of resentment by local people when too many hunters (native and non-native) converge on "their" area to hunt. This feeling of resentment is amplified when combined with the perception that big game populations are declining in certain areas.

For 1989, data will be collected by short forms only in communities where coverage is considered reasonably complete. In other communities such as Whitehorse, Carcross, and Haines Junction, coverage will be boosted, and all new households and hunters will be surveyed with long forms. Mayo and Carmacks bands will be approached again, to see if they are interested in participating in the 1989 survey.

Further to sending a copy of this report to each band council, it would be useful to meet with each band and explain results in person. By stressing the effects of under reporting (i.e. poor management, subsistence needs questionable, etc), we may impress upon hunters throughout the community the need for accurate data. These meetings would also provide the band councils

with an opportunity to offer feedback and provide their opinion on data collected thus far.

The Indian bands have a need for their own renewable resource expertise and the Department of Renewable Resources, CYI, and Yukon College are presently considering a Renewable Resource Specialist training program.

The provision of a renewable resource specialists for each Indian band will no doubt improve the efficiency and reliability of not only the Yukon Indian harvest survey, but also the delivery of all Big Game Management Programs.

Lawrence Joe of the Champagne/Aishihik Band was recently contracted by the DRR to provide the Indian perspective on big game management in GMZ 7 and 9 (Joe 1989). This is a positive step to involving the Indian people in wildlife management and is a first step in documenting the knowledge of Indian hunters and elders. These interactions will foster better cooperation and trust between the DRR and Indian bands, however, more work is required to implement or at least discuss all the concerns outlined by bands.

LITERATURE CITED

Joe, L. 1989. Summary of Band Comments on the Management of Big Game in Southwest Yukon. Unpublished Report, Yukon Game Branch. 21 pp.

Larson, G.L., D. A. Gauthier, R.L. Markel. 1987. Causes and Rates of Moose Mortality In the Southwest Yukon 1983-1985. Unpublished Report. Yukon Game Branch. 38 pp.

Quock, R.L., K. Jingfors. 1988. Yukon Indian Harvest Survey Progress Report, 1987. Unpublished Report. Yukon Game Branch. 35 pp.

Appendix A. Short Harvest Questionnaire

ID:

INDIAN HARVEST SURVEY

Yukon
Renewable Resources

Confidential When Completed

January to December 1988

HOUSEHOLD INFORMATION

Household contact
1 Complete
2 Incomplete
3 uncooperative

Reason for incomplete survey form:

_____

_____

A. HUNTER INFORMATION

Hunter # 1 contact
1 Complete
2 Incomplete
3 uncooperative

Reason for incomplete survey form:

_____

_____

Begin with an appropriate greeting. Use background sheet for introduction.

B. GAME

11. Over the past year (Jan. to Dec. 1988) have you hunted for moose, caribou, bears, sheep, goats or wolves?

1	NO	***If NO***	*GO TO QUESTION 14 (Comments)*
2	YES	***If YES***	*PROCEED with survey.*

12. During the past year how many of the following animals did you shoot (I am requesting the number of animals you killed rather than the total number of animals killed by any group of hunters you may have been with during a hunt)? *(read list at this point)*

		number
a.	moose	_____
b.	caribou	_____
c.	black bears	_____
d.	grizzly bears	_____
e.	wolves	_____
f.	sheep	_____
g.	goats	_____

CONFIDENTIAL WHEN COMPLETED

C.DETAIL

I would like to ask you more specific information about the animals that you killed. To get an accurate number please remember we are only talking about animals <u>you</u> killed.

I will discuss each type of animal and ask you where you killed them by referring to this map (*show map*). I do not want to know exactly where but only which game zone best describes where the kill occurred. I would also ask you to recall, if you can, whether the animal was male or female and approximately when the kill occurred.

(SURVEYOR: before you start ,check off as many lines as needed for each of the species identified from Part B - question 12)

13. Now, for each one of these animals, where on the map was it killed? Was it male or female and when was it killed? *(repeat for as many animals as checked off)*

SPECIES	ZONE	SEX	MONTH
Moose, Caribou, BEAR: Black, Grizzly; Wolves, Sheep, Goat		1 = male 2 = female ? = do not know	1 = Jan, 2 = Feb, 3 = Mar, 4 = Apr, 5 = May, 6 =June 7 = July, 8 = Aug, 9 = Sept, 10 = Oct, 11= Nov, 12 = Dec ? = do not know
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1 2 3 4 5 6 7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?

SPECIES							ZONE	SEX	MONTH
		BEAR							
Moose	Caribou	Black	Grizzly	Wolves	Sheep	Goat		1 = male 2 = female ? = do not know	1 = Jan, 2 = Feb, 3 = Mar, 4 = Apr, 5 = May, 6 = June 7 = July, 8 = Aug, 9 = Sept, 10 = Oct, 11 = Nov, 12 = Dec ? = do not know
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?

D. COMMENTS

14. Did you record your harvest of big game on the Indian Harvest Calendar?

15. Do you have anything you would like to tell the Game Branch? Do you have any observations about the animals we have just discussed? *(use back of sheet if necessary)*

CONFIDENTIAL WHEN COMPLETED

Appendix B. Long Harvest Questionnaire

ID:

INDIAN HARVEST SURVEY

Yukon
Renewable Resources

Confidential When Completed

January to December 1988

PART ONE HOUSEHOLD INFORMATION

Household Contact	1	Complete
	2	Incomplete
	3	Uncooperative

Reason for incomplete survey form:

A. INTRODUCTION

Open with an appropriate greeting. Use background sheet for introduction.

B. HEAD OF HOUSEHOLD

Identify someone who can speak on behalf of all people in this house.

(If there are no persons over the age of eighteen (18) home at the time, END SURVEY and request a time that would be suitable for a follow up visit).

1. **How many persons "usually" live in this house. This includes all family and non family members who live in this house on a ongoing basis.**

[ ] number of persons

2. **For all persons you have just mentioned (including those under eighteen *(18)*, how many:** *(read list a and b at this point)*

a. [ ] **are hunters (hunt once in a while)**
b. [ ] **are non hunters**

c. [ ] ***ENTER TOTAL PERSONS***

Surveyor to sum a and b and ensure it totals the value recorded in question #1.

3. ***If no hunters*** *THEN GO TO QUESTION 4 and 5 and then end the survey*
If hunters *THEN proceed*

Could you give me the name of all the hunters in this house. This includes all those people who have hunted at least once over the past year. One does not have to be successful to be a hunter.

Hunter Number	Hunter name	Hunter Number	Hunter name
#1	_____	#5	_____
#2	_____	#6	_____
#3	_____	#7	_____
#4	_____	#8	_____

I would like you to answer the following questions on behalf of all the people who reside in this house.

4. **How many moose and caribou did this household eat over the past year (an estimate of how many were eaten or consumed by the people in this household regardless of where the animal came from)?**

a. Moose		b. Caribou	
[ ]	whole animals	[ ]	whole animals
[ ]	halves	[ ]	halves
[ ]	quarters	[ ]	quarters
[ ]	pounds	[ ]	pounds

5. **Was this enough Moose for your needs?** 1 Yes 2 No

Was this enough Caribou for your needs? 1 Yes 2 No

If NO to either of the above Then ask

How many moose and caribou would you feel are needed for this household to have enough food for a year?

a. Moose		b. Caribou	
[ ]	whole animals	[ ]	whole animals
[ ]	halves	[ ]	halves
[ ]	quarters	[ ]	quarters
[ ]	pounds	[ ]	pounds

CONFIDENTIAL WHEN COMPLETED

PART TWO HUNTER INFORMATION

Hunter # 1 Contact
1 Complete
2 Incomplete
3 Uncooperative

Reason for incomplete contact

Fill out one for each hunter identified in question three (3)

C. PERSONAL

I would like to ask you, as a hunter, a few questions regarding your opinions about hunting.

6. **Do you hunt often or do you hunt once in a while?**

1 hunt often
2 hunt once in a while

7. *(surveyor to fill in the sex of the hunter)*

1 male
2 female

8. **Into which of the following age groups do you fit?** *(read each group at this point)*

1 under 18 years
2 18 to 34 years
3 35 to 64 years
4 65 years and older

D. PERCEPTIONS

Could you please give me your opinion to the following questions?

9. **Overall would you say there are more, the same or fewer animals present this year than ten years ago?**

More	Same	Fewer	Do not know
1	2	3	4

IF FEWER, then is this because of : *(read list at this point and check off as many as apply)*

1 over hunting
2 predators such as wolves, bears or other animals
3 the movement of the animals away from your area
4 other reasons: (specify) _____
_____
5 or you do not know

CONFIDENTIAL WHEN COMPLETED

10. **Would you say there are more, the same or fewer of the following animals present this year than ten years ago. (read list at this point)**

	More	Same	Fewer	Do not know
a. moose	1	2	3	4
b. caribou	1	2	3	4
c. black bears	1	2	3	4
d. grizzly bears	1	2	3	4
e. wolves	1	2	3	4
f. sheep	1	2	3	4
g. goats	1	2	3	4

E. GAME

11. **Over the past year (Jan. to Dec. 1988) have you hunted for moose, caribou, bears, sheep, goats or wolves?**

1	NO	***If NO***	*GO TO QUESTION 14 (Comments)*
2	YES	***if YES***	*PROCEED with survey.*

12. **During the past year how many of the following animals did you shoot (I am requesting the number of animals you killed rather than the total number of animals killed by any group of hunters you ay have been with during a hunt)?** *(read list at this point)*

	number
a. moose	_____
b. caribou	_____
c. black bears	_____
d. grizzly bears	_____
e. wolves	_____
f. sheep	_____
g. goats	_____

CONFIDENTIAL WHEN COMPLETED

F.DETAIL

I would like to ask you more specific information about the animals that you killed. To get an accurate number please remember we are only talking about animals you killed.

I will discuss each type of animal and ask you where you killed them by referring to this map (*show map*). I do not want to know exactly where but only which game zone best describes where the kill occurred. I would also ask you to recall, if you can, whether the animal was male or female and approximately when the kill occurred.

(SURVEYOR: before you start ,check off as many lines as needed for each of the species identified from Part E - question 12)

13. Now, for each one of these animals, where on the map was it killed? Was it male or female and when was it killed? *(repeat for as many animals as checked off)*

SPECIES							ZONE	SEX	MONTH
Moose	Caribou	BEAR Black	BEAR Grizzly	Wolves	Sheep	Goat		1 = male 2 = female ? = do not know	1 = Jan, 2 = Feb, 3 = Mar, 4 = Apr, 5 = May, 6 =June, 7 = July, 8 = Aug, 9 = Sept, 10 = Oct, 11= Nov, 12 = Dec ? = do not know
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?

CONFIDENTIAL WHEN COMPLETED

SPECIES							ZONE	SEX	MONTH
		BEAR							
Moose	Caribou	Black	Grizzly	Wolves	Sheep	Goat		1 = male 2 = female ? = do not know	1 = Jan, 2 = Feb, 3 = Mar, 4 = Apr, 5 = May, 6 =June, 7 = July, 8 = Aug, 9 = Sept, 10 = Oct, 11= Nov, 12 = Dec ? = do not know
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?
1	2	3	4	5	6	7	______	1 2 ?	1 2 3 4 5 6 7 8 9 10 11 12 ?

G. COMMENTS

14. Did you record your harvest of big game on the Indian Harvest Calendar?

15. Do you have anything you would like to tell the Game Branch? Do you have any observations about the animals we have just discussed? *(use back of sheet if necessary)*

____

____

____

____

____

____

CONFIDENTIAL WHEN COMPLETED

Appendix C. Location of Indian Harvest by Game Management Zone, 1988.

Game Management Zone	Moose	Caribou	Grizzly Bear	Black Bear	Wolf	Sheep	Goat
1	15	881	0	4	2	0	0
2	10	21	0	0	0	0	0
3	20	0	0	0	0	0	0
4	33	37	0	0	0	0	0
5	48	9	3	1	23	27	0
6	2	3	0	0	0	6	0
7	47	10	1	0	0	23	1
8	12	3	0	1	1	0	1
9	8	6	0	0	4	1	0
10	60	17	0	2	2	1	0
11	44	26	0	0	2	0	2
N.W.T.	3	5	0	0	0	0	0
B.C.	3	0	0	0	3	0	0
Total Kills	305	1018	4	8	37	58	4