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Annual Report for 1968

Terrace-Lakelse, Sub-District

I. Description, Terrace-Lakelse, Sub-District.

The Terrace-Lakelse, Sub-District, an area of approximately 5,000 square miles, is comprised of the Skeena River Watershed upstream from Kwinitsa Creek to the confluence of the Skeena and Kispiox River.

The major tributary streams of the main stem Skeena are the Gitnadoix, Exchamsiks, Zymagotitz, Kitsumkalum, Lakelse, Zymoetz, Kitwanga and Kispiox River. In addition to these eight major streams there are 59 secondary tributary streams suitable for the propogation of salmon.

The 67 salmon streams in this Sub-District contain approximately 600 miles of spawning grounds that are utilized by one or more species of salmon.

The total population of this Sub-District is approximately 18,000. The two main centres of population are Terrace /14,000/, and Hazelton /2,500/. These figures include the rural population of the surrounding areas, with the exception of the Indian Reservations. In addition to these two ethnical heterogeneous centres of population there are seven Indian Reservations in this Sub-District.

Kitwanga, located at the confluence of the Kitwanga and Skeena River 60 miles north of Terrace. Population 369 people, 57 families.

Kitseguecla, located at the confluence of the Kitseguecla and Skeena River. Population 351 people, 65 families.

Glen Vowel, located on the Skeena River 5 miles north of Hazelton. Population 150 people, 25 families.

Kispiox, located at the confluence of the Kispiox and Skeena River. Population 496 people, 92 families.

Kitwancool, located on the Kitwanga River. Population 218 people, 41 families.

Kitsumkalum, located on the Kitsumkalum River. Population 99 people, 17 families.

Kitselas, the reservation is located at the confluence of the Zymoetz and Skeena River. Population 88 people, 18 families. Most of the people from this reservation have moved to Terrace.

Fisheries

Commercial Fisheries

No commercial fisheries in this Sub-District.

Sport Fisheries,Non Tidal Waters

Due to a lack of specific information/units of effort,and catch per unit of effort/it is impossible to accurately evaluate the I968 sport fishery in this Sub-District.However,it is apparent this fishery is expanding and is a major factor in our conservation program for spring and cohoe salmon for the Skeena River System.

There are a number of reason to assume further expansion of this fishery is imminent;recent improvements in access roads to this area from the east,favorable publicity in the U.S.A. and adjacent provinces concerning the excellent angling this area has to offer,anincrease in the population of this area with a corresponding increase in resident anglers,an expansion of the logging industry with resulting roads to areas that were formerly inaccessible.

If the present plans of the logging industry are realized,logging roads will facilitate access to the upper portion of tributary streams where sport fish,particularily spring salmon are highly vulnerable to anglers.

Areas affected will be the Zymoetz and Clore River System,the Zymagotitz,Exstew,Shames,Exchamsiks,Kasiks and tributaries of the Kitsumkalum and Kispiox River.

At this time figures are not available for the number of angling licences sold in the Terrace-Hazelton Area from the Provincial Government.

While accurate figures are not available there is a general consensus there was a considerable increase in the I968 sport fishery over the preceeding year.Sport fishing camp operators on the Kispiox River report a I00% increase in guests in I968 over I967.These camps cater to non-residents.

The following is a breakdown of the various categories of angling licences sold in this Sub-District for the period I964-I968.

Year	Resident	Non Resident(Canadian)	Non Resident(Alien)	Total
I964	I,859	No record	I23	I,982
I965	2,452	93	243	2,788
I966	2,327	9I	290	2,708
I967	2,850	283	374	3,507

The number of licences sold locally is not indicative of the actual number of non-resident anglers who fished this area,but does suggest an upward trend in sport fishing activity.Many non-residents acquire licences prior to arriving in this area.

The following resume of sport fish taken from the main streams in this Sub-District was worked out with the co-operation of the Provincial Game Branch,and is only an estimate at best.

Stream	Springs	Cohoe
Exchamsiks	-	250-300 pcs.
Gitnadoix	-	350-400 pcs.
Kalum	Early run-50-I00 pcs. Late run 500-700 pcs.	200-300 pcs.
Lakelse	50-I00 pcs.	600-700 pcs.
Kasiks	-	50-75 pcs.
Zymoetz (Copper)	50-I00 pcs	I00-I50 pcs.

No figures are available for the Kispiox and Kitwanga Rivers.

As formerly emphasized in this report,accurate figures are not available,however,information obtained from the Provincial Game Branch,the Terrace Rod and Gun Club,and interviews with sport fishing enthusiasts in the Terrace and Hazelton Areas indicate the annual take of springs probably exceeds I,000 pcs. or at least 20-25% of the average escapement to the Skeena River System,an estimated 3,000 to 4,000.

The cohoe take,an estimated 2,000-2,500 pcs.,is not as significant when related to the average escapement/50-60,000.

In view of the rapid expansion of the sport fishery,I recommend a comprehensive survey designed to produce accurate data on the sport fishery on the Skeena River Watershed be carried out during the summer of I969.Without this information it would be impossible to formulate a program to increase,or maintain spring stocks at their present level. This applies to a lesser degree to cohoe.

Considering the limited personnel presently assigned to this Sub-District,it is unlikely a project of this scope could be effectively carried out without help.Indications are the present staff will be fully occupied with the Indian Food Fishery,an expending logging industry,assessment of the salmon escapement,etc.during the summer months.

Indian Food Fishery

There are approximately 2,500 registered Indians/345 families/ living in the communities of Terrace and Hazelton,and on the seven reservations in this Sub-District.One hundred and thirteen families/licencees/participated in the domestic fishery.

This fishery,exclusively a gill net operation,is carried out in the Kiwanga River,the lower end of the Kispiox River and at various locations on the Main Stem Skeena from Terrace upstream to the confluence of the Kispiox and Skeena River.

The following is a resume of the Terrace-Lakelse, Sub-District domestic fishery by species for the period I965-68.

Year	Sockeye	Coho	Pinks	Chums	Springs	Steehead
I964-	I7,309-	2,055-	I,700-	3I0 -	772 -	280
I965-	I5,798-	2,49I-	2,I05-	42 -	I,425 -	326
I966-	II,249-	2,450-	I,90I-	436 -	895 -	I,I88
I967-	I7,049-	I,709-	2,407-	66 -	I,I58 -	68I
I968-	I0,353-	2,492-	I,2I2-	I90 -	I,I24 -	7I7

The total value of the I968 catch/an aggregate of III,000 lbs./ reckoned at current union prices is $37,56I.00. This works out to $330.00 per family, a considerable factor in the gemerally depressed Indian economy.

The lower than normal catch of sockeye and pinks reflect less fishing effort due to an increasing opportunity for wage employment rather than availability of these species.

Fishing was limited to a four day weekly period/6 P.M. Sunday till 6 P.M. Thursday/. The Officers and Patrolmen employed in this Sub-District during the summer months report little difficulty was encountered enforcing the weekly close period.

It has proved difficult to enforce the regulation prohibiting the sale of salmon taken in the domestic fishery. However, this problem can be attributed to a small minority, usually acting under the influence of Non-Indian instigaters. This matter is gone into in detail under the heading Enforcement.

Spawning Summary, Salmon

Sockeye

The total estimated escapement to the streams in this area, 35-40,000, was slightly in excess of the main brood year return, 30-35,000.

With the exception of the Zymoetz, the return to all major sockeye producing systems/Gitnadoix, Kitsumkalum, Lakelse/, equalled or exceeded the I964 escapement. The smaller return to the headwaters of the Zymoetz/MacDonell Lake/, 3,500 versus 7,500 in the main brood year, may have been due to an obstruction at Copper Canyon, near the mouth of this stream. This obstruction, a rock slide, was removed by the Resources Development Branch in August.

The escapement to the minor sockeye streams/Kitwanga River, the headwaters of the Kispiox River/was light, but comparable to the I964 return.

Springs

The estimated spring escapement to this area,3,500 to 4,000 was better than average,and in excess of the main brood year return of 2,500 to 3,000.

This increase can be attributed mainly to a better than average return to the Kitsumkalum System.A good return to this system occurred early in the season.Anglers reported a better than normal catch of this species per unit of effort,during the last week in May and early in June in Kitsumkalum Lake and the lower end of Kitsumkalum River.

Pinks

The total pink escapement,an estimated I,500,000,was well above average,and more than double the brood year return,650,000.

The return to most of the major pink producing streams/Lakelse, Kitwanga,Scotia,the main stem Skeena upstream from Kwinitsa Creek/was well above the I966 return.

The count on the Lakelse River tallied I,II2,000 pinks versus 397,000 in I966.An estimated I75,000 returned to the Kitwanga River,versus 35-40,000 two years ago.The Scotia River escapement was 30-35,000,versus 3-4,000 for the brood year.The estimated return to the Main Stem Skeena upstream from Kwinitsa Creek was I50,000,versus a brood year return of 25,000.

The return to the Kispiox River System,an estimated 4-5000, was well below average ,but comparable to the I966 escapement.

Coho

The coho escapement to the streams in this area,an estimated 90-I00,000,was double the cycle year return of 50-55,000.The I968 return of this species,the largest for many years,exceeded the average return which has fluctuated from 20-50,000 for the past ten years.

Better than average runs occurred in all major coho producing streams/Gitnadoix,Lakelse,Kitsumkalum and the Kispiox River./

Chums

The chum escapement to this area was light,an estimated 2,000-2,500.This is approximately one-half the cycle year return of 5,000.

Weather Conditions and Water Levels

During the period April to December I968 weather conditions in this area were generally favorable.

Water levels during this period were normal with no extremes. Very little stream bed scouring or silting that would affect spawn survival was observed or reported.

Temperatures during November and the first two weeks of December varied from +20 to +40,normal for this season.

Snowfall,while light in some areas,was adequate to protect the spawn beds from freezing.

During the last two weeks of December,and January temperatures well below normal were experienced throughout the Terrace-Hazelton Area.Temperatures in the Terrace Area ranged from zero to -20.Temperatures as low as -30 prevailed in the Hazelton and Kispiox River area.During this period water levels dropped well below normal.

The light snow cover and low water levels combined with inclement weather conditions will very likely have an adverse affect on the I969 salmon hatch.

Starting the Ist week in February the weather moderated and water levels in the Terrace Area returned to normal.Water levels in the Hazelton-Kispiox River Area remained low due to lower temperatures.

The following summary of weather conditions for the period March I968 till February I969 was obtained from the Department of Transport Meteorological Station at the Terrace Airport. This data is not representative of weather throughout the Sub-District.Much lower temperatures prevailed during the winter months in the Hazelton Kispiox River Area and at higher elevations in the Terrace Area.

Snowfall in the Hazelton-Kispiox River Area during the period November I968 till February I969 was light,an estimated 25 inches.

			Temperatures		
	Snowfall	Precipitation	High	Low	Mean
March	9.4"	3.I4"	+50	+24	+37
April	6.6"	3.23"	+53	+I8	+39
May		I.82"	+80	+32	+53
June		2.04"	+78	+38	+55
July		2.20"	+88	+44	+62
August		2.08"	+84	+40	+60
September		5.45"	+66	+37	+5I
October		I0.73"	+53	+32	+42
November	7.9"	9.46"	+46	+22	+35
December	5I.5"	5.64"	+35	-I5	+I8
January	27.I"	2.29"	+9	-20	+I
February	35.9"	2.70	+33	+22	+27

Fry Salvage

No fry salvage was carried out in this Sub-District during I968.

Herring

Not applicable to this Sub-District.

Environment, Multiple Water Use

Pollution

The following is a summary of the various industries and human activities in this Sub-District outlinning their relationship to water resources and pollution.

Logging and Manufacture of Lumber

Pollution directly attributable to the activities of this industry is not a serious problem in this Sub-District. The cases where pollution by logging debris has occurred has been cleared up without seriously affecting any of the streams in this area. However, prevention of pollution by this industry requires constant vigilance, and considerable effort.

The lumber manufacturing industry in this area does not use water in their operations.

Agriculture-Ranching

Farming and ranching in this area are limited by the small amount of arable land.

This industry is confined to the Kitsumkalum and Kispiox valleys, and the Skeena Valley between Terrace and Hazelton.

Farming is mainly confined to raising fodder crops for cattle feed, and does not normally require irrigation.

Communities, Resort Centres

The municipality of Terrace has a sewage proccessing plant. The effluent, which empties into the Skeena River, does not have any apparent effect on the fishery resource.

The communities of New, South and Old Hazelton are partially serviced by sewer systems. Sewage is not broken down, and is discharged into the Skeena and Bulkley River in the Raw state.

The effect on fish, if any, is not apparent.

At the Lakelse Lake Resort Centre the Skoglund Hotel has a sewage processing plant. The effluent is discharged into Lakelse Lake. Private dwelling at this location, mainly summer cottages use septic tanks for disposing of sewage.

Obstructions and River Diversions

Beaver dams are a reoccurring problem on a number of streams in this Sub-District, mainly the tributaries of the Gitnadoix, Kitsumkalum, Lakelse and Kispiox River. The beaver populations in this area are increasing due to a decrease in hunting and trapping effort.

Cohoe, and to a smaller extent sockeye, are the species effected by beaver dams.

Stream Clearance Work-1968
Terrace-Lakelse, Sub-District

Name of Stream	Nature of Obstruction	By Whom Removed	Method of Clearance	No. of Man Hours	Cost
Clifford Creek	4 beaver dams	Fishery Officer Patrolman	Hand labour, blasting	24	$10.00
Grouse Creek	1 beaver dam	Fishery Officer Patrolman	Hand labour, blasting	12	$ 5.00
Ironside Creek	1 beaver dam	Fishery Officer Patrolman	Hand labour, blasting	12	5.00
McCullough Creek	log jam	Fishery Officer Patrolman	Hand labour, blasting	6	10.00
McQueen Creek	7 beaver dams	Fishery Officer Patrolman	Hand labour, blasting	30	10.00
Skunsnat Creek	5 beaver dams	Fishery Officer Patrolman	Hand labour, blasting	24	10.00
Wilson Creek	Log jam, old beaver dam	Fishery Officer Patrolman	Hand labour, blasting	8	5.00
Zymoetz River	Rock slide	Resources Development Branch Technicians Conservation & Protection Patrolman	Drilling, blasting	128	

The following stream clearance projects have been referred to the Region for other than local action.

Segunia River

Construction of a diversion channel around cascades located 100 feet upstream from the Kitsegas Road.Mr.G.Gunn,Technician with the Resources Development Branch has inspected this obstruction and feels it would be practical to by pass the cascades by bulldozing a new channel in an old stream bed.The cost of this project is estimated at $2000.00.

Deep Creek

Removal of a log jam blocking access to this stream.This obstruction is becomming progressively worse each year,and has reached the point where it is a serious obstruction to pink and spring spawners.Recommended method of removal is hand labour and the use of a wench equipped tractor.The cost is estimated at $380.00.

Gravel Removal

With a few exceptions gravel removal from salmon streams is not a problem in this Sub-District.

In most areas gravel is readily available from other sources for construction,highway and logging road improvement.

Logging Operations

The forest industry,and related service industries are the dominate economic factor in this Sub-District.People engaged in logging,and milling of forest products,together with their dependents make up a large per-centage of the population of the Terrace-Hazelton Area.

In 1968 this industry employed approximately 1700 people.Several hundred more were employed in service industries that are wholly or to a large extent dependent on the forest industries.

During the year 13 logging companies operated in the Terrace-Kitwanga-Hazelton Areas.Six sawmill,2 at Terrace,1 at Usk,2 at Kitwanga,1 at Hazelton were inoperation.

Production/lumber,pulp,cedar poles/ amounted to 78,606,000 cubic feet of timber.It is anticipated production in 1969 will increase to an estimated 120,000,000 cubic feet.

During the year a total of 15,400 acres was logged on the water sheds of the of salmon producing streams/Zymoetz,Zymagotitz, Shames,Exstew,Kispiox,Kitseguecla,Kitwanga,Kitsumkalum River/.

In 1968,for the first time,the Provincial Forest Service made close cropping mandatory for logging operations in this area. This regulation calls for the removal of all timber over 6 inchs in diameter at the top,or in excess of 7 inchs at the butt.All trees over 10 feet in height must be felled.

Former regulations called for removal of timber over IO inchs at the top,or I2 inches at the butt.

The effect of what appears to be further denudation,when related to water and fishery resources,may not be completely adverse. The close utilization method of logging has been standard practise in other Provinces for some time.It has been determined increasing the amount of slash and debris laying on the ground increases absorption of water by the soil,tends to stabalize run off,and maintains a high water table.

Water Licence Applications

Number of water licence applications received----------II

Number of water licence applications checked ----------II

All applications were for irrigation or domestic purposes,and with one exception/Thornhill Utilities Ltd./ were for relatively small quantities of water.

Thornhill Utilities application was for I,000,000 gallons per day to be drawn from the Skeena River.This proposes to construct a water system to service the community of Thornhill/population 3,400/.

The granting of the requested licence has been held in abeyance pending approval of the design of the infiltration gallery this company plans to construct in the Skeena River.

An estimated 7 days were spent by Officers on temperary duty at this station,and Officers from the Smithers Sub-District checking out water licence applications in this Sub-District.

Placer Minning Applications

One application for a placer minning application was received during the year.This operation is located on Fiddler Creek,a tributary of the Skeena.

Trends in the Fishing Industry

Not applicable.

Enforcement

No prosecutions for violations of the "Fisheries Act" or regulations was undertaken in this Sub-District during the past year.

The report of Fishery Guardians,and Fishery Officers posted to the Terrace-Lakelse,Sub-District for temperary duty during I968 indicates little difficulty was encountered enforcing close periods in the Indian food fishery,or closures of the sport fishery in Copper Canyon/Zymoetz River/ and the Kitsumkalum River.

The main enforcement problem in this Sub-District is the sale of salmon taken in the Indian food fishery.

This problem can be broken down into three categories;sale to local residents,sale to tourists,sale to runners who transport the fish out of the area,either to Prince Rupert for sale to the canneries through commercial licence holders,or east to markets in Eastern British Columbia and Alberta.

The size of this Sub-District,and the limited personnel available makes this type of violation difficult to combat.

The most efficient use of available manpower would be to concentrate on elimination of the local market for illegal fish, and the apprehension of persons who transport illegal fish out of the area.

In addition to a large transient population during the summer, the Terrace Area has had an influx of new residents during the past year or two.Many of these people are not aware that it is illegal to buy salmon taken in the Indian food fishery.

This situation could be ameliorated and the market at least partially eliminated by periodically informing the public through the local news media /newspapers,radio,television/that it is illegal to buy salmon from Indians.

Illegal sale to tourists,usually sport fishermen,could be curtailed by the use of a brochure designed specifically to inform non-residents that buying salmon from Indians is illegal. With the co-operation of the Provincial Government, these brochures would be distributed to Non-Residents when they purchase angling licences

The sale of salmon to runners,who transport the fish to markets outside this area,is a more difficult problem to combat.Progress in curtailing this particular type of offence is contingent on co-ordination and co-operation with adjacent Sub-Districts.

There were no suspensions of logging operations,or prosecutions for violation of Section 33 of the"Fisheries Act" during the period covered by this report.

It is local practice to maintain a close liaison with the forest industry,and effect compliance with anti pollution legislation through mutual understanding,rather than threat of prosecution.Toward this end,logging operations on streams are discussed with industry beforhand and every effort made to make the two interests compatible.

Frequent joint inspections/Department of Fisheries,B.C. Forest Service/ of logging operations while in progress tend to discourage violations.

Twelve logging operations were inspected during January and February 1969.Follow up inspections will be carried out in May after the snow is gone.

In the few cases where logging debris was left below the high water mark,a verbal complaint to the company was sufficient to effect a satisfactory clean up.

Predators

Sea Lions --Not applicable.

Hair Seals

Hair seals enter the Skeena Estuary in late May and June to have their pups.While they do on occassion go as far inland as Babine Lake,large concentrations seldom penetrate beyond the Khyex River. The number of seals in this area is reported to be increasing.

The Department of Fisheries has not carried out an organized hunt since I962.The bi-annual hunt was discontinued at that time as increasing commercial hunting appeared to be adequate control.

Due to a depressed market for seal pelts,commercial hunting has been discontinued,and indications are the seal population is increasing.

District Headquarters is planning a hunt for I969.

Bears (Grizzly,Black)

There is no evidence that bears of either species are a serious problem in this Sub-District.

Grayfish (Dogfish) -Not applicable .

Killer whales -Not applicable.

Administration

Staff

Fishery Officers-The following Fishery Officers were on temperary duty in this Sub-District during I968.

G.Scott--F.O.2--- July
O.Sweitzer --- F.O.I -------August-- November I0th.

M.E.Bogart assigned to permanent duty on November 7th,I968.

Fishery Patrolmen -The following Patrolmen were employed in this Sub-District during I968.

D.Parent--FS5-832R --- June Ist till October IIth,stationed at Hazelton.

D.MacLeod--FS5-83IR--- March 4th till Sept.20th,stationed at Terrace.

Equipment

Departmental Vehicle

The vehicle in use at this Station is a 1964 Chevrolet, 4 wheel drive panel. Present mileage is 50,000.

This vehicle is generally in very poor condition/body, chassis, electrical system/ as indicated by the high expenditure for repairs, and should be replaced as soon as possible.

A vehicle of similar type equipped with a hydraulic wench would be satisfactory.

River boat

The river boat assigned this Sub-District is reported to be completely unsatisfactory, both design and condition. The main disadvantages being poor performance, weight and deep draft. Due to it's weight it is impossible for one man to handle or transport by land. Consequently it's use is limited to the Skeena River in the vicinity of Terrace.

This boat should be replaced as soon as possible with a more versatile craft complete with a trailer. The main considerations being light weight, shallow draft and stability. A unit of this type would be more satisfactory in the respect it's use could be extended to all parts of the Sub-District, a necessity for enforcing closures of the Indian Food Fishery, and spawning assessment work on the larger tributaries of the Skeena.

I recommend the aluminum, river boat type craft manufactured by Smokercraft be considered as a replacement. The Resources Development Branch has been using this type of boat for their work in this area, and have found them to be completely satisfactory.

Outboard Motors

There are three outboard motors on charge to this Sub-District/ I--40 H.P. Evinrude, I--5.5 H.P. Evinrude, I--3 H.P. Johnson. Reported to be satisfactory.

Information, Educational and other Programs

Subsequent to my posting to this Sub-District a limited public education education program has been developed. To date this program has consisted of showing films at local schools. It is my intention to expand this program to schools at Hazelton and Indian Reservations.

A liaison has been established with the Provincial Forest Service and the Fish and Game Branch. The purpose being to co-ordinate enforcement of legislation concerning fisheries conservation and pollution.

Morris E. Bogart

Morris E. Bogart
Fishery Officer

Annual Narrative Report For 1968.

1. General Description of Sub-District.

The Smithers Sub-District is part of District 4 S, B.C.(The old Babine-Morice area) consists of the Skeena River drainage area from Hazelton up with the exception of the Kispiox river. We have on file a list of 65 spawning areas, the most important being the Babine, Bear and Morice.

Only at one point is there an actual count, the Babine Fence,i.e.:

Year	SO	Chinooks	CO	PK	Chum	ST'HD	Totals
1968	605,400	3,550	6,600	84,000	3	100	609,453
1967	632,328	2,171	9,578	43,499	2	66	687,250
1966	382,000	1,600	7,200	46,200	2	60	437,062
1965	644,300	4,200	20,000	67,000		52	735,552
1964	650,000	3,500	36,000	35,000			684,000

2. Fisheries.

(1) N.A.

(2) N.A.

(3) Indian Food Fishery.

Indian Food Fish Catch (in pieces)

Year	Place	SO	CO	Pinks	Chums	Chinooks	ST'HD	Totals
1968	Babine	19,146				xx 47		19,204
	Moricetown	840	2,046	227		1,017	180	4,790
1967	Babine	18,992	29	18		72	1	19,112
	Moricetown	598	1,218	180		1,608	111	3,715
1966	Babine	18,652	137	8		149	6	18,952
	Moricetown	2,442	2,671	466		1,233	418	7,150
1965	Babine	18,540	252	33		172	17	19,014
	Moricetown	1,501	3,173	423		1,413	177	6,687
1964	Babine	19,855	150	1		157	44	20,207
	Moricetown	2,284	960	628		1,564	80	5,616

Lake Babine band population 827
Moricetown band population 351

Indian Food Permits issued in the Sub-district 165
Total Salmon taken 25,494.

3. Spawning Summary

(a) Salmon

(1) Name of stream	Species	Seeding	Brood years	Remarks
Asitka Lake	SO	D Lt	63nr. 64 D	Increase
Atna lake	SO	E Med	63 D. 64 D	Increase
Asuklotz creek	SO	C Lt	63 C. 64 C	Decrease
Babine Lake	SO	L Hvy	63 L 64	Same
Babine River #1	SO	L Hvy	63 L. 64xM	Same
			64 M	Decrease
Babine River #1x	Co	C Med	65 C	Same
Babine River # 2	SO	M Hvy	63 M. 64 M	Same
Babine River #2	CO	M Hvy	65 C	Same
Babine River # 3	SO	M Hvy	63 M. 64M	Same
Babine River # 3	CO	C Med	65 C	Same
Babine River # 4	SO	L Med	63 M	Decrease
			64 L	Same
Babine River # 4	SP	C Lt	63 C. 64 C	Same
Babine River # 4	CO	D med	65 D	Same
Babine River # 4	PK	M Hvy	66 L	Increase
Babine River # 4	ST'HD	E Med		
Babine River # 5	SP	D Lt	63 D. 64 D	Same
Babine River # 5	CO	E Med	65 D	Increase
Babine River # 5	PK	D Med	66 F	decrease
Babine River # 5	ST'HD	E Hvy		
Bear Lake	SO	E Lt	63 F	Decrease
			64 C	Decrease
Bear River	SO	D Med	63 C. 64	Decrease
Bear River	SP	C Med	63 H. 64 H	Decrease
Bear River	CO	D Lt.	65	
Buck River	CO	C Med	65 C	Same
Bulkley River # 1	SP	C Lt	63 F. 64 F	Decrease
Bulkley River # 1	CO	F Lt	65 E	Increase
Bulkley River # 1	PK	C Lt	66A	Increase
Bulkley River # 2	SP	D Med	63 C. 64	Increase
Bulkley River # 2	Co	F Med	65 E	Increase
Bulkley River # 2	PK	D Med	66 E	Decrease
Five Mile creek	SO	A Med	63 X. 64 A	Same
Four Mile creek	SO	G Med	63 G. 64 G	Same
Fulton River	SO	N Hvy	63 N. 64 N	Same
Fulton River	CO	D Med	65 E	Decrease
Gosnell Creek	CO	F Med	65 E	Increase
Grizzly Creek	SO	H Med	63 H. 64 H	Same
Johanson Lake	SO	E Med	63 C. 64 C	Increase
Kathlyn creek	CO	D Med	65 D	Same
Morrison creek	So	L Hvy	63 L.	Same
			64K	Decrease
Morice Lake	SO	C Med	63 . 64	
Morice River	SP	H Med	63 H. 64 H	Same
Morice River	CO	G Hvy	65F	Increase
Morice River	ST'HD	F Hvy	63 A. 64	Increase
Nanika River	SO	G Med	63 F.	Increase
			64 H	Decrease
Nine Mile creek	SO	E Med	63 F. 64 F	Decrease
Owen creek	CO	C Med	65	
Pierre creek	So	L Hvy	63 L. 64 L	Same
Pincut creek	SO	L Lt	63 M. 64 M	Decrease
Pincut Creek	CO	C Lt	65 C	Same
Six Mile creek	SO	E Med	63 F. 64 F	Decrease
Sockeye creek	SO	F Lt	63 G	Decrease
			64 F	Same
Twin creek	SO	K Hvy	63 k. K	Same
			64 H	Increase

3. Spawning Summary (cont.2)

(a) Salmon

(1)

Sockeye. A moderate escapment to the Babine area, seeding light on early streams to heavy on late streams. The Sustut drainage was the best for a decade but still light by old standards. The Nanika was again light.

Chinook. Both the Morice and Bear runs were fair. Babine again very light or poor.

Pink. A very good escapment to the Babine however average pinks were on the small size. All other areas were near barren.

Cohoe. Good seeding on all streams.

Steelhead. A fine run on all steelhead streams, sport fishing has now reached a point where few steelhead survive to spawn.

Sport Fishery. Our check in most areas are spot checks or reports from Fishing Lodges. Our best figures are from the Moricetown Guardian.

Place	Fisherman	Chinook	Cohoe	ST'HD
Moricetown	2456	1875	829	293
Babine River		17	153	528
Morice River		192	455	425
Sustut River		~~23~~	160	~~211~~
		2109	1597	1457

Please note: Moricetown chinook catch was approximately 80% jacks, other areas jacks were not included.

3. Spawning summary (cont.)(3)
(a) Salmon

(11) Weather Conditions And Water Levels.

The past winter snow fall was considered normal. Spring run off was very gradual as it was a so called late spring. Lake basins filled to normal levels rivers were high but did not flood.

The summer was cool and wet and all streams retained good levels.

Fall cold weatherand snow came gradually and Spawning ground now well protected by ice and Snow cover, (January 15, 1969, average of 8 inches of snow and 6 inches of ice.)

Extreme cold has not so far resulted in channel diversions or flooding.

(111) Nil.

(b) N.A.

4. Environment Multiple Water Use

(a) Pollution

During the past summer three major work projects crossed this area; Pacific Northern Gas Pipeline, B.C. Hydro and a network of service roads as well as several forestry and mine access roads. Great care was taken not to put any spoil in streams, however heavy rains carried considerable amounts of the freshly worked soil into streams.

Several Mines are now working but appear to be taking all possible precautions.

All villages in area have a sewage elliminating problem not the least of which is adequate funds. However in most cases the dolution is considered adequate.

The Railroad And Highways use of spray as bush and weed control could be better regulated on salmon stream drainage.

(b) Industrial Developments

Bulkley Valley Pulp and timber Ltd.
The above has plans for a large complex, centraly located at Houston, B.C., reported are a large sawmill, plywood and pulp mill. At present a start has been made on the building of the sawmill. The forestry control is expected to change from a working circle to a tree farm licence. It is expected to be much more efficient in that it will reduce the present waste (or larger gross harvest from the cut over acreage). They also state that the booming of logs on Babine Lake will be changed to a direct truck haul, roads are being cleared now.

Pacific Northern Gas Pipeline.
Required check on river crossings ect., but now in operation should not require to many patrols.

Spawning Channels.
The Babine Lake spawning channels and water control has been well covered by the department.

(c) Obstructions and River Diversions

We have no new obstruction points, other than natural falls ect., that are all listed. The Copper River slide effects runs to the McDonell Lake Spawning grounds, work was done on it and an engineers report filed.

The Salmon River falls could have corrective work done. Also assessed by Department engineers.

Therefore the biggest obstruction problem is the numerous beaver dams in the area. This year due to dam washout and high water this problem only required a minimum of attention that in total still amounted to an overload of work. Even so except for the accessable areas we can not say that problem was adequatly looked after. This problem is so vast that we do the best we can were possible. My hope is that nature will reduce the numbers as it does when populations reach a peak by Tularemia (TB) as all rodents are attacked periodically and so controlled.

Stream clearance. as reported some 760 hours was expended in this area on so called stream clearance. The above includes travel time. However most of the work was opening channels through beaver dams.

(d) Gravel Removal

Several applications have been made, however we did not approve removal sites but gave alternate possible sites where removal may be feasable.

4. Environment - Multiple Water Use (cont. 2)

(e) Logging operations

Now at very low point as pulp interests take over and phase out small holdings. This condition expected to last untill new complex takes over next year.

(f) Water licence applications

1. Bert Warmerdam
2. Bulkley Valley Collieries Ltd.
3. J.E. And Mrs. L.M. Southern (Jakaro Lodge, Owen Lake.)
4. H.A. Dillon
5. Ed. Poty
6. Mrs. J. Horling
7. Kenneth Atkins
8. Wilfred A. Louth and Helen Paulis
9. Buck River Lumber Co. Ltd.
10. F.S. Sturzenegger
11. W.& Mrs. T.V. Grootheest
12. Silver Standard Mine (Not installed yet)

(g) Placer Mines

Inlet Explorations Ltd., hold several claims on the Bulkley River in the Mudflat creek area. Some test holes have been made but to date work has been on high bars and on a small scale. Two more claims on Mosquito flats applied for recently have been protested on grounds that area is steelhead and pink spawning ground.

5. N.A.

6. (a) Nil.
(b) Sport and Indian Fishery closures adhered to.
(c) Nil.

7. Predators

(a) N.A.
(b) N.A.
(c) Bears (Grizzly and black)

American hunters appear to favor bear pelts as trophies. During the last few years the bear population has been reduced and predation is a more reasonable level.

(d) N.A.
(e) N.A.
(F) Other

Bird

We have a heavy population that feed on salmon however most fish taken are spent. Predation on unspawned salmon was light this year due to high water levels. It can be considerable when streams are low.

8. Administration
(a) Staff
(i) L.J. Colley Fisheries Officer III
D.H. Meyers " " II

(ii) F.P.L. Babine River

(iii) Moricetown Guardian
Donalds Landing Patrolman
Fort Babine Patrolman
Bulkley-Morice Patrolman

(iv) Patrols very efficient but hampered by inadequate communications.

(b) Equipment
(i) 2 4.WD. Trucks
1 Inboard-outboard patrol launch (not in sevice in area past season).
1 Fibreglass speed boat 22 H.P. outboard.
2 Work boats with 40 H.P. outboards.
1 car top boat with 6 H.P. outboard.

8. Administration (cont)

(b)

(11) Present equipment not suitable for river work.

(111) Transportable, jet, river boat and trailer, required for patrol of Indian Food Fishery on Bulkley River, for patrol of sport Fishery on Bulkley River, Babine and Morice Rivers, and for transportation to spawning groundsxx on Bulkley River, Morice River, Telkwa River and Sunderland River.

9. Information, Educational and Other Programmes

(a) Aid to local students in wildlife nature studies ect.

(b) At the service of the R.D.B. and F.R.B.

(c) Co-operation with Health And Welfare, Water Board, Fish And Game Branch, Dept. Of P.W., R.C.M.P., and Forestry, on matters pertaining to Rivers, Streams and pollution.