ANNUAL NARRATIVE

Babine -Morice Subdistriot

1981

by Terry Turnbull

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OUTLINE

Outline (cont'd)

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I. GENERAL DESCRIPTION OF SUBDISTRICT

The Babine-Morice Subdistrict consists of: the Skeena River watershed above the confluence of the Skeena and Babine Rivers, the Babine River watershed upstream from the Kisgagas Reserve, the Bulkley River watershed upstream from and including Trout Creek, and the Zymoetz River upstream from McDonnell Lake. The subdistrict serves the communities of Smithers, Telkwa, Quick, Houston, Topley, Topley Landing, Granisle, Fort Babine, and their surrounding rural areas. Total population is approximately 20,000 people.

II. Fisheries

A. Commercial Fisheries

1. Babine River Jack-Sockeye Harvest

The Lake Babine Band Council accepted a service contract from the Department of Fisheries & Oceans to remove Jack-sockeye salmon from the trapping facilities at the Babine River counting fence. The bands started the harvest on August 10 and finished on August 30, utilizing two shifts per day of nine people per shift. 82,533 Jacks were harvested, comprising 53% of the total Jack count. The jacks were sold to B.C. Packers in Prince Rupert.

B. Sport Fisheries

1. Tidal Waters - non-applicable

2. Non-Tidal Waters - sportfish catches for Babine River (BR) and Bulkley-Morice system (B-M) - (see table 1)

TABLE 1

		Spring	Jack Spring	Coho	St'hd*
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	(BR)	10	--	35	
	TOTAL	80	30	280	

* St'hd figures not available until summer.

1980	(B-M)	150	80	835	5,125
	(BR)	20	--	100	2,700
	TOTAL	170	80	935	7,825

1979	(B-M)	78	70	260	94
	(BR)	12	--	63	84
	TOTAL	90	70	323	174

1978	(B-M)	(not available)			
	(BR)	" "			
	TOTAL	160	50	540	148

Notes: a. Pre 1977 Bulkley-Morice catch figures included Moricetown Canyon downstream to the Skeena confluence.

b. 1981 estimated steelhead figures reflect kills and releases; fish were released.

3. Provincial Sport-Fishing Licences - sold in the area (see Table 2)

TABLE 2

	Non Res	Can. Res	Short Term	Can Res. St'hd	Non Res St'hd	Can Sr
1981	673	14,962	240	2,472	412	169
1980	632	17,886	235	3,226	395	164
1979	595	16,699	234	3,055	389	121
1978	384	2,361	231	2,360	299	268
1977	365	1,663	240	573	312	53
1976	514	3,291	218	979	411	153

4. Sport-Fishery Closures

a. New regulations in 1981:

i. Babine River - Angling closure from signs located 100 meters above the fisheries counting fence to signs below Nichyeskwa River from July 1 to September 30th.

ii. Bulkley River - Salmon closure above the confluence of the Morice River from July 15 to October 31. (not yet gazetted)

iii. Morice River - Angling closure between signs placed on Morice Lake and signs at Lamprey Creek from July 15 to September 30.

iv. Morice Lake - Chinook salmon closure. (not yet gazetted)

b. Public Notices in 1981

i. Skeena River Watershed - The Provincial government introduced a steelhead closure on November 1, allowing catch and release only. Closure was upstream from the Highway 16 bridge in Terrace.

5. Gear and other Restrictions

a. Roe Ban - Morice Lake, Bulkley River

b. Single Hook - Bulkley River

6. Sport-Fishing Conditions

a. Springs: 1981 was an unproductive year for Spring salmon anglers on the Bulkley-Morice system above Moricetown. Fishing sites which produced the best catches were the Bulkley-Morice confluence and Three Mile on the Morice River. Angler success probably was reduced by high, muddy water flows during July. Many Morice River springs were observed holding on their spawning beds August 2, which may suggest high water affected their normal holding and timing pattern in the lower reaches of the river, thereby further reducing angler catches.

b. Coho: Coho fishing in the Bulkley-Morice system was disastrous this season. Customary fishing sites produced very few fish. The Trout Creek stretch was the most heavily fished, producing approximately 2.5 fish per day during the latter part of August (13-24).

Catches dropped to 1 - 2 fish per week after the 3rd week in August. At Three Mile a handful of fish were caught between August 22 - September 5 and September 12 - 22.

Babine River coho fishing was below average, but fish were taken throughout August and September. Best producing water was the 3 - 4 km. stretch below the Babine River bridge.

c. Steelhead: The Provincial Fish & Wildlife Branch calculated that as many as 15,000 steelhead were taken in the Area 4 commercial salmon fishery. The continuous fishing by both commercial and native food fishermen to crop the bumper runs of Babine sockeye, caused alarm for steelhead escapement. Accordingly, the Branch reduced the status of the steelhead sport fishery to catch and release only.

C. Indian Food Fisheries

1. Babine-system Food Fishery

BABINE LAKE CATCH FIGURES*

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1981	30,300	UK	UK	21	UK	30,321
1980	22,635	125	200	20	0	22,980
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1978	10,920	15	152	3	1	11,091
1977	10,777	50	100	20	10	10,957
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* Figures include catches from Sutherland River, Pendleton Bay, Topley Landing, Old Fort, Smithers Landing, Fort Babine and Nilkitkwa Lake.

Individual Food Fish Licences were issued by the Lake Babine Band to any registered Indian that the band felt should fish on their tribal fishing grounds. Total number of licences are not available as some licence books were not returned. Salmon fishing was allowed seven days a week until December 31, 1981. Fishing was done by salmon gillnet or set net; there was no net length or mesh restrictions. The fishery started in late July and finished on Sept. 21, 1981. The band population is 1040.

2. Bear Lake Food Fishery

Eleven Takla Lake Band members were issued individual licences to fish Bear Lake, an increase of two licences over last year. They fished during August and early September, catching an estimated 1200 sockeye and 500 spring. The Takla Lake band population is 367.

D. Obstructions and Diversions

Beaver dams were removed on Tachick Creek (3 dams - twice), Toboggan Creek (once) and Morrison Creek (several times).

Mr. E. Christiansen clipped or breached three persistent dams many times on Morrison Creek. When autumn rains began in mid-September and sockeye migration became imminent, one dam was dynamited.

After four canoe trips down the Zymoetz River, the river is navigable. The degree of upper river utilization by salmonids should now be possible to establish.

E.

VII. TRENDS IN THE ~~MINING~~ FISHING INDUSTRY

A. Food Fishery

1. Bear Lake Food Fishery - The most traditional of food fisheries within the s/d. As long as the Bear Lake sockeye run has low escapement, fishing pressure will continue to shift to Bear River chinook stocks. The chinook are being caught by snare and then backpacked over 3 km. to camp. This river has been closed for the conservation of chinook; however in 1982 the chinook stocks should be reassessed for harvestable surplus. If there is no available surplus of Bear River Chinook then regardless of fishermen notification, court action will undoubtedly be necessary for observance of the closure.

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III. SPAWNING SUMMARY

Salmon escapements to the Babine system are counted through the Babine River counting weir (Dave Southgate 1981). The fence panels were installed on July 1 and removed on September 29. The escapement began with six sockeye arriving on July 12.

Note: The Babine system jack sockeye figures in Table 1 include the commercial harvest.

*Sockeye, Pink, Coho and Chinook counts are qualitative.

A. Tables

1. SOCKEYE

	Babine system	*Upper Skeena	Bulkley-Morice	Upper Copper
1981	1,432,734 (155,549 JK)	2,522	1,000	1,200
1980	526,059 (233,855 JK)	1,950	650	140
1979	1,160,966 (90,498 JK)	4,300	1,650	1,100
1978	401,318 (296,274 JK)	6,650	600	700
1977	937,992 -- (23,397 JK)	840	800	2,000

BABINE LAKE SOCKEYE SPAWNERS

1981	1980	1979	1978	1977
~~765,483~~ 578,134	164,852	241,988	152,643	126,000

2. COHO

	*Babine System	*Upper Skeena	*Bulkley-Morice	*Upper Copper
1981	2,166	N.O.	1,354	150
1980	4,399	N.O.	3,995	N.O.
1979	2,909	500	750	250
1978	11,446	4,875	5,800	1,500
1977	10,474	1,000	6,590	400

3. PINK

	*Babine System	*Upper Skeena	Bulkley-Morice
1981	130,390	N.O.	12,500
1980	326,451	N.O.	100
1979	63,703	1,500	5,800
1978	192,708	N.O.	812
1977	76,077	N.O.	25,000

4. CHINOOK

	Babine System	*Upper Skeena	Bulkley-Morice
1981	723 (146JK)	5,100	3,290
1980	918 (242JK)	9,000	5,075
1979	822 (404JK)	3,000	4,675
1978	492 (1,111JK)	4,050	6,950
1977	619 (768 JK)	1,800	4,750
1976	618 (251JK)	950	1,835
1975	1,018 (342JK)	1,500	3,000

B. Summary Comments

1. Sockeye

a. Babine System - This year's sockeye escapement is the highest coun since the installation of the fence in 1946. The adult return is higher than either of its brood years, 1976 and 1977. Conversely, the Jack Sockeye return is moderate. 90,000 sockeye spawners were airlifted over the natural falls on Pinkut Creek. This is the 6th year an airlift operation has been used to relieve overcrowding in the channels. The last airlift was in 1979.

b. Bulkley-Morice System - Nanika River sockeye escapement remains low when compared to the 1950's. The 1961-70 average is 4540 fish; the 1971 - 1980 average is 732.5 fish. When reviewing the decade average drop, different enumeration methods should be kept in mind. Some of the 1960's escapement figures were determined by counting strips, tagging, deadpitch and aerial counts, whereas escapement figures during the 1970's were done by aircraft only. Conversation with R. Palmer, as well as reviewing published data, suggest Morice system sockeye stocks are currently being underestimated. Taking into consideration Morice Lake and Atna Lake spawners and difficulties in determining Nanika River stocks, this year's sockeye escapement could well be in the 3000-3500 range.

c. Upper Copper River - Sockeye were observed on the spawning grounds as early as August 26th; high water prevented an accurate assessment. On August 26 and September 23, the entire river was canoed from Dennis Lake to McDonnel Lake; the upper limit of sockeye migration was the "meadows". By September 23 most of the estimated 1200 sockeye spawned and died in the 300 meter stretch downstream from the meadows. The ten year average is 1282 fish.

Old reports indicate sockeye ranged past Dennis Lake. Their disappearance from these upper reaches are obvious to anyone who has seen the results of the old Duthie Silver Mine tailings disposal system.

d. Upper Skeena System - Qualitative enumeration revealed the following: Bear Lake - 70; Azuklotz Creek - 200; Slamgeesh - 2000; Sustat Lake - 300; Salix Creek - 150; Johanson Creek and Lake - 50. Other sockeye bearing waters were not reported this year because of their perennially turbid water conditions or their escapements and our flying schedules did not coincide.

Sockeye escapement to the Upper Skeena system was probably below average which was likely attributed to the heavy commercial fishing in Area 4. Sockeye catches in the Bear Lake food fishery were so low the fishermen hiked down the Bear River to take chinook. Also Azuklotz Creek, the best quantity indicator in the system, showed low escapement.

2. Coho

a. Babine System - Based on fence counts, the 1981 coho return was only 19 percent (2,166) of its brood year, and it was well below the ten year average of 5686.

Although the Babine fence fish counts produce the most accurate coho counts in the s/d, it is simply an assessment of the upper Babine system. Two of the Babine River's major tributaries, the Nichyeskwa River and the Nilkitkwa River are below the fence. Both these rivers have coho, and their stocks may be substantial.

b. Bulkley-Morice System - High water in October - November prevented a coho count on the Upper-Morice River, although their presence was noted. No quantitative escapement figures were obtained for any of the tributaries except Toboggan and Kathlyn Creeks. Owen Creek was thoroughly checked but no fish observed.

Kathlyn Creek escapement figures are, historically, the most accurate; this year's twenty fish is well below the ten year

average of 163 fish. The previous ten year average (1961-1970) was 350 fish. Decreasing coho stocks in Kathlyn Creek are almost assuredly in proportion to increasing residential development, and could not be used as a stock indicator for the Bulkley-Morice system.

The best gauges of coho abundance to date are the Moricetown food fishery catch, the Trout Creek bar sport fishery and Toboggan Creek escapement. Also, this year the Houston fishery guardian recorded angling catches in the lower Morice River. If manpower permitted these four parameters to be routinely monitored, relative abundance of coho might well be determined. However, even though the actual 1982 escapement figure is evasive, the escapement is drastically lower than last year.

c. Upper-Copper River - This stream was checked four times. One coho was seen in the stream on September 23, and a few coho were seen off the creek mouth in McDonnel Lake. On October 21st four coho were observed below the "meadows". Some coho must have spawned above the meadows but on that particular day low water hampered running the river by canoe. Current strength of coho stocks are really unknown.

d. Upper Skeena System - Only the Creator knows the coho escapement number.

3. Pink

a. Babine System - The Babine River adult pink salmon return of 130,390 was slightly below the last five odd-year average of 132,254. Interesting enough these escapement figures are more than double the average of pre-1970 escapements.

b. Bulkley-Morice System - Approximately 86% of the Bulkley-Morice pink salmon spawn between Fenton Creek and Gosnell Creek. 80% of that spawning is done in the side channels of the Morice River. Counting pink salmon spawners in this system can only be done accurately by intensive helicopter searching. The 12,5000 fish reported this year is accurate.

c. Upper-Skeena System - see Upper-Skeena system coho comments.

4. Chinook

a. Babine System - The chinook return of 719 is the lowest recorded fence count ever; the 1971-80 average is 1607.1 fish. The lower escapement is probably proportional to the intensive commercial sockeye fishery in Area 4. The 1981 Jack-Chinook return is also the lowest on record, but it is not likely the result of the commercial fishery.

b. Bulkley-Morice System - The upper Bulkley River chinook return of 250 is considered to be fairly accurate, and it is probably lower than average. Every chinook had to be up in its holding area by the 3rd week in July before the water level dropped, making migration impractical. Five holding areas were identified this year: Knockholt 5 km. stretch, Upland Motel, Perow, 3 km. above Topley and 3 km. above Bulkley Falls. A tortuous canoe trip showed one chinook one half mile below Bulkley lake. In 1981 80% of the spawning took place between the Upland Motel and Perow. In former times the bulk of the run spawned above Bulkley Falls.

The Morice River chinook return of 3000 fish is well below the ten year average of 5690. However, the 1975-80 average is 3883.3. Local expectations for the 1981 chinook run were penned in the 5000 - 7000 range as it was hoped the various Skeena River closures would finally take effect.

c. Upper-Skeena System - The Bear River chinook salmon return is the only quantitative count in this system. This year's 5000 is above the ten year average of 3695, and it is also above the 1975-80 average of 3291.6. The majority of the chinook run appeared to be in the river by August 30th. There may well be a resurgence of spawning stock towards historic levels in this river.

IV. WEATHER AND WATER LEVELS

Although snow levels in the Bulkley Valley were low, the snow pack in the mountains was near normal.
March 23-29 - Bulkley-Morice runoff began; cold nights controlled runoff. The upper Bulkley River rose about 30 cm.
March 30-April 5 - Bulkley River rose about 15 cm. from winter flows.
April 20-April 26 - Bulkley River dropped about 5 cm.; mountain snowpack still frozen.
May 4 - May 10 - Bulkley River up about 61 cm.
May 11-May 17 - Bulkley River still cresting. Donald's Landing water gauge reads 3'8".
May 18-May 24 - Bulkley River still cresting, rains helping. Donald's Landing water gauge reads 5'3".
May 25-May 31 - Bulkley River peaks 25-26 of May. Water dropped about 30 cm. at week's end, after rain stopped. Donald's Landing water gauge reads 5'8".
June 1-7 - Bulkley River drops another 45 cm.
July 27-Aug.2 - Upper snow pack and rains keep the Bulkley-Morice system well up until Aug. 2. Upper Bulkley River is low.

1981

Month	Rain (mm)	Snow (cm)	Water Content (mm)	Temperature High	Low	Average
January	11.7	2.4	14.1	1.3	-4.3	-1.5
February	10.1	16.4	23.1	.8	-6.4	-2.8
March	16.2	20.5	40.9	7.7	-3.3	2.2
April	22.2	16.2	36.9	8.3	-0.1	4.1
May	50.3	-	50.3	16.7	4.9	10.8
June	59.9	-	59.9	16.1	5.0	10.6
July	10.4	-	10.4	24.0	9.6	16.8
August	49.2	-	49.2	23.7	8.8	16.3
September	61.0	-	61.0	16.2	4.0	10.5
October	68.5	4.0	72.5	8.7	0.0	4.4
November	17.7	32.7	48.0	3.8	-2.3	0.5
December	0.8	34.6	27.2	-4.6	-12.0	-8.3
TOTAL	378.0	124.8	493.5			

V. Fry Salvage

A. Morice River - 329 coho fry were trapped out of a gravel pit and returned to the Morice River. More fry could have been saved, had n some animal with a small brain taken the trap. The enigmatic presence of coho fry in a gravel pit which is beyond view from the river remained a mystery until late into the fall. A joint inspection of gravel pits with Forestry and Northwood ended the mystery. An inconspicuous horseshoe slough which lies to the back of the pit becomes viable fish habitat during spring freshet. Since then a gravel berm has been placed at the rear of the pit and its usefulness will be checked in late spring.

B. Bulkley River - 27 coho fry preferred Jake Zust's cow pasture this year; the pasture is near the Highway 16 bridge. Jake rescued them as he has done in previous years.

VI. HERDING - not applicable

VII. ENVIRONMENTAL, MULTIPLE WATER USE

A. Pollution

1. Equity Silver Mining Road

This road continues to contribute heavy silt loads to Dungate and Buck Creek during spring runoff. Overall, there is a slight improvement as grass takes hold, but

the 5.5 km. culvert and slope remain loathsome. Equity placed log berms at intervals down the slope in hopes to slow water flow and settlement silt. Spring runoff either removed the berms or made bridges out of them.

This year a water interception trench has been dug. The mine engineer is much encouraged by this new water course; however, if the lowly willow shrub was marshalled into the skirmish, the Fishery Officer would also be encouraged.

2. Noranda Mines Division - Babine Lake

The ledger still shows some outstanding environmental debit accounts, namely Bell Copper Mine and Granisle Mine. The status of Babine Lake water and sediment quality associated with tailing pond seepage, reclamation pipe freeze-ups and plant operations has been dutifully recorded. And, early in the foray, memoranda and oral communications proceeded resolutely to the Habitat Protection Branch seeking their technical advice. But as time passed, H. P.'s perplexing gluttony of silence gradually tamed outbursts of environmental consciousness to a whimper. Once in a while when the moon is high, the aforementioned branch is cynically referred to as the Hopelessly Pathetic.

3. Omineca Mining Road

Improperly placed culverts continued to plague fish-bearing tributaries of the Johansen and Sustat systems. Photographs and a written report have been compiled for remedial action by Mr. MacKenzie, the assistant supervisor.

4. Chemical Spills

a. C.N.R. Fuel Storage Depot - on June 3, 1981 diesel fuel made its way from the C.N.R. yard to Chicken Creek. The subsequent investigation showed leaky gauges, leaky pipes, and sloppy C.N.R. work habits.

Fuel would accumulate in the water table under the C.N.R. yard during the winter, then each spring it would flush out during the thaw. New C.N.R. management displayed a keen interest in solving the age old problem. A gravel berm was placed on the contaminated drainage ditch to prevent further fuel from getting into Chicken Creek. Then, the fuel in the ditch was torched, resulting in a ditch-long fire that burned for more than a day. Valves, joints and gauges were pressure tested and repaired. And most important, an underground tank was connected to the fuel transfer area to collect unsupervised overflows.

b. Equity Silver Mine Sulphuric Acid Spill - On November 17, 1981, 108 tons of 96% sulphuric acid leaked from a storage tank at approximatley 10:30 p.m. It entered the mine's perimeter storm drain system and eventually worked its way to a swamp near Goosly Lake.

The Waste Management Branch of the Provincial Government supervised the clean up. Large amounts of lime were ladled over the acid wherever it concentrated. Waste Management is still monitoring Goosly Lake for any significant water change. Although the spill effects seem to be arrested, authorities still feel there is a potential danger to aquatic life in Goosly Lake and to downstream water users on Buck Creek, particularly during spring runoff. It is thought spring runoff could release large amounts of acid into the lake or that the chemical action of the acid could release high levels of heavy metals into the lake.

5. Bulkley Valley Cement Gravel Site

On the bright side, 1981 witnessed cessation of gravel crushing operations at the junction of Buck and Dungate Creeks.

6. Chicken Creek - Ministry of Health Officials advised Chicken Creek residents not to drink water from the stream. Dr. Eric Holowaty, head of the Skeena Health Unit, said he has never in his career seen water as polluted (bacteria) as that of Chicken Creek.

B. Environmental Issues

1. Kemano II (alais Kemano Completion)

January 14 - Interior News - Alcan plans to expand its annual smelting capacity 5 to 6 percent a year through the 1980's. Mr. Culver, a chief marketing executive for Alcan, says, "All we want to do is take advantage of our opportunities to produce aluminum more cheaply than the others and to grow in a balanced way". Mr. Culver thinks the company's $4.5 billion in assets and $4.4 billion in annual revenues could double over the decade.

Alcan plans to spend $2.5 billion by 1995 to build three new smelters in B.C., and to double the size of its 896,000-kilowatt Kemano power project. This would raise their B.C. smelting operation from 268,000 tons to 768,000 tons. Investment analysts believe Alcan's power cost advantage will make it the most profitable of major aluminum producers by the mid 1980's. However, a serious cutback in B.C., where the company's energy cost advantage is greatest, could crimp its plans.

January 21 Lakes District News

Forestry officials are accepting timber sale applications to cut wood from a preposed B.C.Hydro right-of-way. B.C. Hydro wants to build a second 500 KV line from Williston Lake to Telkwa as a backup system. But the line does not as yet have the go ahead. Hydro also says, "it may suffer a public relations problem in building the line; some suspect it will be tied in with a Kemano expansion project".

January 21 Lakes District News

Save the Bulkley environmental group has proposed a Nechako River water management committee to control water use. The committee would include local government, native groups, environmental groups, Alcan and other senior government agencies. Alcan's Bill Rich does not favour the water management concept. Save the Bulkley also wants the Nanika left out of Alcan's plans.

January 28 Interior News

Municipal governments of Fort St. James, Vanderhoof, Fraser Lake, Burns Lake, Houston, Granisle, Telkwa and Smithers endorse the Nechako River management concept.

Alcan plans on spending 2½-billion dollars on Kemano in the next ten years and it doesn't believe a 14 member water board could make quick enough decisions on fluctuating water flows.

February 11 Interior News
Hazelton Village Council joins demand for Nechako water flow committee.

February 18 Lakes District News

Vanderhoof's Nechako Neyenkut society rallied a 600 person protest to Kemano expansion. Alcan enters its third year of underwater cutting to rid the Nechako Reservoir of flooded timber caused by the creation of the reservoir in the early 1950's. $500,000 a year is being spent on the project. Alcan begins telephone surveys to Yellowhead residents seeking their reaction to Kemano completion.

March 25 Lakes District News
At a Burns Lake Rotary meeting, Bill Rich explained the 3 C's: communication, consultation and co-development.
"We see Kemano Completion project as an opportunity to create a hallmark example of industrial development undertaken in total harmony with its environment".
New excess power would be offered to B.C. Hydro at cost until it was needed for smelting purposes.

March

Save the Bulkley group is critical of the Utilities Commission Act passed in the B.C. legislature Aug. 2-, 1980. They point out that application for major energy projects is made to the Ministry of Energy, not the Commission. The Minister May refer the application to the Commission or he may, with the concurrence of the Minister of Environment, allow the energy project to proceed with construction.
If an application is referred to the Commission, the two Ministers also set the terms of reference for the Inquiry including the picking of Commission chairman. Then section 3(1) states that the Cabinet may tell the Commission how to decide a case before or after it has heard the evidence.

April 22 Interior News
Alcan announces a socio-economic study of Yellowhead communities. Statistical data on demographics, employment, housing and community services will be collected.

April 22 Lakes District News
The B.C. Wildlife Federation heard Bill Rich explain that salmon can be enhanced in controlled rivers. Any salmonid enhancement project which would conserve water for power use would be paid for by Alcan.

April 29 Interior News
Alcan's Brian Hemingway says alcool water tunnel which could take cold water from the bottom of the Nechako Reservoir would lower water temperatures in the Nechako River. Thus, saving Alcan water and still protecting the spawning fish from higher temperatures. A $5 million dollar feasibility study was revealed by Alcan for a Manitoba smelting plant.

April 29 Lakes District News
Alcan conducts study to determine best possible smelter sites along the Yellowhead.

May 6 Interior News
After Hemingway's cool water diversion tunnel around Kenney Dam for fish protection, Save the Bulkley (SB) stated that Federal Fisheries and the International Pacific Salmon Fisheries Commission had requested such a proposal 30 years ago, prior to dam construction. S.B. argued that if the tunnel had been built then neither the fish nor the Cheslatta Band (forced to move out) would have suffered serious disruption. Hemingway didn't know why the tunnel wasn't built then.

June 3 Interior News
Talisman Land Resources Consultants are hired by Alcan to study ground water effects on agricultural land adjacent to the Bulkley-Morice and Nechako systems.

June 17 Lakes District News
Alcan meets with Tweedsmuir Rod and Gun Club, explaining its recognition of other water users and company history.

July 15 Interior News
Fed. Fish and Alcan agree to 2000 c.f.s. flow release on the Nechako until further notice.
Test drilling will continue at the proposed Nanika dam site.
Twenty-six year political veteran for Omineca-Skeena, MLA Cyril Shelford is hired as a wildlife and agriculture advisor.
Atna Lake drillingssite program may proceed. An Atna reservoir would offset low flows in the Morice caused by the Nanika dam.

August 26 Interior News
Bill Rich refuses to release a draft copy of its environmental data on Kemano completion to Save the Bulkley group. Rich says this group is working against Alcan. But the final report will be available to everyone.

September
Alcan puts out a public brochure to Yellowhead residents covering: Alcan's new attitude; Alcan's public participtpion approach; Alcan's new criteria for Kemano completion; project background; its river management views and its fiction/fact exposé.

September 23 Interior News
Test drilling finished at Nanika site.

November 4 Interior News
Environmental data is released on agriculture , water, wildlife, fish, forests, vegetation and heritage sites. It is basically raw data and not a measure of effects. Meetings are being held in Yellowhead communities to discuss the data.

Nov. 12 Interior News
Local editor questions: "Why should Alcan make a commitment to fish that aren't there? Why should Alcan allow itself to be conned into reducing its demand for water when it can show a better return for its use?"
He points out that Federal Fisheries management practices are responsible for the low salmonid stocks in the Bulkley system. Furthermore, hearingsss Alcan should be pressing for some guarantees from Federal Fisheries that if water is left for salmon it will be fully utilized.

November 12 Interior News
Three meetings were held with Smithers area groups. Alcan stressed that if there is no water for fish the dam won't be built.
Smithers town engineer was assured water would be available for sewage treatment in the year 2000.
Telkwa aldermen were upset their village water requirements had not been studied; they were assured it would be.
Several people asked about reduced flow impacts on the Nanika and Nechako River. No impact studies have been done, only inventory studies.

November 11 Lakes District News
Public meeting in Burns Lake on environmental inventory study shows residents interested in the smelter location.
Bill Rich ways the company is interested in building two smelters, one in the Kitimat-Terrace corridor, the other between Prince Rupert and Prince George. (Note: not public - in January it was three, but unofficial sources say this number of smelters did not leave enough fish water.) No decision has been made, but a 2,500 acre site outside the Agricultural Reserve close to a hydro sub-station with road and railway access would be chosen.

December 23 Interior News
Gitksan Carrier Tribal Council lays claim to the Nanika system.
Alcan has held two meetings with the council.

2. Tordan 22K, 10K

Jan. 14 - Highways will begin a Tordan 22K Canadian thistle spraying program in June. The thistle is a noxious weed under the Noxious Weed Act and must be cut down on private or public lands. The Canadian thistle spreads quickly over grazing and crop land and is difficult to eradicate.
The B.C. Pesticide Control Appeal Board overruled twelve appellants allowing the Department of Highways to spray along road right-of-ways. Highways will have to notify residents along right-of-ways when spraying will happen.
Highways crews will be carrying activated charcoal to "bind up" Tordan 22K in case the spray enters a water course.

3. Bark Beetles
a. Spruce Beetle Dendroctonus rufipennis
In the last twenty years beetle outbreaks in British Columbia killed more than 18.2 million m^3 of spruce. The little beetle is again reaching epidemic proportions which includes the Smithers s.d.
The Prince Rupert forest region received $913,000, of which $400,000 was allotted to the Bulkley Timber Supply Area, to fight spruce and pine beetle outbreaks.

i. Life Cycle - in B.C. the spruce beetle usually has a 2 year life cycle. Although one or three year cycles occur, depending on location, elevation and temperature. Eggs are deposited near the sapwood from late May to early July and generally all have hatched to an overwintering larval stage by October.
By the following summer they pupate and reach young adult stage. The second winter is spent in the tree or they emerge and move to the root collar, protected from woodpeckers and extreme temperatures. When temperatures surpass 16°C (late May to early July) the adults emerge and attack fresh host spruce such as Engelmann, white, Sitka and sometimes black spruce.
Spruce beetle can overwinter sucessfully only as a larvae or an adult, and it must overwinter as an adult before it can attack and reproduce. -40°C for over one week will kill all larvae and adults.

ii. Host Tree - Dying and dead spruce donnot attain the bright red foliage, but fade to a yellowish green during the winter following an attack. By the second autumn mostsof the needles are lost.

iii. Controls
Subcortical temperatures of -26°C will kill all adults while -34°C will kill all larvae. Adults hibernating near the root collar under the snow are rarely bothered by temperatures.
Woodpeckers are the most effective natural beetle predator. They have been known to reduce beetle populations by 90%, but they have no appreciable effect on major outbreaks. In the winnter, beetle larvae may be 99% of a woodpecker's diet, tapping away 1,200-2,200 larvae per day. Some insect predators and parasites enjoy larvae as their main dish but their combined effects are negligible.
Clear cut logging of infested patches is used as control. All slash and cull logs are destroyed for maximum success. The Trap tree is a green tree felled late in winter, prior to beetle flights. Trees freshly cut appear to be more attractive to beetles than standing trees. Trap tree is removed after the beetle flight.

iv. Infestation and its indirect effect on aquatic resources
Seedlings and saplings are not immediately affected by outbreaks, although herbaceous vegetation competition may retard early conifer growth. However if logging happens, seedlings can be reduced to well below the minimum level for adequate stocking.

Studies show logged and unlogged infested patches cause significant changes in water regime. In bare areas snowpack evaporation increases, evapotranspiration falls, and water interception reduces (soil-vegetation) holding capacity. Therefore, runoff water is greater and faster. The water yield increase will last for 30 years or longer depending on forest cover recovery. (The 30 year figure comes from an American study, and it is not unreasonable to expect a much longer period for the Smithers area. Local fishery officers believe low summer water flows in Canyon and 5-mile Creeks are a result of this phenomena.)

v. Wood Products - Timber for saw logs remain merchantable for up to five years. After five years the log may still be good for building loghouses. High quality particle board has been produced from 10-12 year dead trees. The fibre may remain suitable for pulp for 20 or more years.

b. Pine Beetle Dendroctonus ponderosae

This beetle has killed 1.3 million cubic feet of timber per year for the last twenty years. Beetles prefer stands over 80 years old. Tree stands less than 20.3 cm. diameter have endemic beetle populations but suffer fewest outbreaks. When live trees have been attacked, the foliage changes light green to yellow the following spring and summer (green attack). Some time in the second year the needles turn red (red attack); and during the third year the foliage falls leaving a typical grey dead tree.(grey attack)

i. life cycle
The pine beetle attacks living trees in mid-summer. Female beetles bore through the bark and construct egg galleries in the phloem. As the gallery is established, the female releases a chemical attractant, advertising for a male partner. After mating she produces about 60-80 eggs which hatch after about two weeks. The larvae then develop to their winter stage and complete their larvae development the following spring. As temperature warms, the larvae pupate and emerge from the bark around mid-July. New trees are attacked and the cycle repeats itself.

C. Industrial Development

1. Babine Forest Products - The company is putting a bubble line across Babine Lake to help transport timber from the lake's north shore opposite Twain Creek. Transport system including barge will cost $1.5 million.

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2. Smithers Provincial Government Building

Nora Holkings Ltd. has built a $3.4 million building to house provincial agencies. Completion date was March 15.

3. Forestry announces a $1.8 billion tree seeding program, designed to double reforestation to 300 million seedlings a year.

4. B.C. Hydro Service Centre - Smithers $ 1.2 million dollar centre opened in mid-April.

5. Forestry - Logging in the Smithers area could continue at the present rate for 120 years. The current Bulkley volume is 602,560 cubic metres per year.

6. Gold Mine - Reako Exploration set up a small portable mill and settling pond 19 km. up the Babine Lake Road near Canyon Creek. The company will mine 150 tons of old ore tailing from Dome Mountain this year.

7. Telkwa Coal Fields - Shell Oil has completed three years exploration work on the coal fields. And they are coming back next year.

D. Obstructions and Diversions

Beaver dams were removed on Tachek Creek (3 dams - twice), Toboggan Creek (once) and Morrison Creek (several times).

Mr. E. Christiansen clipped or breached three persistent dams many times on Morrison Creek. When autumn rains began in mid-September and sockeye migration became imminent, one dam was dynamited.

After four canoe trips down the Zymoetz River, the river is navigable. The degree of upper river utilization by salmonids should now be possible to establish.

E.

E. Referrals Processed in 1981

	1981	1980
1. Water licences	50	48
2. Placer Mining Licences	1	1
3. Gravel Removal Operations	7	1
4. Logging Activity	48	7
5. Highways	1	4
6. Railways	2	0
7. B.C. Hydro	0	1
8. Mines	22	23
9. Stream Crossings	1	5

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	1981	1980
10. Dyking	5	3
11. Outfalls	3	3
12. Land SUP	11	3
13. Land Fills	0	1
14. Commercial Fish Farms	1	0
	152	100

34.2 % increase in applications over 1980.

Logging referral activity increased 685.7 % and land SUP's by 72%.

VII. TRENDS IN THE ~~FISHING~~ FISHING INDUSTRY

A. Food Fishery

1. Bear Lake Food Fishery - The most traditional of food fisheries within the s/d. As long as the Bear Lake sockeye run has low escapement, fishing pressure will continue to shift to Bear River chinook stocks. The chinook are being caught by snare and then backpacked over 3 km. to camp. This river has been closed for the conservation of chinook; however in 1982 the chinook stocks should be reassessed for harvestable surplus. If there is no available surplus of Bear River Chinook then regardless of fisherman notification, court action will undoubtedly be necessary for observance of the closure.

2. Babine Band Food Fishery

A fish carcass removal contract was make with the Topley Landing Reserve in 1981. They removed 37,010 sockeye carcassed from the Fulton River which considerably cut down the fish odor at the reserve. This project will likely become a permanent operation so long as sockeye escapement remains high.

A proposal to remove fish from the traps at the Babine Fence for elders of the Babine Band has been favourably reviewed by the Dept. of Fisheries & Oceans. This proposal has, in all likelihood, a good future.

The 1980 Annual Narrative noted that the Babine band may make strident efforts for economic fishery ventures in the future. In 1982 the band did formally request taking over the management of the Babine Fence, and they made enquiries regarding native employment opportunities at Pinkut and Fulton facilities.

In the 1980's look for the Babine Band to persist in their efforts for fishery-related jobs; and a larger share of managerial responsibilities for existing fishery establishments.

3. Food Fishery General

Fisheries and Oceans, Ottawa, has been casting forth an new concept in food fisheries, namely the Native Community Fishery. (NCF) The N.C.F. would allow food fishermen to sell their catches. At this point, no one knows whether anyone has taken Ottawa's bait, but it is likely the various bands will want to see the whole tackle box of land claim lures before taking any bait. One thing is clear: predicting food fishery catch trends is almost impossible at this stage.

B. Sports Fishery

Anglers blamed meager creels on the intensive Area 4 commercial fishery and Skeena system food fishing endeavours. Their frustration culminated when the Bulkley Valley Steelhead Society called for a meeting with the Department on December 1, 1981.

Points of dissension were as follows:

1. The building of Babine super sockeye stocks.
2. Future plans for pink enhancement.
3. Native food fishing on late autumn fish stocks.after
4. the enhanced runs had passed.
4. The maiming and destroying of fish by the inefficient gaffing methods of Moricetown food fishermen.
5. Other fish users can keep sockeye, pink, and chum, but non-tidal anglers cannot.
6. Inaccurate assessment of food fishery figures makes steelhead escapement difficult to determine.

Many anglers believe the Department does not represent their fishing interests; that Fishery policies are addlepated; that SEP enhances only depression; that SEP tax dollars reduce fish escapement, and that community participation projects are worthless.

As the Babine channels reach their potential, and since the 1982 Babine pink run is recruited from the highest escapement on record; the angler's piqué should deepen in 1982. Highly published, meaningful fishery policies designed to dilate sport fishery stocks could probably reverse public opinion and abate community project escapement.

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IX. ENFORCEMENT

Five counts were alleged in 1981 for violations of the fishery regulations.

Person Charged	Regulation	Deposition
Van Barneveld, Peter	BCFR, sch.B,5(1)	$150 + gear
Van Barneveld, Dick	" " "	
	BCFR, sch.F,9	$150 + gear
Ayers, Mark	BCFR,sch.B,5(1)	$$ 75
Bolen, Kevin	" " "	$ 75

The new 1981 angling closures on the upper Morice River and the "bridge area" of the Babine River proved very satisfactory.

Some organized salmon poaching occurred, but the investigational nature of these activities require more manpower than was available; so their monitoring was minimal.

X. PREDATORS

Mergansers were plentiful on Babine Lake.

XI. ADMINISTRATION

A. Staff

1. Fishery Officers: T. Turnbull GT-3
   D. Meyers GT-2

2. Wardens: A. Klopfenstein (4 May - Dec.4)

3. Guardians: Bulkley-Morice, Harry Blodgett (July 2 - Nov.1)

4. Trainee: C. McKay (July - indefinite)

5. Recommendations: The s/d was short handed this year. A guardian is needed for the Fort Babine area to monitor the food fishery accurately, to obtain spawning escapements, to remove stream obstructions, to patrol the sport fishery and to observe forestry and highway work.

   Warden Klopfenstein was away during August for the RCMP enforcement course in Regina. His training will be of immense benefit should he acquire the basic powers of search and seizure under the Fishery Act. C. McKay was also away during the summer on off-shore duty and the RCMP course.

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XII. EQUIPMENT

A. Vehicles - 1980 Dodge p/u truck, 1981 Ford Bronco

B. Boats - one inboard launch (Legace Bay), one river boat, one outboard lake boat

C. Boat trailer - one

D. Outboard Motors

1. Mercury 50 H.P. (2) with jets
2. Mercury 40 H.P. (1)
3. Mercury 20 H.P. (1)
4. Johnson 18 H.P. (2)
5. Johnson 5½ H.P. (1)

E. Chain Saws - three

F. Long Guns - 30-06 (1), 12 gauge (1)

G. Hand Guns - .357 mag. (3)

XIII. INFORMATION, EDUCATION AND OTHER PROGRAMS

Nothing specific