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1982 COHO STUDIES
NORTH THOMPSON RIVER SYSTEM

PREPARED FOR

FRASER RIVER, NORTHERN BRITISH COLUMBIA
AND YUKON DIVISION
DEPARTMENT OF FISHERIES AND OCEANS

BY

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PREFACE

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SUMMARY

Twenty-one streams in the North Thompson River basin were surveyed for information related to juvenile and adult coho (Oncorhynchus kisutch) between August 18th, 1982 and January 13th, 1983. Detailed information was collected on seven streams and on four of these, a coded-wire tagging program was conducted for juvenile coho.

Juvenile Program

Juvenile coho were observed, captured and sampled in 18 of 21 study streams during the Summer, Fall and Winter programs, with the majority of captures being made on the tributaries of the North Thompson River.

Tagging was conducted on Lion, Wire Cache, Lemieux and Louis creeks. Separate codes were used for fry of the year, overwintering fry and for each creek. Table 1 summarizes the program.

A total of 29,189 juvenile coho were captured while tagging, and 23,652 were released with tags. Of these, 0.9% were overwintering fry and the remainder were fry of the year based on scale age analysis.[1]

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[1]Note methods for details

Table 1: Summary of Juvenile Tagging Program

Location	Tag Code	Age	# Tagged and Released	$\bar{X}$ Length (mm)
Lion Creek	2-23-37	0+	6907	60.4
	2-23-41	0+	2225	n/a
		1+	96	91.8
Wire Cache	2-23-28	0+	1843	56.4
	2-23-32	0+	297	78.3
		1+	65	99.2
Lemieux Creek	2-23-23	0+	2388	62.9
	2-21-1	0+	1797	69.5
		1+	27	n/a
Louis Creek	2-23-37	0+	6022	60.8
	2-23-41	0+	1954	76.5
		1+	31	n/a

Adult Program

The adult program was conducted under difficult winter conditions. Table 2 summarizes the information collected.

During the survey, 1,802 coho were counted on nine streams. Fish length from this group averaged 46.1cm P.O.H.L.[2], ranging from 31.6 to 57.6cm. The coho recovered from more northerly areas tended to be larger.

[2]post orbital-hypural lengths

Of the 1,441 coho checked, 37.8% were males and 62.2% were females. The females in all areas had high spawning success, averaging 97.6%. Of the 371 coho sampled for scales, 94.9% belonged to the 3 sub 2 age group and 5.1% belonged to the 4 sub 3 age group.

Table 2: Summary of Adult Program

RIVER	SURVEY [1] COUNTS	AVERAGE LENGTHS (cm)		SEX		SPAWNING SUCCESS		AGE GROUPS		
		n	$\bar{x}$	nM	nF	nF	%	$n3_2$	$n4_3$	nR
Albreda River	61[2]	17	51.0	18	22	17	99.0	12	4	1
Blue River	179[2]	3	51.5	2	1	1	99.0	3	0	0
Lion Creek	1027	150	47.5	318	598	150	97.4	135	10	6
Wire Cache Creek	73	10	41.8	32	38	10	99.0	10	0	0
Lemieux Creek	211	94	42.9	69	114	94	98.5	82	2	10
Barriere River	72	28	43.6	12	39	28	97.3	50	0	6
Louis Creek	176	71	47.5	94	84	71	99.0	60	3	6
Minor Streams	3									
Totals	1802	373	46.1	545	896	373	97.6	352	19	29

1. total fish dead pitched plus last live count
2. incomplete count

LEGEND

1. Albreda River
2. Thunder River
3. Cook Creek
4. Cedar Creek
5. North Blue River
6. White River
7. Blue River
8. Goose Creek
9. Peddie Creek
10. Finn Creek
11. Lion Creek
12. Wire Cache Creek
13. Raft River
14. Brookfield Creek
15. Mann Creek
16. Lemieux Creek
17. Harper Creek
18. Barriere River
19. East Barriere River
20. Haggard Creek
21. Louis Creek
22. McGillivray Creek

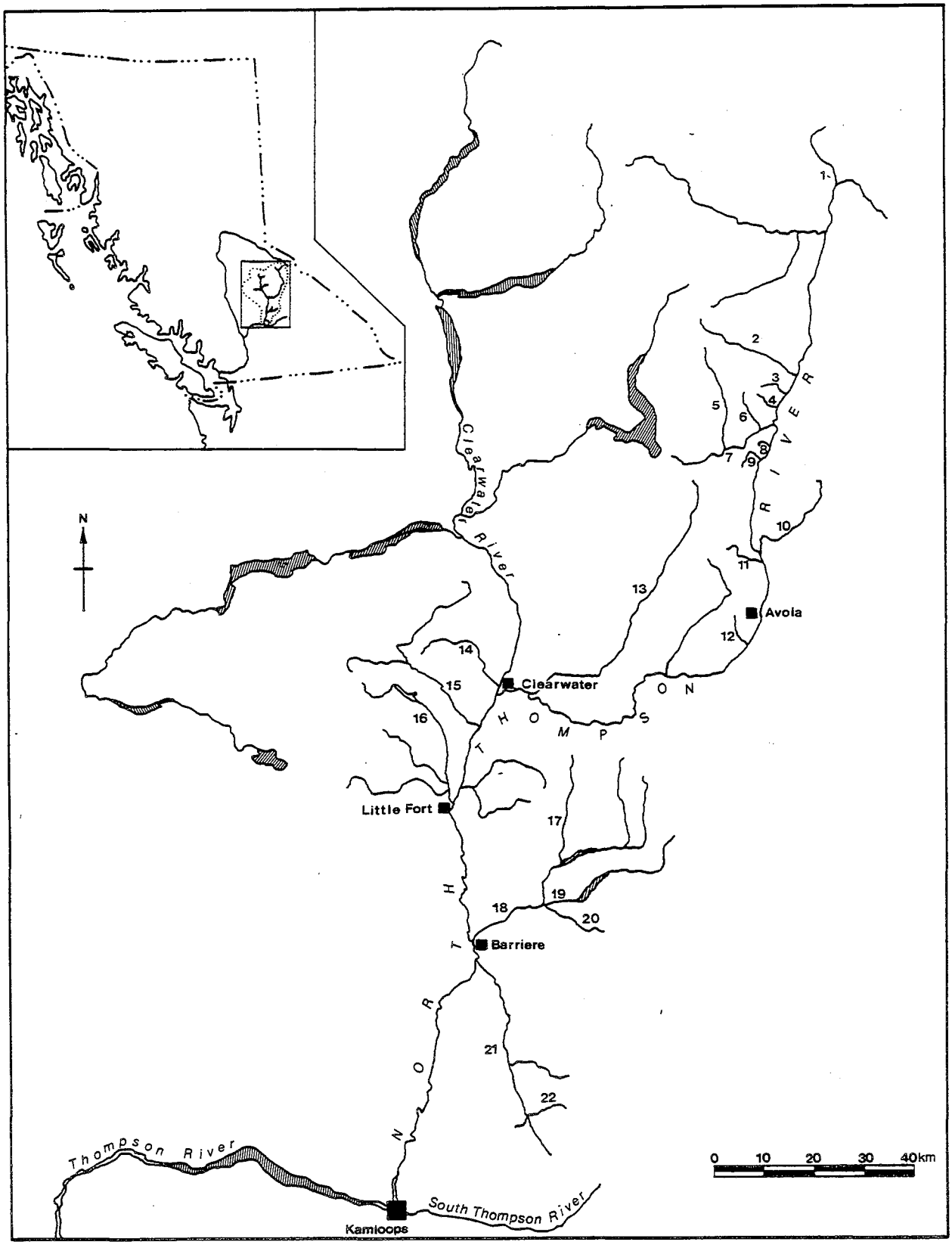

Figure 1 1982 Study Streams in the North Thompson River System

INTRODUCTION

INTRODUCTION

Field studies involving juvenile and adult coho (Oncorhynchus kisutch) were conducted in the North Thompson drainage system between August 18th, 1982 and January 13th, 1983 (Fig. 1). These studies were initiated to generate information useful to the Federal Fisheries for wild stock management.

The juvenile work between August 18th, 1982 and January 13th, 1983 involved a late summer survey to determine where large concentrations of juvenile coho occurred, a Fall coded-wire tagging program and a survey from late November to early January to gather overwintering information.

Studies conducted on adult coho, primarily between November 24th, 1982 and January 7th, 1983, collected information on the timing, distribution, escapement, age, sex and P.O.H.L. of spawning coho, and surveyed available spawning and rearing habitat.

Funding for this program was provided by the Department of Fisheries and Oceans and the Unemployment Insurance Commission through the Federal Employment Bridging Program.

STUDY AREA

Flowing east from its source in the Cariboo Mountains, the North Thompson turns south at its confluence with the Albreda and continues on to Kamloops where it joins the South Thompson to form the Thompson River. This 200 kilometre river drains a watershed of 20,385 square kilometres,

one of the largest in the Fraser River system, and has the greatest mean yearly discharge rate of 444.6cms as measured at the McLure station (Water Survey of Canada).

The watershed of the North Thompson is characterized from its source to the town of Avola by narrow, steep-sided valleys that are heavily forested. It is an area of high winter snowfalls and sparse population. Between Avola and Little Fort, the valley broadens, winter snowfall is lighter and sparse settlement, agriculture and industry begin. In the remaining watershed, from Little Fort to Kamloops, the valley bottom opens out, the climate becomes more arid and agriculture, settlement and industry increase.

FISHERIES RESOURCE

Four of the five Pacific Salmon Species spawn in the North Thompson. Sockeye (Oncorhynchus nerka), Chinook (O.tshawytscha) and Coho (O.kitsutch) are abundant and widely distributed, while Pinks (O.gorbuscha), have only recently been found in small numbers (Knapp, et al, 1982). Coho escapements have ranged from 2,100 in 1951 to 17,975 in 1955 and have averaged 6,889 for the period between 1951 and 1980, representing 10% of the yearly Fraser River stocks (Fraser et al, 1982).

Other fish utilizing the system include Rainbow trout (Salmo gairdneri), Dolly Varden (Salvelinus malma), Rocky Mountain Whitefish (Prosopium williamsoni), sculpins (Cottidae sp.), suckers (Catostomidae sp.).

METHODS

In both the juvenile and adult coho programs, all streams were divided into reaches based on land marks or access points. Data was then collected and recorded by reach in field books and logs and, where possible, information was also noted on 1:50,000 topographic maps, using location numbers.

Juvenile Program

Summer Survey

The preliminary survey was conducted between August 18th and 22nd, 1982 on (1) the mainstream North Thompson above Little Fort, near Clearwater and around Birch Island; (2) Wire Cache; (3) Lion, and (4) Louis creeks. Gee's minnow traps, wrapped in fly screening and baited with Fraser River chum roe, were used for fish capture.

The traps were left for two to five hours in areas of good cover: along cut banks, back eddies, side channels, around log jams and in pools. Captured fish were then removed, identified and counted. Of the coho, 50 were taken and sampled for length, combined weight and eye diameter. Two scale smears were taken from each fish, one from each side, for later age determination.

Juvenile Tagging

Coded-wire tagging of juvenile coho was conducted on the North Thompson from September 15th to November 16th at:
(1) Lion Creek from September 15th to 27th and October 18th to 21st,
(2) Wire Cache Creek from September 29th to October 7th,
(3) Lemieux Creek from October 5th to 15th, and
(4) Louis Creek from October 25th to November 16th.

Fish were captured as in the summer survey, using Gee's minnow traps but without fly screening. The crew set up to 100 traps twice daily, leaving them for from two to five hours during the day, and for up to 24 hours overnight. The captured fish were then transported in five gallon buckets to the tagging site and the coho were counted into 1 x 1 x 2 metre, 3mm mesh holding pens, at which time other species were noted and released. When each reach was initially worked, an unsorted group of 50 coho was sampled as in the summer survey. In preparation for tagging, the captured coho were separated into 0+ and 1+ age groups, based on eye diameter[3] as determined by the late summer juvenile coho survey.

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[3]Based on scale analysis from the Summer, coho with eye diameters equal to or less than 5.5mm were found to be fish that had hatched during the Spring of 1982. Those with eye diameters greater than 5.5mm had overwintered in fresh water at least once. Unfortunately, this relationship did not hold for the duration of tagging, and 0+ and 1+ fish had to be re-aged for release figures.

Those fry considered too small to be tagged, that is less than 40mm in length, were released.

The sorted fish were then anaesthetized using tricane methane sulfonate (M.S. 222), had the adipose fin removed and were coded-wire tagged (as described by Armstrong and Argue, 1977), using codes specific to each stream and age group. Clipped coho were held to check for tag retention.

After 24 to 72 hours, a sample of up to 350 coho from each day's tagging was checked for tag retention, quality of adipose fin removal, post tag mortality, incidence of disease and other anomalies.

All tagged fish were held until the parent reach was trapped out; they were then released back into the area from which they were captured. From each reach trapped, a sub-sample of 25 fish from each age group released was sampled for weight, length, eye diameter and scale smears.

Spot checks on air and water temperatures were made regularly during trapping and tagging to ensure that temperature stress did not affect the fish.

Winter Survey

During the winter survey, the presence of juvenile coho was determined through observation and trapping using the same techniques as in the Summer, but without the use of fly screening on the traps. Due to the difficulty of trapping and sampling in below freezing weather, only 10% of captured fish were sampled for length, weight, eye diameter and scales.

Adult Program

All major streams were visited regularly once or twice a week between November 24th, 1982 and January 11th, 1983.

While surveying each stream, information on coho concerning live and dead counts, scale samples, P.O.H.L., sex and spawning success, along with stream descriptions of spawning areas and spot air and water temperatures were collected. During surveys, instream walking was kept to a minimum to avoid stressing spawning salmon, and all recovered carcasses were cut in two, to avoid duplication of dead counts and resampling.

THE REPORT

Within the Results and Discussions all regions are divided into either major or minor study areas[4]. Streams are organized in these sections by geographic location, i.e. north to south.

Streams in the major study grouping are discussed under the following sections: study area, biophysical description, and biological studies - juvenile and/or adult programs.

Those streams in the minor study grouping are only discussed under study area and biophysical description, which in this case includes any of the juvenile, adult or physical information collected.

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[4] These groupings represent the amount of information collected on a stream, not its relative importance in the system.

RESULTS AND DISCUSSIONS

MAJOR STUDY AREAS

Albreda River

Study Area

The Albreda flows south for 28km to its confluence with the North Thompson (Fig. 2). Highway 5 to the east, along with side roads on the west, provide access to the River and its tributaries.

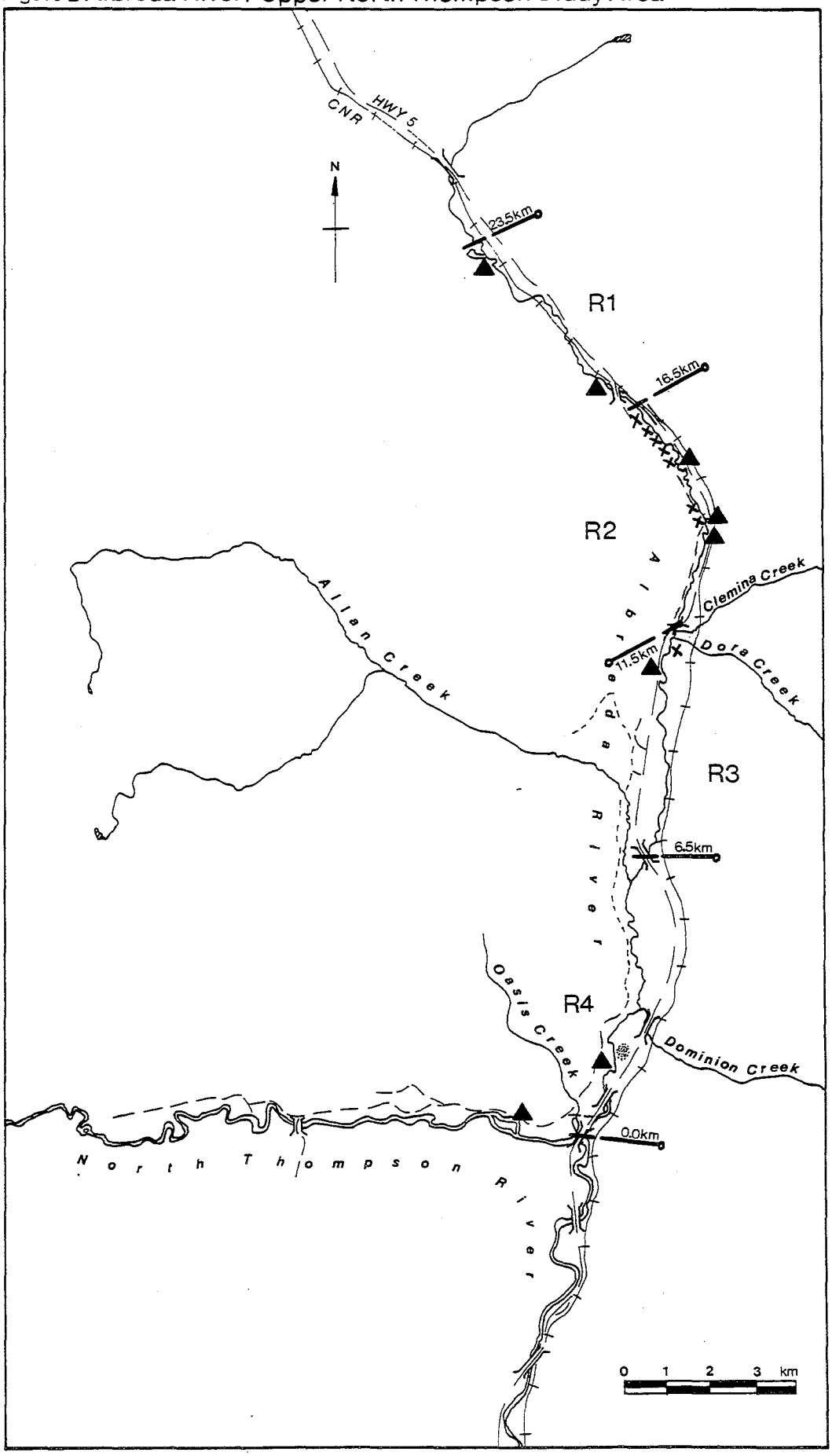
Above Clemina Creek, the Albreda River is slow and meandering, with clear tea-coloured water. During the adult survey, temperatures in this section remained above freezing, limiting ice formation to still pools and side channels. Below Clemina Creek, glacial melt water changes the conditions by increasing discharge, giving rise to instream ice formation and decreasing water clarity.

Biophysical Description

Reach 1 is .7km long and runs from Albreda Lake to the Highway 5 overpass (Fig. 2). A gradient of 1%, pools and long riffles occur throughout and the low flow results in an average depth of 0.3m and a width of 1.5m. The substrate consists of silt and sand for the first 2km and gravel and pebble elsewhere. Streamside flora includes alder, red osier dogwood and sedges, with mainly spruce in the surrounding forest. Adult coho were observed to 1km below Albreda Lake and juveniles were trapped within 0.5km of Highway 5.

Reach 2 is 5km long and lies between the lower boundary of Reach 1 and the Clemina Creek highway crossing. More spawning and rearing coho were observed here than anywhere else.

Figure 2 Albreda River / Upper North Thompson Study Area



Reach 3 runs between the Clemina Creek confluence and the next highway crossing, 5km downstream (Fig. 2). During the survey, stream width and depth averaged 6.0m and 0.8m. Overall gradient averaged 1% but increased to 2% in the lower 0.75km where the stream was characterized by rapids and a cobble/boulder substrate. The scouring action of Spring runoff from Clemina Creek is the probable cause of the dearth of spawning gravel in this reach. Cutbanks and log jams create pools and provide cover for rearing juveniles in the upper section.

Reach 4, between the highway crossing and the North Thompson confluence, occupies the remaining 6.5km of river. The upper 3km and the lower kilometre have a gradient over 1% and flow is generally swift. Depth averages 1.0m throughout the reach with few pools. The width ranges from 6m in a slow section 2km upstream from the mouth, to 15m in the lower kilometre.

In the swift-flowing sections, the streambed consists of a mixture of cobble and small boulders, while slower areas have a mixture of silt, sand and gravel. Logging has resulted in removal of streambank vegetation in several locations. No evidence of spawners or juveniles was observed in Reach 4.

During the survey, water temperatures ranged from -1.0 to 1.0°C although a 2.5°C water temperature was recorded in a beaver pond in Reach 2 (App. 1F).

Biological Studies - Juvenile Program

Winter Survey

Three traps set at the mouth of Albreda Lake on December 14th yielded 0 coho (App. 2E). In reaches 1 through 4, 18 traps were set, and captured a total of 420 fish during three days from December 17th to 30th; 95% of the captures were concentrated in Reach 2 (App. 2E).

The average length and eye diameter of the 35 coho sampled was 59.6mm and 3.9mm (App. 6E and 7F).

One sculpin was caught December 18th during trapping on Reach 2.

Biological Studies - Adult Program

Population Size, Timing and Distribution

There is no record of coho escapement for the Albreda River prior to 1974, but spawning ground reports since then indicate an increasing escapement that has averaged 366 for the period from 1977 to 1982 (Fisheries Escapement files, App. 10).

Intensive coverage of the area began on December 4th, well after the peak of spawning previously noted in the spawning ground report as November 29th, 1982. During the surveys, which covered less than 20% of the river, 61 coho were counted, 19 live and 42 dead, and some spawning activity was observed. These fish were found in Reach 1, one kilometre below Albreda Lake (one fish), one kilometre above the Highway 5 overpass (two fish), and in the upper kilometre of Reach 2 (58 fish). There was no sign of coho in five other areas walked; a one kilometre section on the upstream end of Reach 3, the lower 200 metres of Clemina Creek, a 200 metre section extending above and below the Reach 3 and 4 boundary, and a 50 metre section of Reach 4 1.5km up from the mouth.

Fisheries Officer Frank Voysey estimated the escapement to the Albreda as 550 coho for 1982 based on an actual count of 383 fish on November 10th, 1982.

Length, Sex, Spawning Success and Age Composition

Seventeen coho were sampled. These fish averaged 51.0cm P.O.H.L. and ranged from 39.8 to 56.7cm; eight of the fish were males and nine were females. All females were completely spawned out.

Only one fish was not aged and of the remainder, 75% belonged to the 3 sub 2 age group, and 25% to the 4 sub 3 age group. Table 3 summarizes all the collected information.

Table 3 : Albreda River Summary of Adult Coho Sex, Length and Age Composition

AGE CLASS	SEX	LENGTH DISTRIBUTION										SUB-TOTAL		TOTAL	
		35.1-40.0		40.1-45.0		45.1-50.0		50.1-55.0		55.1-60.0					
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
3_2	M	1	5.9	1	5.9	1	5.9	3	17.6	1	5.9	7	41.2		
	F	0		0		2	11.8	2	11.8	1	5.9	5	29.4	12	70.6
4_3	M	0		0		0		0		1	5.9	1	5.9		
	F	0		0		1	5.9	2	11.8	0		3	17.6	4	23.5
R	M	0		0		0		0		0		0			
	F	0		0		1	5.9	0		0		1	5.9	1	5.9
SUB TOTAL	M	1	5.9	1	5.9	1	5.9	3	17.6	2	11.8	8	47.1		
	F	0		0		4	23.5	4	23.5	1	5.9	9	52.9		
TOTAL		1	5.9	1	5.9	5	29.4	7	41.2	3	17.6			17	100

Blue River

Study Area

The Blue River is a clear stream that rises on the eastern boundary of Wells Gray Provincial Park and flows east for 27km to join the North Thompson near the town of Blue River. The valley is heavily forested throughout. Upstream salmon migration is limited by a waterfall 14km from the mouth (F. Voysey, pers comm). The River's major tributaries, the White and North Blue, are discussed under minor streams.

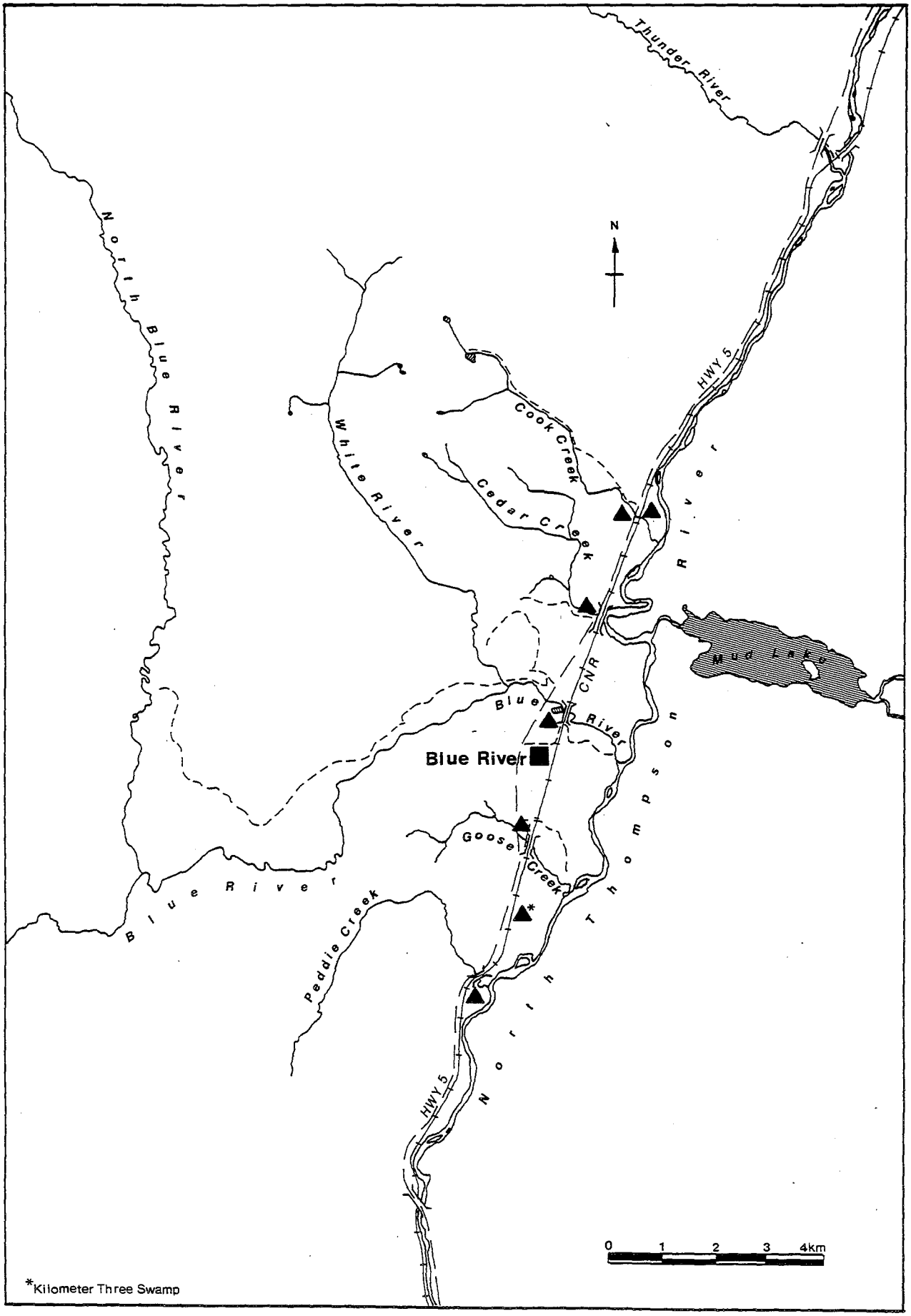
The winter flow rate is usually low; the minimum average of 3.3cms occurring in March, and the maximum of 62.6cms in June. The annual average (1963-76) is 18.5cms (Berry and Kahl, 1982).

A one-lane road is kept open during the winter to permit logging in the North Blue and upper Blue watersheds, but as it is accessible only to radio-controlled vehicles, the winter survey was confined to the area downstream of the Highway 5 crossing (Fig. 3A).

Biophysical Description

The areas surveyed on the Blue River were a one kilometre section stretching from 200 metres above to 800 metres below the CN railway crossing, along with two stationary checkpoints, one at the highway bridge crossing, the other a logging bridge located 200 metres from the mouth. Observation conditions were good within these areas but stretches outside were ice covered. This section, divided into two reaches, contained intermittent spawning throughout, but remained free of ice during the survey (Fig. 3B).

Figure 3A Blue River and Surrounding Area



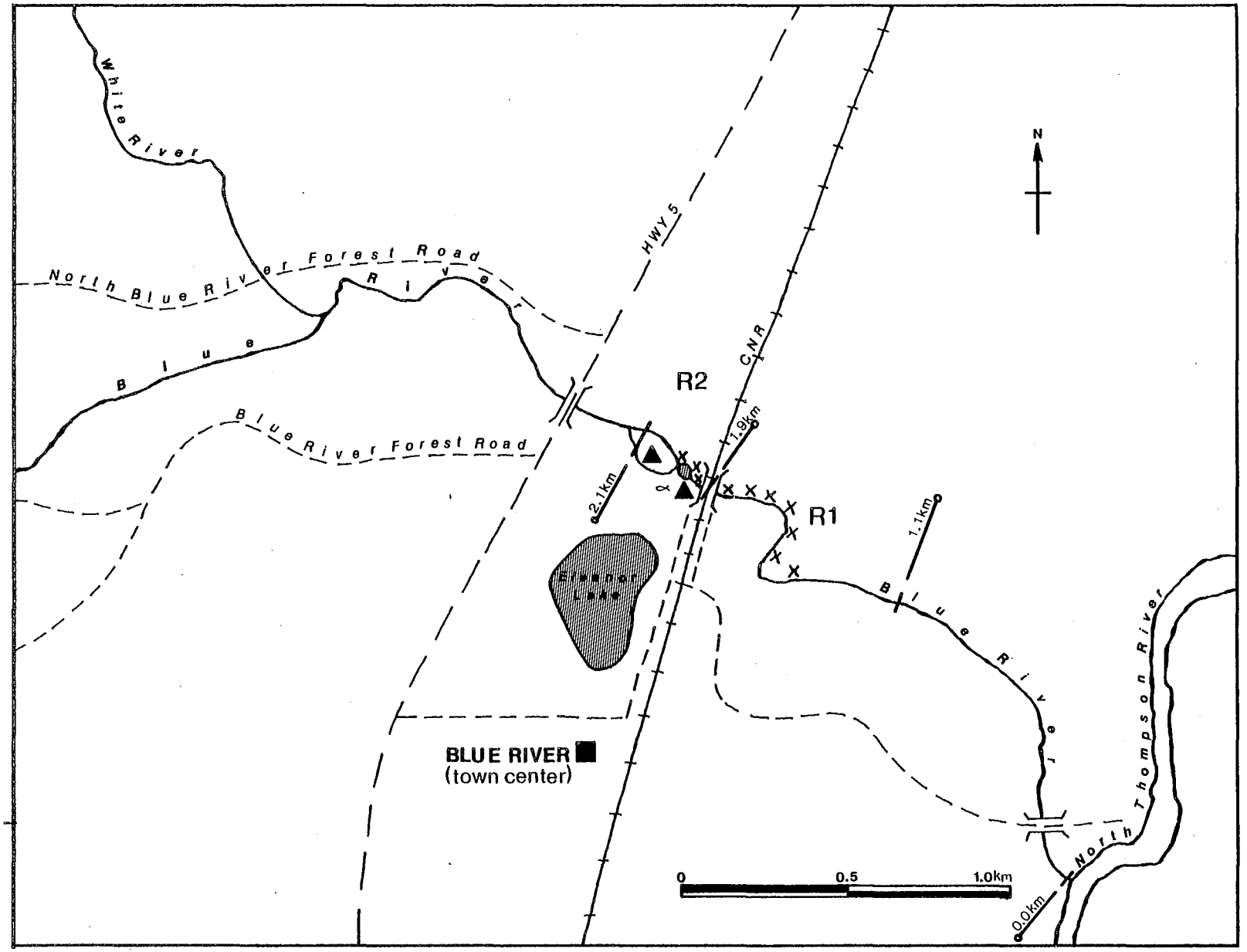


Figure 3B Blue River Study Area

Reach 1, the 800 metre section immediately below the CN railway crossing, has a channel width of 12 to 30 metres. Gravel bars make up 70% of this area. The stream, averaging 10 metres in wetted width and 0.5 metres in depth, takes up the remainder. Here the 0.5% gradient of the stream creates a section of riffle/glide and three pools as it flows between 1.5 metre banks, mostly covered with alder and white spruce. Spawning areas, composed of gravel, pebble and cobble, are abundant, particularly in the upper 400 metres, while there are some boulders in the lower 200 metres. The rearing area is limited to undercut banks and pools due to lack of instream debris.

Reach 2, the 200 metre section above the CN railway crossing, was ice free except at the top where ice occasionally formed over a large pool. Water temperatures normally measured at the boundary of Reach 1 and 2 ranged from -0.5° to -1°C. On January 4th, a temperature of 2.5°C was recorded on the side channel. Groundwater seeping through the bank near the recording location probably accounts for this higher temperature, and contributes to the open water found in Reach 1 and 2 during the winter. This groundwater may come from Eleanor Lake, 200 metres south of Reach 2. The substrate, stream width and depth, bank height and vegetation are similar to those of Reach 1 and except for the side channel, spawning conditions are excellent.

Biological Studies - Juvenile Program

Winter Survey

Reach 2 was trapped on January 4th, 1983 and one coho juvenile was captured. No sampling was done (App. 2F).

Biological Studies - Adult Program

Population Size, Timing and Distribution

Coho were first noted in the Blue River in 1974 and since then, runs have ranged from 25 up to 600 fish (Fisheries Escapement files). From 1977 to 1982, escapements have averaged 460 fish; the 1982 run was estimated as 450 coho and was based on a count of 320 coho made by Frank Voysey on November 19th, 1982.

During our survey, 178 fish were counted on December 3rd and 44.7% of these were holding hands in a large pool near the upstream boundary of Reach 2. Scattered spawning

was observed throughout the survey area, but fewer than 10 pairs were observed on redds at any one time. The low spawning activity and good condition of the fish could not account for the number of fish holding in the area and by December 19th, 61.2% of the fish had disappeared, indicating a possible migration to other spawning areas.

Though peak spawning was noted as being around November 20 in the Escapement files, spawning activity was observed up until the last survey day of January 4th, 1983 (App. 10).

Length, Sex, Spawning Success and Age Composition

Two male and two female carcasses were recovered. The three males measured were 53.4, 51.3 and 49.9cm, and the single female checked was 99% spawned. All three fish sampled for scales belonged to the 3 sub 2 age group (App. 9F).

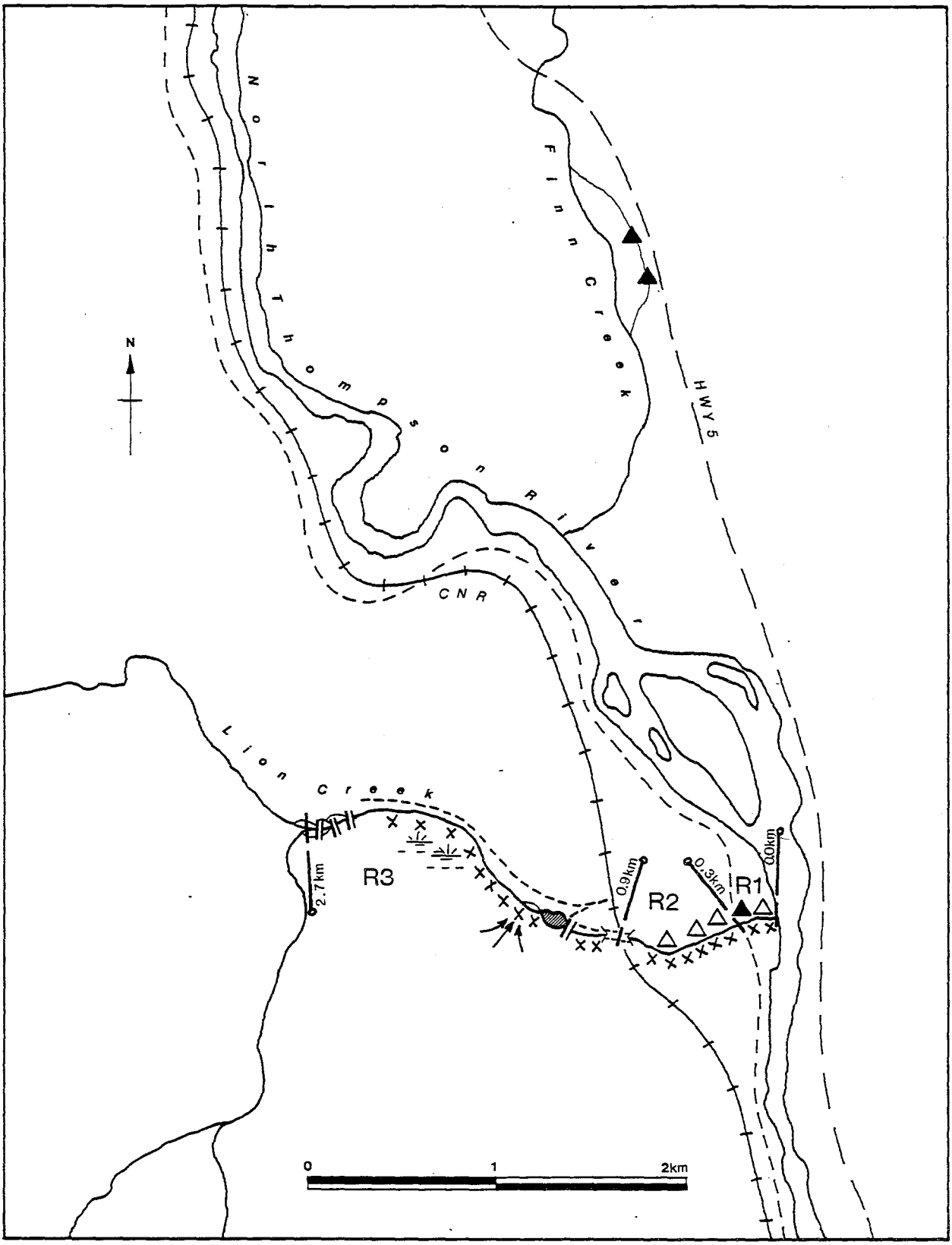


Figure 4 Lion Creek Study Area

Lion Creek

Study Area

Situated 12 kilometres north of Avola, Lion Creek flows east for 16 kilometres from its source on a high plateau adjoining the Mad River watershed (Fig. 1 and 4).

During the Summer and Fall, access to Lion Creek was by dirt road running north from Avola along the west bank of the North Thompson. By December 9th, this route was snowed in; therefore, the subsequent surveys of the creek were accomplished by crossing the frozen North Thompson on snowshoes from Highway 5 directly opposite the mouth.

Biophysical Description

Throughout the program, Lion Creek was usually clear and free of ice.

Most of our work was conducted on Reach 1 and 2. Reach 3 was visited only on December 1st because of difficult access.

Reach 1 occupies the lower section of Lion Creek from its mouth to the access road bridge 0.3km upstream (Fig. 4). The reach is a meandering, low gradient section made up of 80% riffles and 20% pools. Stream depth and width varies with the season and was narrowest in January when the wetted width was reduced to 40% of the average 12 metre wide channel. The average depth was 0.2m in riffles and 1.5m in pools. Stream temperatures measured in September reached 10°C and remained above 2°C in December. There were no obvious sources of ground water identified within the reach (App. 1A). The surrounding forest is a mixture

of white and englemann spruce, black cottonwood and red osier dogwood. Log jams, undercut banks of silt and sand covered with overhanging shrubs and grasses offer good juvenile rearing habitat.

Reach 2, a 0.6 km section from the access bridge to the CN tunnel, averaged 8.0 and 0.5m in wetted width and depth during the winter survey (Fig. 4). Its riffle sections, along with the numerous old log jams, beaver dams, pools and undercut banks are similar to those in Reach 1 and offer excellent holding, spawning and rearing areas for adult and juvenile coho. Substrate and gradient were also comparable to those of Reach 1, except for a 70 metre section directly below the CN tunnel where a gradient of 20% and a cobble/boulder streambed create a steplike structure that permits upstream migration of adult coho. The 60 metre section directly below this area has a substrate of clean gravel, and was the most intensively utilized spawning area in the creek. Water temperatures measured in this reach dropped from 10°C in September to 3.5°C in December (App. 2A). Surrounding vegetation is chiefly white spruce, black cottonwood and sitka alder.

Reach 3 continues upstream from the CN tunnel for 1.8 kilometres through a narrow steep-sided valley with a swampy floor (Fig. 4). Beaver activity was common, with major dams obstructing fish passage 0.2 and 1km upstream. The lower dam creates a lake of approximately one hectare in area. Substrate just upstream of the beaver dam is primarily sand and silt, while the remainder of the reach consists of a gravel, pebble and cobble bottom suitable for spawning. Water temperatures taken on December 1st averaged 5°C, although springs on the south side of the creek 200 metres above the first beaver dam measured 6°C (App. 2A). Pool and riffle sections and braided channels with banks foliated by overhanging shrubs and grasses provide abundant rearing habitat. Surrounding forests consist of mature and decadent stands of hemlock and western red cedar.

Biological Studies - Juvenile Program

Summer Survey

Trapping sets on August 20th captured 191 coho, 57% of them in Reach 2 (App. 7A). No other species were caught (App. 3A). Scale samples were taken from 75 coho: 57 were readable and of these, 89.5% were 0+ and 10.5% were 1+. Mean lengths for 0+ and 1+ fish were 58.5mm and 85.8mm, eye diameters were 4.2mm and 5.7mm, and average weight of the 75 fish was 3.6g (App. 6A and 7A).

Juvenile Tagging

A total of 12,239 juvenile coho were trapped during two periods, September 14th to 24th and October 18th and 19th (App. 4A and 4B)[5]. Reach 1 yielded 37.2% and Reach 2, 62.8% (App. 2A). These fish were separated into age 0+ and 1+, using eye diameters, and tagged: 6,907 fish were released with code 2-23-37 and 2,321 fish with code 2-23-41 (App. 4A and 4B). Scale analysis based on samples taken during tagging indicated that all fish aged 0+ corresponded to that group, but only 4.1%[6] of the 1+ coho were aged correctly (App. 6A and Table 4 detail release figures).

Table 4 : Revised Information on Lion Creek Coho Tagged and Released

Tag Code	Tagged Fish Released	
	0+	1+
2-23-37	6907	
2-23-41	2225	96
TOTAL	9132	96

Samples of 0+ fish taken during the program ranged from 49.0mm length and 3.5mm eye diameter to 93.0mm length and 7.5mm eye diameter: samples of 1+ fish ranged from 91mm length and 5.0mm eye diameter to 96mm length and 6.5mm eye diameter (App. 7A).

Over the month of tagging, eye diameter and length did not increase significantly, indicating a probable out-migration of larger fish as they grew. Sampling during the Summer and Winter appears to confirm this observation (App. 6A).

Mortality occurred in 120 coho prior to tagging, and a further 32 perished after tagging (App. 4A and 4B).

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[5] This total was determined from tagging information since trapping data proved insufficient for this program; however, trapping data was suitable for discussion of distribution.

[6] This figure is an average of the error in aging for 1+ fish on Lemieux, Louis and Wire Cache creeks as no information was collected for 1+ fish on Lion Creek.

Tag loss was checked on 3411 fish after they were held from 24 to 72 hours. Loss for the 2-23-37 tag group averaged 1.6% and for the 2-23-41 group, 4.1%. All 1312 coho recaptures showed a 0.0% tag loss (App. 4A and 4B).

The presence of anomalies and the quality of adipose fin clips were also noted while checking tag retention. Unsatisfactory fin clips were evident in 46 of the fish, being either too shallow or too deep. Only 1% of all fish had any recognizable anomalies (App. 5A).

Other species captured were 62 sculpins, 19 Rainbow trout two Dolly Varden and one Rocky Mountain Whitefish (App. 3A).

Winter Survey

Traps left for 3.5 hours on January 4th, 1983 in Reach 1 captured 113 coho, 60.2% without adipose fins and 39.8% with fins remaining (App. 2A). The 22 1+ coho averaged 68.2mm in length and had average eye diameters of 4.5mm (App. 6A and 7A).

Biological Studies - Adult Program

Population Size, Timing and Distribution

Escapement estimates vary from year to year with maximum counts of 7500 coho in 1961 and 1962, and minimum counts of 200 in 1957 and 1958 (Fraser, et al, 1982). Since 1977, the escapement estimates have averaged 900 fish.

Our survey observed 1028 coho based on total live and dead counts and of these, 20.3% were in Reach 1, 60.7% in Reach 2 and 19.0% in Reach 3. The Reach 3 figure is assumed to be low since that section was covered only once (App. 8A). Escapement estimate was 1200 for 1982 based on a peak count of 908 coho made on November 12th by Frank Voysey.

Coho were observed in Lion Creek as early as September 22nd when the crew from the juvenile tagging program located one male. The adult survey commenced November 30th and over 50% of the carcass recoveries were made during the first dead pitch between November 30th and December 1st. This indicated that the program started after the peak of spawning, deemed to be mid-November by the Fisheries Escapement files. (App. 10). Throughout the survey, fish continued to enter the stream and three new coho were observed in Reach 1 as late as December 28th. Spawning activity first observed in 10 pairs of coho in late December continued till early January, 1983.

Length, Sex, Spawning Success and Age Composition

A total of 151 coho were measured for length. These fish averaged 47.5cm P.O.H.L., ranging from 39cm to 56cm. Of the 917 coho sexed, 34.8% were male and 65.2% were female. Of the 104 females sampled for spawning success, 101 were 99% spawned, one was 50% spawned, and two live-sampled for the Pacific Biological Station were unspawned (App. 9A).

The age of 145 fish was determined and of these, 93.1% belonged to the 3 sub 2 age group and 6.9% were part of the 4 sub 3 age group.

Table 5 : Lion Creek Summary of Adult Coho Sex, Length and Age Composition

AGE CLASS	SEX	LENGTH DISTRIBUTION												SUB-TOTAL		TOTAL	
		30.1-35.0		35.1-40.0		40.1-45.0		45.1-50.0		50.1-55.0		55.1-60.0					
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
3_2	M	1	0.7	5	3.3	11	7.3	9	6.0	13	8.6	2	1.3	41	27.2		
	F	0		5	3.3	18	11.9	44	29.1	26	17.2	1	0.7	94	62.3	135	89.4
4_3	M	0		0		0		2	1.3	2	1.3	0		4	2.6		
	F	0		0		0		2	1.3	4	2.6	0		6	4.0	10	6.6
R	M	0		1	0.7	0		1	0.7	0		0		2	1.3		
	F	0		0		0		3	2.0	1	0.7	0		4	2.6	6	4.0
SUB TOTAL	M	1		6	4.0	11	7.3	12	7.9	15	9.9	2	1.3	47	31.1		
	F	0		5	3.3	18	11.9	49	32.5	31	20.5	1	0.7	104	68.9		
TOTAL		1	0.7	11	7.3	29	19.2	61	40.4	46	30.5	3	2.0			151	100

Disease Analysis

Fifty-nine adult coho were captured and killed for disease analysis by personnel of the Pacific Biological Station. The carcasses were analyzed for bacterial, viral, parasitic and fungal pathogens. The Pacific Biological Station memorandum of February 1st, 1983 referring to Lion Creek is summarized as follows:

No bacterial pathogens were present in kidney tissue smears or cultures, ovarian fluid and kidney material;

Of the 59 fish analyzed, 39 were infected with Ceratomyxa shasta. Several fish had a light infection of the blood parasite Cryptobia sp., and one fish was found to have a Myxidium sp. in the kidney.

No appreciable amount of fungus was found on the gills or in the body.

The Pacific Biological Station personnel also noted in their memo that in general, all fish appeared in good condition for spent fish.

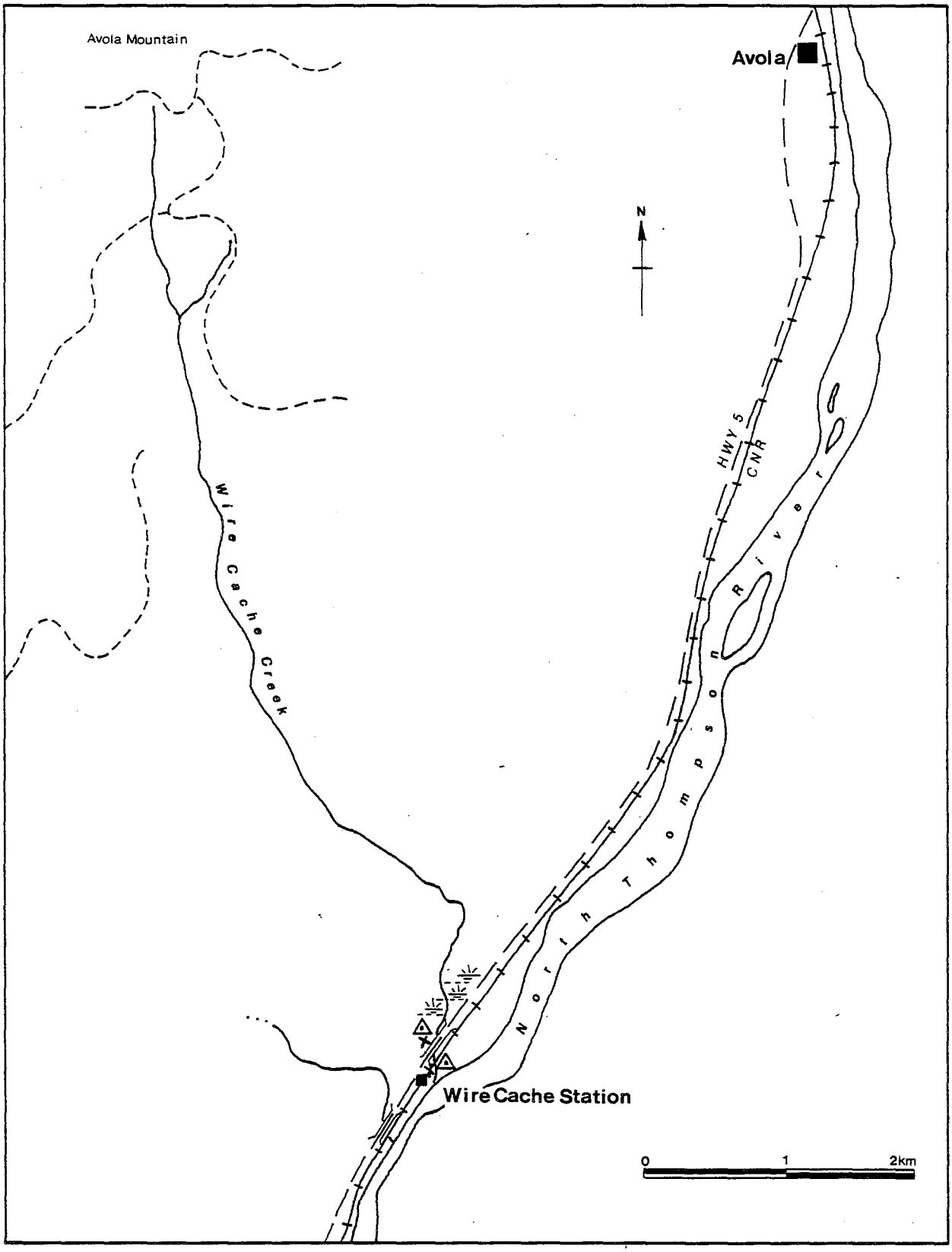

Figure 5 Wire Cache Creek Study Area

Wire Cache Creek

Study Area

From its source, Wire Cache Creek flows southeast for eight kilometres, joining the North Thompson at Wire Cache Station. The area surveyed is located 8.5km south of Avola, adjacent to Highway 5, and is 0.6km long (Fig. 5).

Biophysical Description

The lower 300 metres of the stream were surveyed during both the juvenile and adult programs, while the next 500 metres upstream were covered only during the tagging program. The stream averaged 5.0m and 0.5m in width and depth in a 300 metre section from a beaver dam downstream to the mouth. Stream discharge was low and decreased throughout the survey, and water, although clear, was slightly tea-coloured. Streambed gradient is less than 1%. The creek, which is characterised by a single meandering channel, has a substrate of mixed sand, gravel and cobble up to 4cm in diameter. It is an area of small pools, undercut banks and overhanging vegetation that provides habitat for both juvenile and adult coho. The surrounding sandy banks, 1.5 metres in height, are covered by reeds, sedges, grasses and low shrubs. The area above the beaver dam is swampy and was fully frozen over during the Winter. Little activity was noted for both juvenile and adult fish.

Biological Studies - Juvenile Program

Summer Survey

Six traps were set for 26.5 hours on August 20th, capturing 120 coho and four sculpins (App. 2B and 3B).

Juvenile Tagging

A total of 2906 coho were captured in the lower 300 metres of the creek from September 29th to October 1st (App. 2B, 4C and 4D).[7]

Eye diameter information from the summer survey was used to sort fish into 0+ and 1+ age groups for tagging: 1843 coho aged 0+ were then tagged with code 2-23-28 and 362 fish aged 1+ with code 2-23-32. Scale analysis based on samples taken during tagging indicated that only 17.9% of the 1+ fish were properly aged (App. 6B and Table 6 detail release figures).

Table 6 : Revised Information on Wire Cache Creek Coho Tagged and Released

Tag Code	Tagged Fish Released	
	0+	1+
2-23-28	1843	
2-23-32	297	65
TOTAL	2140	65

The tagged 0+ fish released averaged 59.5mm in length and 5.4mm in eye diameter; tagged 1+ fish sampled were 99.2mm long and 7.0mm in eye diameter (App. 6B and 7B).

Forty-three fish died prior to tagging and another two following tagging (App. 4C and 4D).

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[7] This total was determined from tagging information since trapping data proved insufficient for this program; however, trapping data was suitable for discussion of distribution.

After 24 hours, tag loss was checked on 714 fish, all from the 2-23-28 tag group. This loss averaged 7.4% (App. 4A). Coho from the 2-23-32 group were not checked for tags.

The average tag loss of 3.3% on the 1+ group tagged at Lion Creek was used to determine the number of tagged fish released (App. 4B and 4D).

Fin clips were checked for 1,219 tagged coho and 2.1% of the clips were not adequate. These fish were also checked for anomalies, which were found in 1.1% of the group (App. 5B).

Winter Survey

Four traps left at Wire Cache Creek for 4.5 hours on November 25th captured 198 juvenile coho and of these, 92.5% were unclipped and 7.5% were clipped (App. 2B). No biological sampling was done.

Biological Studies - Adult Program

Population Size, Timing and Distribution

No spawning information was gathered for Wire Cache prior to 1981, when 25 coho were observed. The 1982 estimate of 110 was based on a peak count of 76 fish by Frank Voysey on November 7th, 1982 (Fisheries Escapement files).

During the single adult survey conducted on November 25th, a total of 70 carcasses and three live fish were observed, all within the lower 300 metre section (App. 8B). All spawning activity was in this section and redds were so numerous that they overlapped.

Length, Sex, Spawning Success and Age Composition

Lengths were taken for 10 carcasses, six male and four female, all of which belonged to the 3 sub 2 age group. The largest (52.6cm) and the smallest (35.0cm) were male and the average P.O.H.L. was 41.8cm (App. 9B). Of the 70 carcass recoveries, 45.7% were males and 54.3% were females. All four females checked were spawned out.

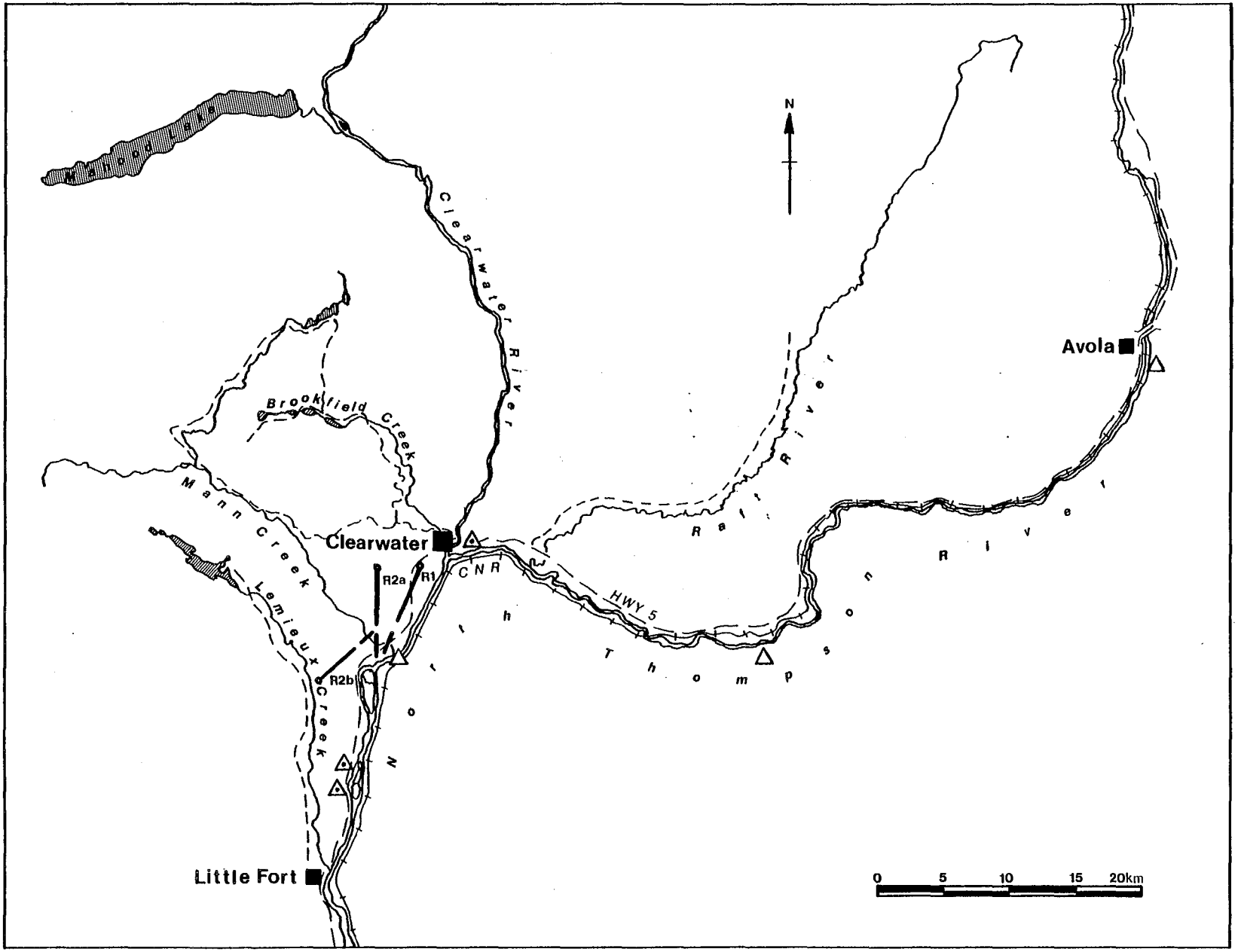

Figure 6A North Thompson Tributaries - Clearwater Study Area

Lemieux Creek

Study Area

Lemieux Creek, originating on the Nehalliston Plateau, drains Taweel Lake and flows southwest 25km entering the North Thompson at the community of Little Fort (Fig. 6A). The two major tributaries, Eakin and Nehalliston creeks, flow from the west and join Lemieux Creek 4.0 and 5.3km upstream of the mouth.

Highway 24 from Little Fort provides access to the first four kilometres of Lemieux Creek. A gravel road follows the east side for 4.5km before crossing to the west side of the Creek. Access to the 10.5km point is via a rough one-lane road on the east side of the valley.

Biophysical Description

Reach 1 is 1.3km long and runs from the mouth of the Creek to the first Highway 24 crossing (Fig. 6B). Gradient is less than 1% which produces a riffle/run flow with pools found only in the lower 300 metres. The stream averaged 10m in width and 0.3m in depth during the survey. Substrate is gravel except in the lower 300 metres where sand predominates. Spawning and rearing habitat is limited. The stream bank height averages 1.5m with grasses and mature cottonwood lining both banks. Most of the surrounding valley has been cleared for agricultural use.

Reach 2 occupies the next 1.5km of stream and has a slightly increased gradient, producing short, shallow rapids and small pools (Fig. 6B). The average width was 8m while the depth was the same as in Reach 1. The lower kilometre has a pebble and small cobble substrate, with a cobble

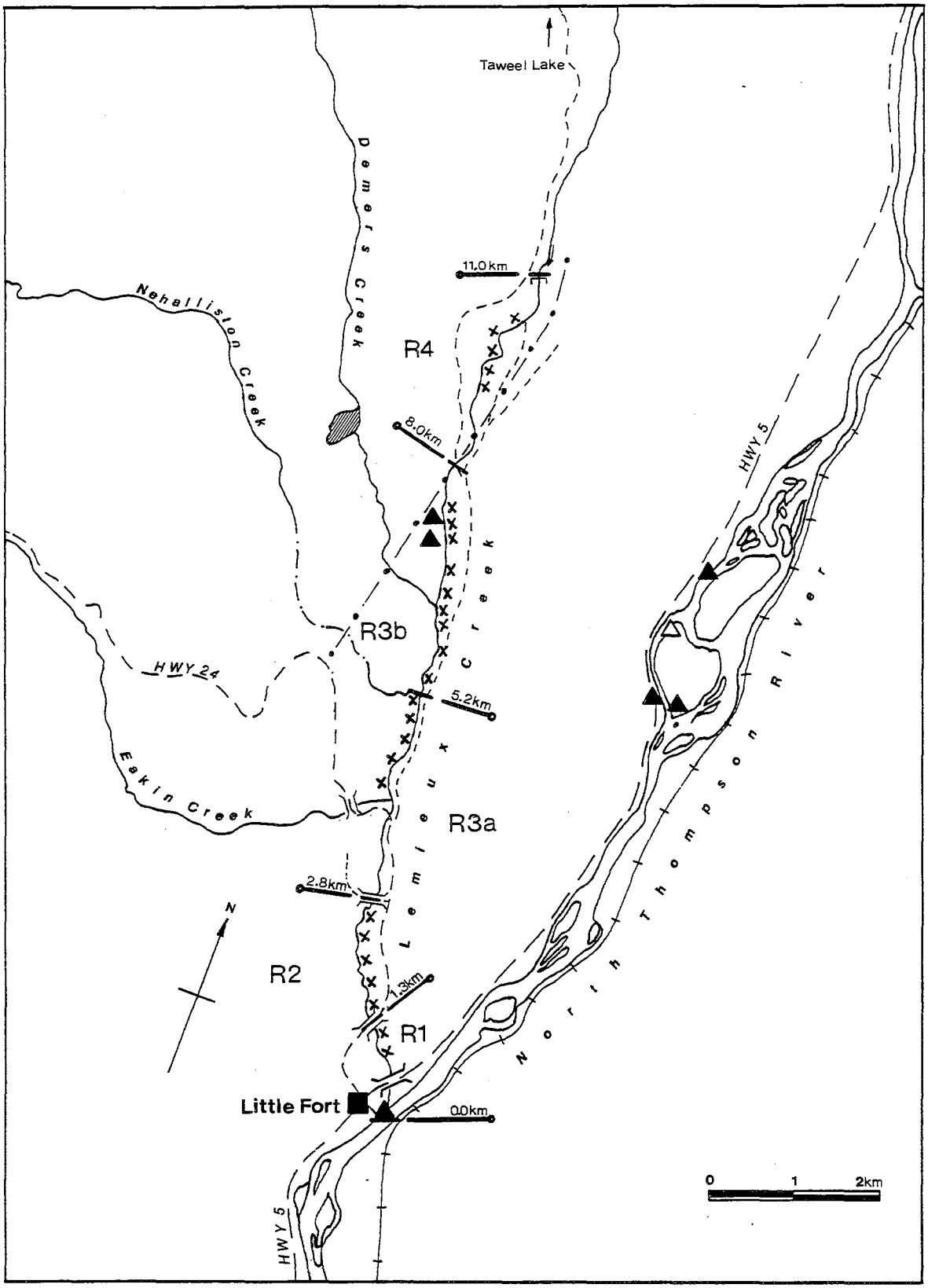

Figure 6B Lemieux Creek Study Area

substrate dominating the upper 0.6km. Well back of the stream's edge, forest and farmland clearings line the banks. As in Reach 1, spawning and rearing potential is limited.

Reach 3A is 2.4km long, and ends at the mouth of Nehalliston Creek. Gradient averages 1.5% and rapids run through most of the lower 1.4km, with short riffle pool sections and rapids in the upper kilometre. The width and depth averaged 7.0 and 0.4m during the survey. The streambed is mostly cobble/boulder from Eakin Creek downstream and pebble/cobble above. The valley is mainly forested below the Bridge Lake road crossing and partially cleared above. Some spawning occurs between the Eakin and Nehalliston creek outlets, but rearing potential appears marginal.

Reach 3B lies between the Nehalliston Creek outlet and the last bridge crossing 2.8km upstream (Fig. 6B). Gradient averages 1% and flow is characterised by long riffle/glide sections, short rapids and occasional pools. Wetted width during the survey averaged five metres, while depth averaged 0.3 metres. Substrate varies from pebble and small cobble to silt and sand, notably in the Demers Creek outlet area. Channel widths of up to 20 metres occur where log jams have blocked the stream. Rearing and spawning were highest in this reach, where 70% of all adult coho were seen.

Reach 4 runs for 3km upstream to an impassable waterfall (Fig. 6B). The gradient is steeper than in the lower reaches and the substrate is mainly cobble and small boulder. A section of pools and short riffles between kilometre 9.5 and 10.5 contained recently dug redds, the only spawning activity seen. Rearing potential is fair in this section and poor in the remainder of the reach.

Water temperatures taken during the Winter survey indicate a wide variation from one location to another. The upper end of Reach 4 had ice formations to one metre thick. Ground water entering the lower part of Reach 4 and Reach 3B raised the downstream water temperatures by 1.0°C to 1.5°C and kept these reaches free of ice. Cold water from Eakin and Nehalliston creeks again reduced the temperature of Lemieux Creek by 1°C. Air and water temperatures are presented in App. 1C.

Biological Studies - Juvenile Program

Juvenile Tagging

A total of 5296 juveniles were captured between October 5th and 15th, 1982, 76.4% in Reach 1 and 23.6% in Reach 2. (App. 2C, 4E and 4F)[9]. The fish were sorted into 0+ and 1+ groups using eye diameters, and tagged: 2388 were released with code 2-23-23 and 0+ and 1824 with code 2-21-1 as 1+. A further 259 undersized coho were released untagged (App. 4E and 4F). Scale analysis based on samples taken during tagging indicate that all 0+ fish were aged correctly; however, this was true in only 1.5% of the 1+ fish (App. 6C), Table 7 summarizes the revised tag releases according to age group.

Table 7: Revised Information on Lemieux Creek Coho Tagged and Released

Tag Code	Tagged Fish Released	
	0+	1+
2-23-23	2388	
2-21-1	1797	27
TOTAL	4185	27

Zero plus fish tagged and released ranged from 55.0mm to 80.0mm in length and from 3.5mm to 6.0mm in eye diameter. Lengths for these fish averaged 65.7mm and eye diameters, 5.2mm (App. 6C and 7C).. Only one 1+ fish was sampled and it had a length of 98mm and an eye diameter of 7mm (App. 7C).

Tag loss over 24 to 72 hours averaged 0.1% for the 2-23-23 tag group and 0.3% for the 2-21-1 tag group (App. 4E and 4F). There were 14 pre-tag mortalities and five post-tag.

Adipose fin clips were unacceptable in 1.8% of the 1863 fish checked; anomalies were observed in 1.3% of these fish (App. 5C).

Other species captured included sculpins, Rainbow trout, suckers and leeches (App. 3C).

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[9]This total was determined from tagging information since trapping data proved insufficient for this program; however, trapping data was suitable for discussion of distribution.

Winter Survey

Trapping on Reach 1 from January 3rd to 4th, 1983 captured 362 coho: of these, 48.1% were missing the adipose fin and 51.9% were unclipped. Sampled fish averaged 70.0mm length and 5.4mm in eye diameter (App. 2C, 6C and 7C).

Twenty-one fish captured in Reach 3B on January 4th had an average length of 75mm and 6mm in eye diameter (App. 2C, 6C and 7C). Seven fish sampled from the two reaches were all aged as 1+ (App. 7C).

Biological Studies - Adult Program

Population Size, Timing and Distribution

Escapements have ranged from 75 to 3500, with peak counts in 1953, 1955 and 1965; and minimum counts in 1951 and 1958. From 1977 to 1982, the average escapement has been 430 fish (Fisheries Escapement files). In 1982, the escapement was 400, below the recent short term average, and was based on a peak count of 230 coho made by Frank Voysey November 17th, 1982.

The adult survey started November 28th, eight days after the peak of spawning as previously noted. Despite poor observation conditions and predator activity, 211 coho were observed. During this time, up to 35% of the run was still holding and it was not until the period from December 8th to 12th that these fish moved out of the pools, indicating significant spawning activity well into December (App. 10).

Spawning was light in all reaches, except for 3B where 78.9% of all carcasses were observed, and in the upper kilometre of Reach 3A where 18.3% of the carcasses were noted. (App. 8C).

Length, Sex, Spawning Success and Age Composition

A total of 94 carcasses were sampled, ranging in length from 31.6cm to 52.0cm and having an average P.O.H.L. of 42.9cm. The sex composition of 183 carcasses was checked: 37.8% were male and 62.2% were female. Of the 94 females, 92 were spawned out and two were 50% spawned. Only 2.4% of the 84 fish aged were 4 sub 3 and the remaining 97.6% were 3 sub 2. Table 8 summarizes all length and age data.

Table 8 : Lemieux Creek Summary of Adult Coho
Sex, Length and Age Composition

AGE CLASS	SEX	LENGTH DISTRIBUTION										SUB-TOTAL		TOTAL	
		30.1-35.0		35.1-40.0		40.1-45.0		45.1-50.0		50.1-55.0					
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
3_2	M	1	1.1	7	7.4	9	9.6	6	6.4	2	2.1	25	26.6		
	F	1	1.1	9	9.6	28	29.8	15	16.0	4	4.3	57	60.6	82	87.2
4_3	M			1	1.1							1	1.1		
	F			1	1.1							1	1.1	2	2.1
R	M	1	1.1	2	2.1							3	3.2		
	F			1	1.1	5	5.3	1	1.1			7	7.4	10	10.6
SUB TOTAL	M	2	2.1	10	10.6	9	9.6	6	6.3	2	2.1	29	30.9		
	F	1	1.1	11	11.7	33	35.1	16	17.0	4	4.3	65	69.1		
TOTAL		3	3.2	21	22.3	42	44.6	22	23.4	6	6.3			94	100

Barriere River

Study Area

Flowing 63 kilometres west from its source in the highlands bordering on the Adams Lake watershed, the Barriere River reaches its confluence with the North Thompson 58km north of Kamloops. Five important tributaries make up this system: The two major tributaries are the North[10] and East Barriere, each containing a moderate sized lake with the same name as its parent stream. The other tributaries include Harper Creek, flowing into North Barriere Lake; Fennel Creek, a tributary of the North Barriere and Haggard Creek, flowing into the East Barriere. Both the East Barriere River and Haggard Creek are discussed in the minor study section (Fig. 1 and 7).

Biophysical Description

Reach 1 on the Barriere is a 0.5km area comprising the outlet of North Barriere Lake. The shoreline surrounding the reach tends to be swampy with mud, reed and log debris. The terrain along the shore and within the reach appears to have been modified by some form of construction, of which only traces now remain. This section is wide with a slow flow and deep pools. The substrate is a mixture of sand and fine gravel with patches of coarse gravel, cobble and boulder toward the centre. Most of the spawning observed was in this area, and juvenile coho were also captured here during the winter survey.

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[10] In this report, the North Barriere is considered to be the section above North Barriere Lake and the Barriere River is considered to start at the outlet of North Barriere Lake.

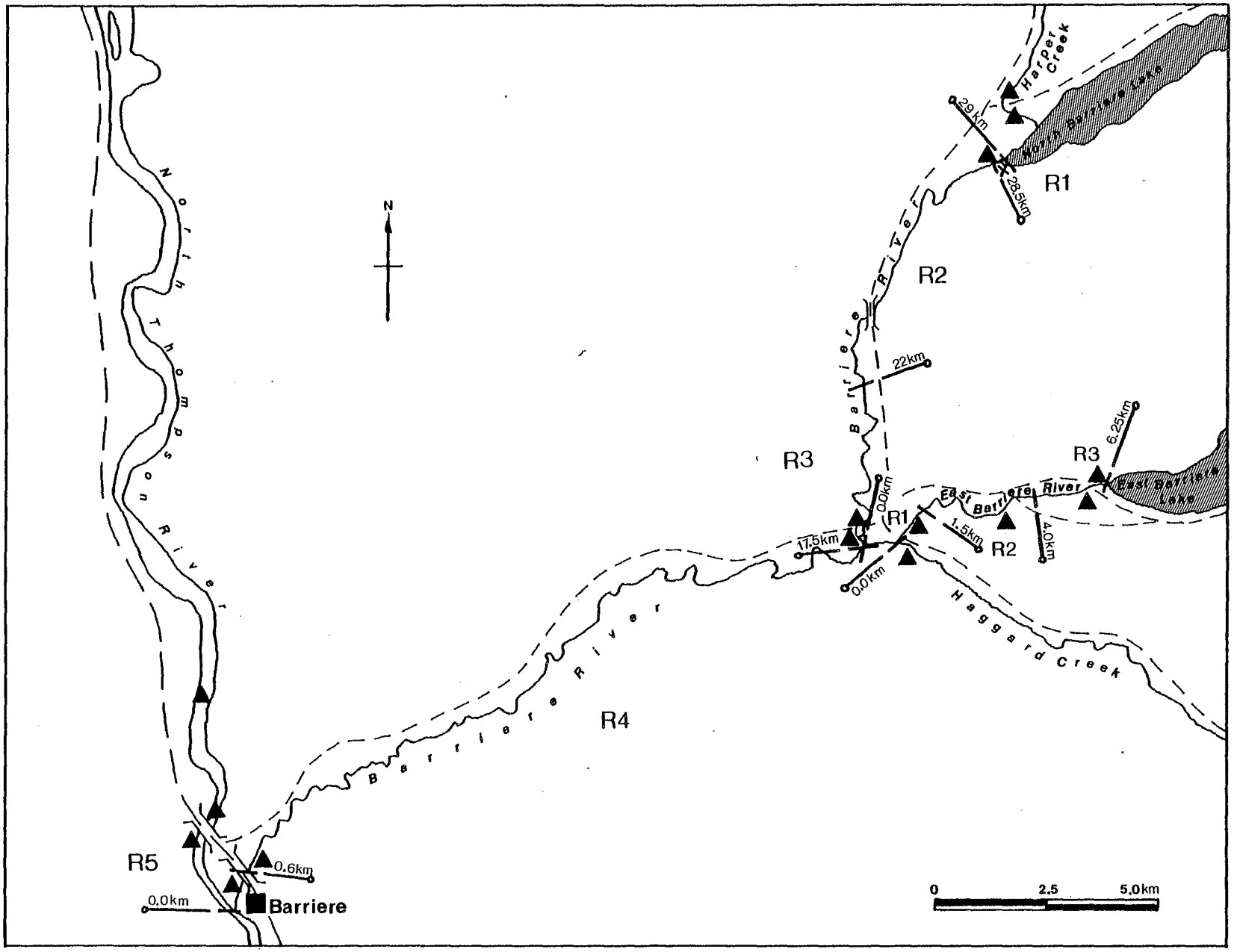

Figure 7 Barriere River Study Area

Reach 2 continues downstream for 6.5km from the end of Reach 1. This is an area of swift water, runs, riffles and rapids, where the substrate changes from the sand and fine gravel of Reach 1 to cobble and boulder. The banks are thickly forested,with a great deal of log debris in the underbrush.

Reach 3, 4.5km long, stretches from the Reach 2 boundary to the East Barriere confluence. Some streambank vegetation is present and water flow is swift over a substrate consisting mainly of sand, fine silt and clay. Juvenile trapping on a side channel 200 metres downstream from the "Barriere River Road" was successful.

Reach 4, 16.9km in length, runs from the East Barriere confluence to just above the Highway 5 bridge. This section is fast flowing with heavily forested banks. The substrate is mostly cobble and boulder.

Reach 5, 0.6km long, runs from the Reach 4 break to the North Thompson. It flows rapidly between forested banks over a cobble/boulder substrate. Juvenile coho were captured in a side channel 50 metres downstream from the Highway 5 bridge.

Biological Studies - Juvenile Program

Winter Survey

Traps set on January 5th and 6th captured 616 coho; 43% on Reach 1, 40.6% on Reach 3 and 16.4% on Reach 5 (App. 2G). A total of 60 fish were sampled for lengths and weights. The mean length, eye diameter and weight of these fish was 65.0mm, 5.2mm and 2.9g (App. 7F).

Biological Studies - Adult Program

Population Size, Timing and Distribution

Coho escapements have varied from 1500 in 1955 and 1965 to 25 in 1957; the recent six year average from 1977 to 1982 has been 347 (Fisheries Escapement files). This year, the escapement was 450 based on a peak count of 350 made by Frank Voysey on November 18th, 1982.

During the adult survey, 72 of these were counted or dead pitched by December 28th, 1982, and spawning activity was observed in Reach 1 until mid-December. Coho were observed

in both Reach 1 and 2, but 85.7% of the dead recovered were from Reach 1 (App. 8G and 10).

Length, Sex, Spawning Success and Age Composition

Fifty-one coho from Reach 1 were examined to determine sex. Of these, 23.5% were males and 76.5% were females. Twenty-two of the females were examined for spawning success, all from Reach 1, and one was 50% spawned and the balance were spawned out. Post orbital hypural lengths and scales were taken from 28 of the fish. The results are summarized in Table 9 . App. 9G gives individual measurements.

Table 9 : Barriere River Summary of Adult Coho Sex, Length and Age Composition

AGE CLASS	SEX	LENGTH DISTRIBUTION								SUB-TOTAL		TOTAL	
		35.1-40.0		40.1-45.0		45.1-50.0		50.1-55.0					
		n	%	n	%	n	%	n	%	n	%	n	%
3_2	M	3	10.7	3	10.7	1	3.6	0	0.0	7	25.0		
	F	2	7.1	8	28.6	5	17.9	3	10.7	18	64.3	25	89.3
R	M	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
	F	1	3.6	1	3.6	1	3.6	0	0.0	3	10.4	3	10.7
SUB TOTAL	M	3	10.7	3	10.7	1	3.6	0	0.0	7	25.0		
	F	3	10.7	9	32.1	6	21.4	3	10.7	21	75.0		
TOTAL		6	21.4	12	42.9	7	25.0	3	10.7			28	100

Overall, the fish averaged 43.6cm P.O.H.L. and ranged from 36.2 to 51.8cm. All those that could be aged belonged to the 3 sub 2 age class (App. 9G).

Louis Creek

Study Area

Louis Creek flows north to join the North Thompson River at the town of Louis Creek. The stream is approximately 48 kilometres in length, with an average width of 5m, and drains an area of 512km^2. This meandering, low gradient stream is moderately braided in its lower reaches and fairly confined in its upper reaches. Extensive agricultural and recreational use of this creek results in silting and streambank erosion (Berry and Kahl, 1982).

Louis Creek is accessible from the north through Louis Creek Road and by Heffley Creek/Tod Mountain Road from the west. The village of Whitecroft is situated near the Louis/McGillivray confluence. Spawning occurs mainly in Reach 1 and Reach 3, 4 and 5, and sparsely in Reach 6, 7 and 8. The rearing area is distributed throughout, with the heaviest concentration in Reaches 1 to 5. Tributary spawning is almost non-existent, Christian Creek being the only tributary with documented spawning activity. In 1982, a mini hatchery was installed on Christian Creek by the Public Involvement Program of SEP (Fig. 1 and 8).

Biophysical Description

Reach 1 on Louis Creek is 4.5km long, running upstream from the McGillivray Creek confluence. The substrate consists of suitable spawning gravel, with areas of sand, silt and mud. In the lower 2 kilometres of this reach, the creek is a single channel stream less than one metre wide, winding through farmland. The banks are covered by grasses, shrubs

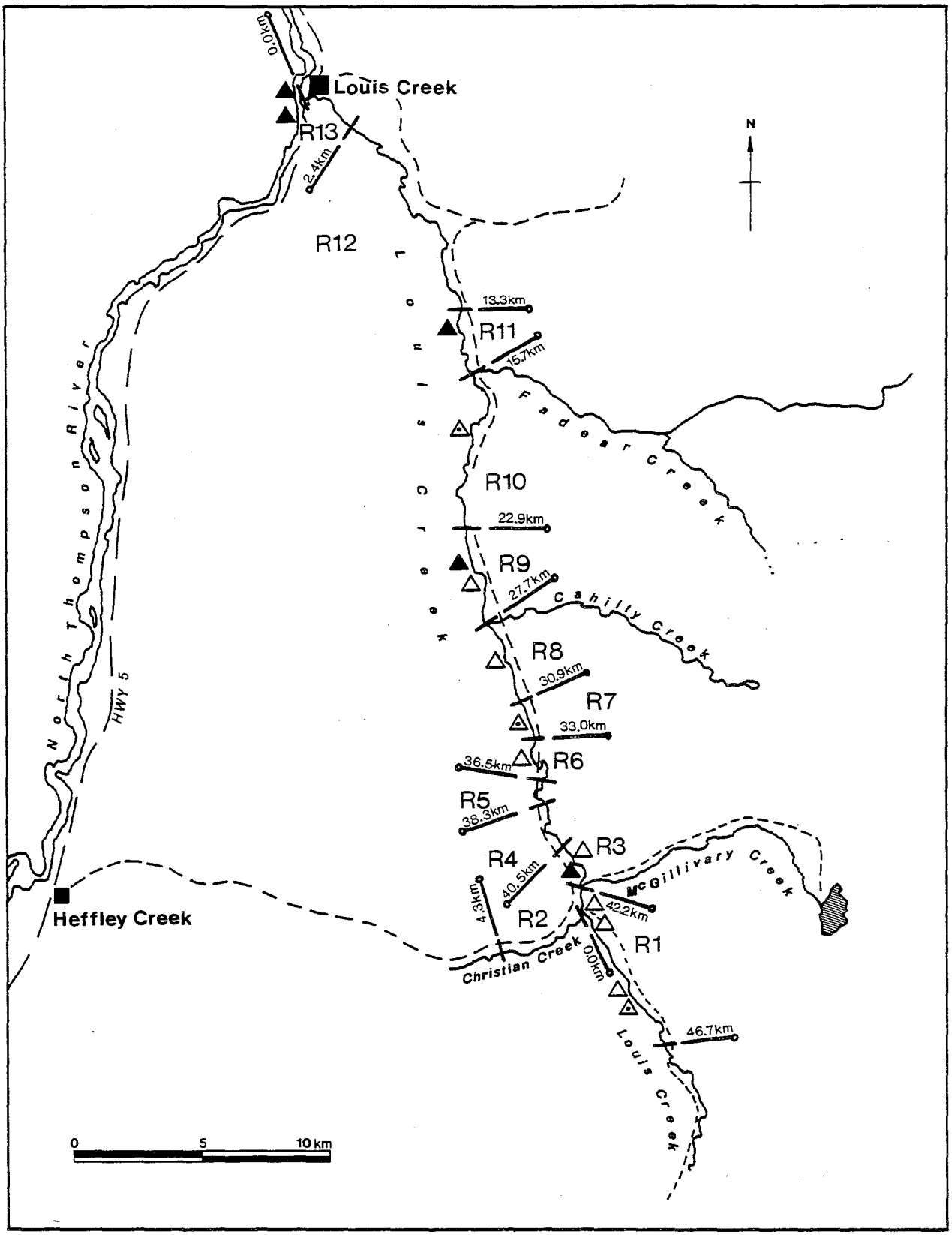

Figure 8 Louis Creek Study Area

and trees. In the upper 2.5 kilometres of the reach, the stream widens from one to three metres, the cover improves and windfalls, log jams and beaver dams occur.

Reach 2, actually Christian Creek, is a tributary of Louis Creek, located 0.5 kilometres south of Whitecroft Village. The 4.3 kilometre section upstream from the confluence was covered as Reach 2. The substrate is primarily fine silt, some sand and boulders with patches of gravel. Optimal rearing appears to be confined to the lower one kilometre where the stream is less than one metre wide and one metre deep. The substrate is mainly fine silt and sand while the banks are covered by overhanging grass. Beaver dams are located throughout the reach.

Reach 3 stretches 1.7 kilometres downstream from the Louis Creek/McGillivray Creek confluence and passes Whitecroft Village on the west. This braided section is characterised by bank erosion, beaver dams and windfalls. Despite a high level of human activity and refuse, it appears to be an area of good rearing with more than a little spawning as 19.3% of all adult observations and recoveries were made in this section. The vegetation is similar to that of Reach 1 but is not confined to the streambanks. The streambed composition was estimated to be 20% gravel, 30% sand, 35% silt and 15% boulders.

Reach 4 flows through pastures (meadowlands) for 2.2 kilometres as primarily a single three to six metre wide channel. The banks are covered with shrubs and trees which border the channel in the farming areas while long grasses and shrubs stretch back from the stream in the meadowland. There are extensive log jams and windfalls, mainly in the lower areas of the reach. Spawning activity was high and many juvenile fish were observed during the adult survey.

Reach 5 runs for 1.8 kilometres between the Reach 4 break and the culvert at Louis Creek Road. This section is characterised by slow water flow, several pools, long overhanging grasses and a substrate of fine gravel, sand and silt. The reach appears to contain habitat important for juvenile rearing.

Reach 6 continues downstream from the Louis Creek Road culvert for 2.5 kilometres between steep banks. The flow is swift over mostly boulder substrate; however, some windfalls and overhanging trees provide cover for rearing.

Reach 7, the next 2.1 kilometre section, is a single meandering channel containing a log jam and a back eddy that provide excellent rearing habitat. Overhanging grass offers cover for most of the reach, and the streambed is composed of gravel and sand. The area to the east between the stream and road is a swamp where water temperatures were always 2°C higher than in the stream, indicating a possible influx of ground water.

Reach 8 is 3.2 kilometres long, ending at the confluence of the Louis and Cahilty creeks. The stream width averages three metres and the bottom is composed of sand with some plant debris in the shape of sticks and scattered logs. There is some cover provided by overhanging shrubs.

Reach 9 flows swiftly downstream for 4.8 kilometres over a substrate consisting mainly of boulders. Little cover occurs in this section, except for overhanging grasses along a few isolated pools. The owner of Seymour Farm keeps this section clear of log jams and windfalls.

Reach 10 is 7.2 kilometres long, and flows rapidly over a substrate of boulders with occasional patches of sand. Vegetation is limited to overhanging shrubs.

Reach 11 runs for 2.4 kilometres without cover from streambank vegetation or instream logs. Substrate is composed of 80% fine gravel and 20% silt.

Reach 12 is 10.9 kilometres long and was not surveyed due to difficulty of access. Previous surveys conducted by L. Kalnin in 1981 describe this reach as an area of mostly steep cascades with a short stretch toward the end that meanders through open farmland. The surrounding vegetation consists of 10% second and third growth mixed forest.

Reach 13, the remaining 2.4 kilometres of Louis Creek before it flows into the North Thompson, is a section of swift flow with a boulder substrate and scarce streambank vegetation.

Biological Studies - Juvenile Program

Summer Study

For the period August 22nd to 23rd, 182 coho and five Rainbow trout were captured on Louis Creek; 52.7% of the

catch was from Reach 2 (App. 2D and 3D). The 113 0+ coho sampled averaged 55.7mm in length and 4.6mm in eye diameter. Seven 1+ fish also sampled averaged 88.3mm and 6.6mm in eye diameter. The average weight for all fish sampled was 2.4g (App. 6D and 7D).

Juvenile Tagging

Trapping from October 25th to November 15th captured 8748[11] coho, 44% from Reach 1, 21.8% from Reach 3, 18.8% from Reach 5 and the remainder were from reaches 2, 6, 7, 9 and 11 (App. 2D, 4G and 4H). Captured fish were separated into age 0+ and 1+, using eye diameters, and tagged: 6022 were released with code 2-23-30 and 1985 with code 2-23-31; 622 undersized coho (less than 40mm) were released untagged (App. 4G and 4H).

Scale analysis of fish sampled during tagging showed that only 1.6% of the 1+ coho were aged correctly. Table 10 details the revised release figures for fish by age released under each tag code (App. 6D).

Table 10: Revised Information on Louis Creek Coho Tagged and Released

Tag Code	Tagged Fish Released	
	0+	1+
2-23-30	6022	
2-23-31	1954	31
TOTAL	7976	31

Zero plus fish tagged and released averaged 64.6mm in length and 5.23mm in eye diameter, but since only one 1+ fish (92mm long and 7mm eye diameter) was sampled, a mean average for length and eye diameter for released 1+ fish could not be determined (App. 6D and 7D).

[11]This total was determined from tagging information since trapping data proved insufficient for this program; however, trapping data was suitable for discussion of distribution.

Prior to tagging, there were 53 mortalities in holding pens and after tagging, another 20 died.

Tag loss was 0.3% overall for the 2027 fish checked from the 2-23-30 tag group and 0.1% for the 1139 fish checked from the 2-23-31 tag group; 24 recaptures had a 100% tag retention (App. 4G and 4H).

Quality of adipose fin clips and the presence of anomalies was checked in 3562 fish, and 1.3% had unsatisfactory clips. Anomalies were observed in 1.9% of the fish (App. 5D).

Winter Survey

Traps were set on December 14th, January 10th and 11th on reaches 1, 3, 7, 9, 10, 11 and 13, capturing 470 coho and 64 Rainbow trout; fin clipped fish were recovered from reaches 1, 3, 7 and 9 but these were only 9.8% of all the fish caught (App. 2D).

Biological Studies - Adult Program

Population Size, Timing and Distribution

Coho escapements to Louis Creek have ranged from 400 in 1951, 1959 and 1967 to 7500 in 1955; from 1977 to date, runs have averaged 1217 (Fisheries Escapement files). In 1982 the escapement was 750 based on a peak count of 465 made by Frank Voysey on November 15th. Of these, our survey counted 218 during dead pitching.

Three adult coho were observed during the summer juvenile survey holding at the culvert at the lower end of Reach 5 on August 22nd, indicating an early arrival. From observations made during juvenile tagging, peak spawning was noted as mid-November (App. 10).

Spawning activity was heaviest in Reach 1 where 38.5% of the coho were spotted. Table 11 gives a breakdown of the number observed in each reach.

Table 11: Louis Creek Spawning Distribution

Table 11	Spawning Distribution						
Reach	1	2	3	4	5	7-8	9-13
n	84	1	42	44	38	2	0
%	38.5	0.5	19.3	20.2	17.4	3.2	0

Length, Sex, Spawning Success and Age Composition

Of the 218 fish dead pitched, 204 were checked for sex and of these, 50.3% were male and 49.7% female (App. 8D). All the female fish had successfully spawned (App. 9D). Seventy-one fish were measured for P.O.H.L. The average was 41.8cm and the range was from 34cm to 52cm. One female measuring 65cm was not included in the calculation as it was not positively identified as a coho.

Of the 63 coho successfully aged, 95.2% belonged to the 3 sub 2 age group and 4.8% to the 4 sub 3 age group. Table 12 expands on the length and age information.

Table 12: Louis Creek Summary of Adult Coho Sex, Length and Age Composition

AGE CLASS	SEX	LENGTH DISTRIBUTION										SUB-TOTAL		TOTAL	
		30.1-35.0		35.1-40.0		40.1-45.0		45.1-50.0		50.1-55.0					
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
3_2	M	6	8.6	11	15.7	10	14.3	3	4.3	0		30	42.9		
	F	0		7	10.0	13	18.6	8	11.4	2	2.9	30	42.9	60	85.7
4_3	M	0		2	2.9	0		0		0		2	2.9		
	F	0		0		1	1.4	0				1	1.4	3	4.3
R	M	1	1.4	0		1	1.4	0				2	2.9		
	F	0		1	1.4	3	4.3	1	1.4	0		5	7.1	7	10.0
SUB TOTAL	M	7	10.0	13	18.6	11	15.7	3	4.3	0		34	48.6		
	F	0		8	11.4	17	24.3	9	12.9	2	2.9	36	51.4		
TOTAL		7	10.0	21	30.0	28	40.0	12	17.1	2	2.9			70	100.0

MINOR STUDY AREAS

North Thompson River

Study Area

Summer and winter juvenile trapping was conducted on the North Thompson River between the outlets of the Albreda and Barriere rivers. Ease of access determined trapping sites, most of which were along highways (Fig. 1).

Biophysical Description

In the trapping areas, the North Thompson is wide with large gravel bars that are continually shifting, causing erosion and heavy silting. Live counting is difficult due to the turbidity of the water.

During the summer survey, 18 traps were set at Little Fort, Clearwater, around Birch Island and above the Lion Creek confluence (Fig. 6A). The total catch for each site was four, three, zero and one coho. Other species are summarized in App. 3F. The winter trapping sites included those from the summer and two new sites, one under the bridge at Barriere and one below the confluence of Lemieux Creek (Fig. 6A and 7A). These new trapping sites yielded three coho each. None were caught at any of the other sites (App. 2H).

Thunder River

Study Area

The Thunder River is a glacial stream rising in the Cariboo Mountains and flowing east for 25 kilometres before

entering the North Thompson 13km north of the village of Blue River (Fig. 3A). Highway 5 crosses the river one kilometre upstream of the stream mouth and logging roads provide access along the north side. The stream was snow-shoed on January 5th between the highway crossing and a point 0.3km downstream.

Biophysical Description

No records of coho spawning exist for this stream, which contained both surface and anchor ice during the survey.

The gradient below the highway crossing is less than 1% with many pools and riffles. The substrate is made up of cobble and boulders near the crossing, becoming sand, pebble and cobble 100 metres downstream. There is little overwintering habitat due to extensive ice, observed to be up to two metres thick during the survey.

Cook Creek

Study Area

Cook Creek is situated 5km north of Blue River and is 7.3km long (Fig. 3A). Highway 5 crosses the stream one kilometre from its mouth and provides easy access to the major spawning area, which is 100 metres in length (F. Voysey, spawning ground report, 1982). A four-wheel drive road extends to the headwaters along the north bank. The January 5th survey was conducted over a 250 metre section that included the major spawning area.

Biophysical Description

Coho escapements have been low and variable, ranging from 60 in 1978 to 10 in 1980: the 1982 estimate was 50 fish (Fisheries Escapement files). At the time of the winter survey, one male coho carcass was observed. The area downstream of the CN bridge is swampy and almost flat, with a substrate of silt and sand for 100 metres. Upstream of the bridge, the substrate changes to gravel and pebble. Instream debris, overhanging plants and undercut banks in this section of riffle and pool flow offer excellent rearing conditions, but traps set January 5th yielded no overwintering juveniles (App. 2H).

Cedar Creek

Study Area

Cedar Creek is a small stream which flows southeast for 6.1km, joining the North Thompson 1.8km north of Blue River. Highway 5 crosses the stream about 200 metres above its mouth (Fig. 3A). The stream was trapped for juveniles and surveyed for adults on January 4th.

Biophysical Description

Escapements to this stream have been low, averaging 51 fish from 1977 to 1982 (F. Voysey, spawning ground report, 1982). Flows were low at survey time, wetted width and depth being 2.5 and 0.3 metres. Although the gravel and pebble substrate appears ideal for spawning, no activity was apparent. Small pools, riffles and thick, overhanging vegetation provide excellent rearing habitat, and trapping captured one coho and one rainbow trout juvenile (App. 2H).

North Blue River

Study Area

The North Blue is the major tributary of the Blue River. It flows south for 24 kilometres, joining the Blue River 14.7km upstream from the North Thompson and is fed chiefly by snowmelt from the surrounding mountains.

Biophysical Description

A gradient in excess of 9% in the lower kilometre of the North Blue may bar any upstream spawning migration. The next 15 kilometres of the North Blue has a low gradient and meandering flow. While historic salmonid utilization is unknown, rearing and spawning potential appear good (F. Voysey, pers comm), and would repay further study.

White River

Study Area

The White, the other major tributary of the Blue River, is 11.6km in length and joins the Blue River 3km upstream of the North Thompson (Fig. 3A). A stationary observation was made on December 30th from the North Blue River Forest road crossing located about 100 metres from the confluence with the Blue River.

Biophysical Description

No historical or current information on salmonid activity is available for this, although the rearing habitat appears to have good potential.

Goose Creek

Study Area

Goose Creek is located one kilometre south of Blue River. It drains an area of approximately 520 hectares and flows northeast and east for 4.7km before entering the North Thompson (Fig. 3A). The area surveyed is immediately above and below the Highway 5 crossing.

Biophysical Description

Salmonid use of this stream has not been documented although adult coho have been seen by the Fishery Officer (F. Voysey, pers comm). In the survey area, spawning conditions are poor; flow is slow and the streambed is silty. Rearing conditions appear good and six juvenile coho were trapped on January 4th (App. 2H).

Peddie Creek

Study Area

Peddie Creek is situated 4.5km south of the Blue River townsite and is a small tea-coloured stream 7.9km long (Fig. 3A). Highway 5 crosses the stream 0.6km upstream of its confluence with the North Thompson.

Biophysical Description

No records of spawning activity are available for this stream. Above the highway crossing, the gradient is more than 12% in the first 0.5km, and appears impassable to salmon, while below the crossing the land is level and swampy. Lack of gravel substrate, low flows and beaver dams severely constrain spawning in this area; however, rearing habitat is excellent throughout the area surveyed, and on December 15th, 159 coho juveniles were trapped in the Km 3 Swamp area adjoining Peddie Creek (App. 2H). The CN plans to double-track through this swamp in 1983/84.

Finn Creek

Study Area

Finn Creek originates in the Shuswap Highlands and flows southwest for 24.5km before joining the North Thompson River, 16km north of Avola. Highway 5 crosses the creek 2.5km from its mouth and logging roads provide access to the upper watershed, which is being extensively logged (Fig. 4). The area surveyed extends 250 metres both above and below the Highway 5 crossing. A trail provides access to the spawning area below the highway culvert but was difficult to find due to snow cover.

Biophysical Description

Coho escapements have fluctuated widely since 1951 from a peak of 3500 in 1953 to recent estimates averaging 15 fish from 1951 to 1977. Due to early ice-up, no estimate was made for 1982 by our survey or by the Fishery Officer.

Within the area surveyed, the substrate varied from cobble and boulder above the highway to mixed sand, pebble and cobble below. The gradient increased above the highway crossing, while both spawning and rearing potential appear poor below the highway. Finn Creek divides into a number of channels which meander through a mature hemlock and cedar forest. Both rearing and spawning potential appear to be good in this area. A side channel was trapped on January 6th without results (App. 2H).

Raft River

Study Area

The Raft River rises in the Shuswap Highlands and flows southwest for 65km, emptying into the North Thompson 5km upstream of Clearwater. Highway 5 crosses the Raft three kilometres from its mouth (Fig. 6A).

The river was walked for 200 metres downstream of the highway crossing on two occasions. Treacherous walking conditions due to surface and anchor ice hampered both attempts.

Biophysical Description

Coho escapements have ranged from 3500 in 1952 to 25 in 1960 and 1963, and averaged 187 from 1977 to 1982.

The Fishery Officer's 1982 estimate is 200 (F. Voysey, spawning ground report, 1982). The area downstream of Highway 5 has a substrate of sand, pebble, cobble and boulder, with cobble predominating. Anchor ice and ice jams in this section covered 50% of the river. No redds or spawners were observed.

Brookfield Creek

Study Area

Brookfield Creek flows southeast from its source on the Nehalliston Plateau for 14 kilometres to the Clearwater River. The area surveyed lies at the southern boundary of Clearwater and is bordered by gravel roads (Fig. 6A). There is a sawmill at the upper end of this section on the north bank.

Biophysical Description

Coho escapements have never exceeded 75 and no spawners have been observed within the last 10 years. Brookfield Creek has a swift flow running over mixed cobble and boulder substrate. The gradient is 4% and stream width and depth were 10 to 15 metres and 0.5 metres within the survey area. The water was slightly tea-coloured and sediment free, with thick ice along the banks. Although there are pools, both rearing and spawning potential are limited.

Mann Creek

Study Area

Mann Creek is located between Clearwater and Little Fort, and drains a large portion of the Nehalliston Plateau. It flows southeast for 50 kilometres before entering the North Thompson River (Fig. 6A). Highway 5 provides access to the upper end of the normal spawning area, 1.5km upstream from the mouth. Survey conditions on January 3rd were poor due to unstable surface ice, overhanging vegetation and instream debris.

Biophysical Description

Sporadic escapement data between 1951 and 1980 show an annual average of 108 coho, with a maximum of 400 recorded in 1965 (Fisheries escapement files). The 1982 estimate is 30 (F. Voysey, spawning ground report, 1982).

Mann Creek was divided into three reaches, each with differing habitat. Reach 1 extends from the mouth to the highway crossing. Here the stream is slow moving, meandering and occasionally braided. With the exception of a 200 metre section immediately below the highway crossing which has a pebble and cobble substrate, sand, gravel and pebble predominate. Many small to mid-size pools (0.6 to 1.5m deep) have been formed by log jams and beaver dams, the latter occasionally posing a problem to upstream adult migration. The area appears ideal for coho spawning although none were observed.

Reach 2A occupies a 0.6km section of stream immediately above the highway crossing. Here a steepening gradient causes rapids to form. Substrate composition is 15% small boulder, 70% cobble, 10% pebble and 5% sand and gravel. Spawning potential appears limited but some gravel displacement was noted 0.25km upstream from the highway crossing, although no coho were seen. Rearing potential also is low due to lack of suitable habitat.

Reach 2B was not surveyed but extends from a farm on the south bank to a canyon 0.3km upstream. Spawning and rearing potential are non-existent as the gradient is 10% and the substrate is cobble and boulder. On January 7th, Mann Creek was trapped for juveniles; only one rainbow trout was caught. (App. 2H).

Harper Creek

Study Area

Harper Creek flows south into North Barriere Lake. It is 9 kilometres long and averages 10 metres in width in the area surveyed, 3km upstream of the lake (Fig. 7). Road access is via North Barriere Lake Road.

Biophysical Description

No coho spawning has been observed in Harper Creek. Near the mouth, there is suitable spawning gravel but elsewhere the substrate is mainly boulders. During the survey, the creek was obscured by ice. The streambank is forested and near the confluence, log jams and windfalls provide potential rearing cover. No fish were caught during juvenile trapping on January 10th, 0.25km above and below the bridge at the North Barriere Road/Harper Creek Road junction. This creek dries up during the summer months (F. Voysey, pers comm).

Haggard Creek

Study Area

Haggard Creek flows 11 kilometres northwest from South Barriere Lake into the East Barriere about 1.2km upstream from the Barriere River confluence (Fig. 7). A good logging road provides access along its length.

Biophysical Description

The stream has an average wetted width of five metres and flows swiftly over a substrate composed mainly of boulders, with patches of sand. Vegetation along the bank consists mostly of trees and shrubs. No evidence of spawning was seen and although rearing habitat was poor, eight rainbow trout were caught during the winter survey.

East Barriere River

Study Area

The East Barriere flows west 18 kilometres into the Barriere. It had an average width of six metres and flows between forested banks (Fig. 7). The area surveyed ran from the confluence of the Barriere River to the East Barriere Lake outlet. Road access is via South Barriere Lake and East Barriere roads.

Biophysical Description

Reach 1 extends for 1.5km upstream of the Barriere River confluence. The streambed consists mainly of boulders and large rocks with patches of good spawning gravel in the lower one kilometre. The water is fast flowing with an abundant cover from bank vegetation and instream log debris.

Reach 2, from km 1.5 to km 4.0 upstream, has physical characteristics similar to those of Reach 1.

Reach 3 runs for 2.25km from the Reach 2 break to the mouth of East Barriere Lake. The substrate is gravel, increasing in size to boulders a short distance downstream from the outlet of the lake. The water flow is steady and bank vegetation is low bush. Back eddies and log jams provide rearing habitat. Traps set January 9th and 10th yielded 14 coho and 25 rainbow trout.(App. 2H and 3F).

McGillivray Creek

Study Area

McGillivray Creek flows southwest into Louis Creek at Whitecroft Village (Fig. 8). Access is either east from Highway 5 at Heffley Creek Road or south from Louis Creek Road. The reservoir for the village of Whitecroft is located 100 metres downstream from the falls.

Biophysical Description

There is an impassable waterfall 16.5 metres high, one kilometre from the McGillivray Creek/Louis Creek confluence. When surveyed, the creek was generally iced over, but in the open stretches, the substrate was boulders and the gradient steep. Adult coho have been observed in the creek although there is little spawning habitat available (F. Voysey, pers comm). No juvenile survey was conducted on the stream.

CONCLUSIONS AND RECOMMENDATIONS

MAJOR STUDY AREAS[12]

Albreda River

Coho escapement to this stream appears to be increasing. Spawning and rearing potential is good, although much of the available habitat is not used. No natural or artificial obstructions exist to restrict further growth.

Fall and Winter ground counts were hampered due to ice and snow. Despite these obstacles, both juvenile and adult coho were observed and sampled. Juveniles were all aged 0+, but most fish belonged to the 3 sub 2 age group.

Further studies recommended for this stream include:

1) A Spring and Summer juvenile program to determine current production and to estimate adult escapement;

2) A complete habitat inventory to define reaches for collecting information and to map spawning and rearing habitat.

Minnow trapping and electro-shocking would be successful in reaches 1 and 2 while pole-seining should work well further downstream. There is a good site for an inclined plane trap at the Highway 5 crossing upstream of the Clemina Creek outlet as most spawning and rearing occurs above this point. Stream flow is also more stable above the Clemina confluence than below it.

Beaver activity on reaches 1 and 2 should be monitored to ensure spawning ground accessibility.

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[12]Data pertaining to this section is summarized in App. 11.

Blue River

Here escapements appear to be on the increase, which may be due to the more intensive surveys of recent years. Spawning habitat is still poorly utilized in the area surveyed. Ice formation further limits the accuracy of counts and the observation of spawner migration. There is some marginal rearing habitat in pools and around cut-banks.

One juvenile coho was captured but was not sampled for age, and all adults were aged 3 sub 2.

The following surveys would provide useful information:

1) A habitat inventory of the entire watershed;

2) A juvenile production study to be used in calculating the previous years adult escapement.

A Spring juvenile study could be undertaken by installing an inclined plane trap near the Blue/North Thompson confluence at an old logging road crossing. Minnow trapping, seining or electro-shocking could also be done to determine distribution and production of the stream.

Lion Creek

Recent and historic escapements appear to be similar although it is possible that more intensive adult surveys in recent years are masking an actual decline. The information collected on Lion Creek is quite good with high numbers of juveniles available for tagging. However, due to the extremely small number of 1+ fish, future tagging should be limited to one code.

As in the other areas of the North Thompson sampled, most of the returning spawners were 3 sub 2 fish. The high percentage of adults sampled illustrates the ease of recovery of fish on this system, and indicates that the current escapement estimate is conservative. Lion Creek is highly productive, easily surveyed and has stable flows, recommending it for projects listed below:

1) The continuation of the juvenile tagging program initiated in 1982;

2) A fence to monitor juvenile production, out-migration, and adult escapement through fence counts. This fence would

also be useful to recover coded-wire tagged adults and for a Petersen tag program;

4) The habitat inventory started in 1982 should be continued;

5) A year round juvenile production study could be inaugurated since ice-free conditions make working on the system easy.

Difficult road access could be overcome by the use of snowmobiles.

Wire Cache Creek

A small creek that presently supports a moderate sized adult run and offers rearing to a good sized population of juvenile coho from both the parent stream and other areas upstream on the North Thompson.

Future studies should include:

1) A juvenile production study;

2) An adult escapement survey.

Lemieux Creek

Escapement to this stream appears to be decreasing, but there is potential for enhancement. Large areas of accessible spawning gravel are currently unused, partly due to low Summer and Fall flows. Rearing habitat is scarce except in the three kilometres above Nehalliston Creek.

This creek is unusual in that its major spawning areas remain ice-free. Observation and sampling of juvenile and adult coho is simplified by road access along the entire rearing and spawning area. Scales from juveniles were mostly age 0+ and most adults belonged to the 3 sub 2 age group.

Further studies recommended for this stream are:

1) Continuing juvenile tagging program for stock management and escapement estimation;

2) An adult program to determine residency time and

and escapement;

3) Habitat, disease and water quality investigations during juvenile and adult programs.

The juvenile tagging program begun in 1982 should be continued, but more fish may be caught if trapping is started in August. An adult counting fence should be installed at the mouth in early- to mid-September, and a Petersen tag and recovery program carried out. Information on residency time could be applied to other streams in the North Thompson system.

Barriere River

Escapement to the Barriere appears to be decreasing, although spawning and rearing potential is good at the mouth of each lake.

The survey was incomplete; however, juvenile captures were high. Scale samples were not taken from trapped fish but their average length and eye diameter compared to samples from other streams indicate that coho from the system are mostly 0+. Samples taken indicate that 3 sub 2 fish make up the majority of the escapement.

Future programs should include:

1) A habitat survey to identify reaches for data gathering and to map spawning and rearing areas;

2) A juvenile production program, using downstream traps and juvenile marking as well as electro-fishing. This information could be used to estimate adult escapement;

3) A juvenile tagging program, if the production study should warrant it;

4) An adult dead pitch program started in early Fall to determine escapements.

The outlets of both lakes are possible locations for enhancement operations.

Beaver dams should be checked to ensure ready access to spawning areas.

Louis Creek

Coho escapements to this area are on the decline despite the availability of good spawning areas and excellent juvenile rearing habitat. A mini-hatchery recently installed by the Department of Fisheries and now in operation is attempting to build up the run.

Fry sampled in Louis Creek were mainly 0+ and the majority of adults belonged to the 3 sub 2 age group.

The following programs are recommended:

1) The wild stock juvenile tagging program should be continued;

2) An adult fence and Petersen tagging program should be conducted in conjunction with a dead pitch. Fence installation should be considered in early to mid-August;

3) A livestock fencing program would decrease stream bank erosion and consequent silting.

MINOR STUDY AREAS[13]

North Thompson River

The number of juvenile coho caught on the North Thompson was low, but since all adult coho returning to the Thompson are overwintering fish and mostly 0+ fish were found in its tributaries, studies should be conducted to determine its importance for coho production.

Thunder River

Survey information indicates little spawning and rearing potential in this stream due to considerable ice.

Cook Creek

The survey noted low utilization of this stream, but some improvements could be made to take advantage of the moderate amount of habitat available.

Cedar Creek

As with Cook Creek, this stream could support an increase in both coho adult and juvenile use.

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[13]Data pertaining to this section is summarized in App. 12.

North Blue River

An unsurveyed area that should be checked for coho suitability.

White River

There is a need for further survey to determine the carrying capacity.

Goose Creek

Rearing conditions appear good but the area needs further study.

Peddie Creek

Few traps were set but high numbers of coho were caught indicating that the stream should be studied in depth.

Finn Creek

Finn Creek has had historically high escapements. This stream should be studied to determine why numbers are now so low.

Raft River

Severe ice conditions make work difficult on the Raft River during spawning. As with Finn Creek, historic escapements have been high but are now quite low.

Brookfield Creek

The survey showed little spawning or rearing potential.

Mann Creek

This stream offers good adult and juvenile habitat and has had moderate-sized runs. It could handle an increase in escapement.

Harper Creek

Since the habitat is poor and there is a dearth of water during the summer, this stream has little enhancement potential.

Haggard Creek

No coho were observed and although eight Rainbow trout were captured, enhancement potential appears limited.

East Barriere River

Adult and juvenile coho were not observed on this river but there is suitable habitat for both. Enhancement potential is present, but further studies should be conducted.

McGillivray Creek

This stream has little spawning habitat and there is little future for enhancement.

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INDEX OF APPENDICES

APPENDIX 1

DAILY PHYSICAL DATA REPORT

1A Lion Creek

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
AUG.20	1	1327					7.2	14.4	
SEPT.15	1	1100					10.0	17.0	
	2	1300					10.0	17.0	
	1	1330					10.0	17.0	
	2	1500					10.0	14.0	
16	1	1200					10.0	18.0	
	2	1230					10.0	18.0	
	1	1500					10.0	18.0	
	2	1530					10.0	18.0	
17	1	1115					10.0	19.0	
	2	1130					10.0	19.0	
	1	1300					10.0	19.0	
	2	1330					10.0	19.0	
	1	1500					10.0	19.0	
	2	1530					10.0	19.0	
OCT.18	2	1045					6.0		
	1	1130					6.0	7.0	
		1200					6.0		
	2	1200					6.0		

Blanks indicate no observation made

1A Lion Creek (2)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
OCT. 18	2	1315					6.0		
	1	1330					6.0		
		1440					6.0		
	2	1500					6.0		
19	1	1030				100%	7.0	5.0	
		1045					7.0		
	2	1045					7.0		
		1200					7.0	7.0	
		1400					7.0		
		1500					7.0		
20	2	1030				100%	5.0		
	1	1045					5.0	2.0	
		1115					6.0		
		1200					6.0		
21	1	1100				100%	4.5	2.5	
NOV. 30	2	1420	Water slightly murky in AM	NA	0-5	100%	+5.0	+1.5	light snow and rain
DEC. 1	3	1055	GOOD	NA	0-2	90-100%	+5.0	+0.5	Water temperature +3.5 at upper end of reach
6	1/2BDRY	1015	GOOD	To Side	0-2	0-20%	+3.5	-9.0	Diffuse Cloud

NA = Not Applicable Blanks indicate no observation made

1A Lion Creek (3)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
DEC. 9	1	0945	FAIR-GOOD	In Front and to Side	0	0-40%	+3.5	-9.5	Visibility hampered by glare and mist
12	1	0930	POOR-FAIR	NA	0-5	100%	+2.5	-6.5	Moderate-Heavy Snowfall
16	1/2Bdry	1050	FAIR-GOOD	NA	0-2	100%	+4.0	+0.5	Light-Moderate Rainshowers
19	1	1030	FAIR-GOOD	NA	0	100%	+4.0	0.0	Light-Moderate Snowshowers
28	1	1020	GOOD	To Side	0-5	0-60%	+2.0	-10.5	Water temp. +2.0 at 1140 in upper reach 2
JAN. 6	1	1400	GOOD	NA	0-5	60-100%	+3.5	-2.0	Reach 1 trapped for juveniles

NA = Not applicable

Blanks indicate no observation made

1B Wire Cache Creek

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
AUG.20		1100					+5.6	+17.2	
SEPT.22		1200					+11.0	+19.0	
29						30%			
OCT.1						100%	+9.0		
5						100%	+6.0	+7.0	
6							+7.0	+7.0	
NOV.24		1610	GOOD		0	0%	+1.0	-7.0	
25		0940	GOOD	NA	0-5	50-100%	0.0	-15.5	

NA = Not Applicable

Blanks indicate no observation made

1C Lemieux Creek

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
Oct. 5	1	0910					7.0		
		1040					5.0		
	2	1105					7.0		
		1215					6.0		
	1	1300					7.0		
		1430					9.0		
	2	1500					7.0		
		1540					9.0		
Oct. 6	1	0920					8.0		
	2	1420					9.0		
Oct. 7	1	0920					8.0		
		1040					8.0		
	2	1130					8.0		
		1300					8.0		
Oct. 8	1	0915					7.0		
		1000					7.0		
	2	1010					7.0		
		1050					7.0		

Blanks indicate no observation made.

1C Lemieux Creek (2)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
OCT.13	1	0900					+8.0		
"	"	1030					+8.0		
"	"	1215					+8.0		
"	2	1220					+8.0		
"	"	1300					+10.0		
"	1	1320					+9.0		
14	1	0935				100%	+8.0		
"	2	0940					+8.0		
"	"	1030					+9.0		
"	1	1045					+8.0		
"	"	1240					+9.0		
"	"	1315					+9.0		
"	2	1420					+9.0		
"	"	1440					+9.0		
15	1	0910					+8.5	+8.5	
	"	1000					+8.5		
	2	1015					+8.5	+12.0	
	"	1100					+8.5	+9.0	

Blanks indicate no observation made

1C Lemieux Creek (3)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
OCT. 15	2	1520					+8.5	+9.0	
"	"	1600					+9.0		
16	1	1300				100%	+9.0		
NOV. 28	1	1030	GOOD	NA	0	100%	+2.0	0.0	light sleet
DEC. 2	3B	0910	POOR-FAIR	NA	0-5	100%	+1.5	0.0	light rain & sleet, mist and fog
7	3B/4	0930	GOOD	In Front	0-5	20-60%	0.0	-14.0	Frequent Sun Glare
"	4	0950	FAIR	Behind			-1.0		Creek filled with slush-ice
"	3B	1200					+1.0		Temp. taken 10 m. above Nehalliston Creek
"	3A	1215					0.0		Temp. taken 10 m. below Nehalliston Creek
10	3B	0845	FAIR-GOOD	NA	0-5	90-100%	0.0	-11.0	Visibility constrained by bank ice & mist
13	3B	0800	POOR-FAIR	NA	0	100%	0.0	-4.0	Extensive thick, low cloud
"	3A	1045				100%	+1.5	-2.5	Temps. taken 10 m. above Eakin Creek
16	3A	0935	GOOD		0-5		+2.5	+1.5	
"	4	1425	FAIR-GOOD	NA	0-5	60-100%	+1.5	0.0	Temps. taken at lower boundary
"	4	1515	FAIR-GOOD	NA	0-5	60-100%	+0.5	0.0	Temps. taken at uppermost point walked
17	3B	1015			0-5		+2.0	-1.0	
29	3B	0815			0-5		0.0	-6.0	
JAN. 3	4	1300			0-5		0.0	-1.0	
4	1	1400			0-5			-1.0	

NA = Not Applicable Blanks indicate no obervation made

1D Louis Creek

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
AUG.22	1	1200					12.0	21.0	
	3	1300					12.0	21.0	
	5	1445					12.0	21.0	
	6	1445					12.0	21.0	
AUG.23	10	1500					12.0	21.0	
	9	1340					11.0	28.0	
	8	1400					11.0	28.0	
OCT.25	6	1000					7.0		
	5	1100					7.0	12.0	
	6	1350					8.5		
	5	1500					8.5		
26	6	0940					6.0		
	5	1100					6.0		
	5	1400					6.5		
27	5	0945					6.5		
28	5	0900					5.0		
	7	1050					5.5		
	9	1030					5.5		
	11	0945					5.5		

1D Louis Creek (2)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
OCT.28	3	1130					5.5		
29	3	1000					2.0	0.0	
31	3	1045					4.0		
NOV.1	3	0845					3.0		
	1	1300					3.5		
	3	1400					3.5		
2	3	0900					2.0		
	1	1200					2.0		
3	1	0930					3.0	4.0	
	1	1200					3.0	-1.0	
4	1	0900					4.0		
	1	1030					4.5		
9	1	1000					-1.0		
	2	1000					1.0		
	1	1200					2.0	-1.0	
	1	1500					2.0	-1.0	
10	2	0830				100%	0.0	-7.0	
	1	0830				100%	0.0		
	1	1030				100%	1.0	-4.0	

1D Louis Creek (3)

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
NOV.11	1	1000					1.0	-3.0	
12	1	1130				80%	2.0	0.0	
14	1	1130			10-15	100%	1.5	-1.0	
15	1	0930					2.0		
JAN.10	8	1600					-0.5	1.0	
11	9	1135					1.5	2.5	
	10	1205					0.0	0.0	
	11	1240					0.5	1.5	
	7	1645					1.5	1.0	

1E North Thompson River

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (Kmh)	CLOUD COVER	TEMPERATURE (°C) Water	Air	COMMENTS
AUG.18	Little Fort	1600					13.9		
21	Clear-water	1100					5.6	17.2	Summer Trapping
	Birch Island	1635					19.0	28.0	
JAN.3	Little Fort	1115					1.0	-1.5	
		1430					1.0	-1.0	
JAN.4		0930					1.0	-2.5	Winter Trapping
5	Barriere	1400					1.0	-1.0	
	Barriere	1500					1.0	-1.0	
JAN.6	Barriere	0850					0.0	-4.0	
JAN.7	Little Fort	1230			0-5	100%	+1.0		
	Little Fort	1300			0-5	100%	0.0		
	Little Fort	1415			0-5	100%	+0.5		
	Little Fort	1450			0-5	100%	0.0	-1.0	

Blanks indicate no observations made

1F Albreda River

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
NOV. 24	1	1240	POOR	In Front	0-10	0		-10.0	No water temperature as stream frozen
DEC. 14	1	1430	NA*	NA	5-15	80%	+0.5	-4.5	Juvenile Trapping
DEC. 15	3	1445	POOR	NA	0	100%	-0.5	-2.5	Light - Moderate Snow
DEC.17	1	1120	FAIR	NA	5-15	80-100%	+0.5	0.0	
"	"	1130	FAIR	NA	5-15	80-100%	+2.5		Temperature taken in beaver pond
"	2	1200	FAIR	NA	5-15	80-100%	+0.5		
"	1	1415	FAIR	NA	5-15	80-100%	+1.0		
"	"	1445	FAIR	NA	5-15	80-100%	+2.5		Temperature taken in beaver pond
"	2	1500	FAIR	NA	5-15	80-100%	+1.0	0.0	
DEC. 18	2	1000	FAIR-GOOD	NA	0-10	100%	+1.0	-0.5	Light Snowshowers, Juvenile Trapping
"	2	1010	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	2	1015	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	3	1040	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	2	1200	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	2	1230	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	2	1250	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
"	3	1315	FAIR-GOOD	NA	0-10	100%	+1.0		Light Snowshowers, Juvenile Trapping
DEC. 30	4	1100	NA	In Front	0-5	0-40%	-1.0	-21.0	Stream 90% iced-over

NA = Not Applicable

1G Blue River

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
NOV.24	1	1445	FAIR	NA	0	0%	-1.0	-11.5	Temps. taken near mouth extensive anchor ice.
DEC.3	1	1015	GOOD	NA	0	100%	-0.5	-1.0	Light - Moderate Snow
DEC.8	1/2	0910	GOOD	NA	0	100%	-1.0	-14.0	Some sections iced over.
DEC.11	2	0950	GOOD	NA	0	90%	-1.0	-16.5	Ice continues to thicken
DEC.19	2	1210	FAIR	NA	0-10	100%	-1.0	-0.5	Light Snow
DEC.30	2	1530	FAIR	NA	0	40%	-1.0	-11.5	Near Dusk; poor light conditions
JAN.4	2	1200	GOOD	NA	0	100%	-1.0	-3.5	
"	"	1210	GOOD	NA	0	100%	+2.0		Temperature taken in side-channel
"	"	1430	GOOD	NA	0	100%	-1.0		
"	"	1440	GOOD	NA	0	100%	+2.5		Temperature taken in side-channel

NA = Not Applicable

1H Barriere River

DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
'82 Nov. 28	3	1200			0 - 5		+3.0	+1.0	
Dec. 2	1	0930			0 - 5				Thermometer broken
Dec. 8	1	1430			0 - 5				Observed stream condition
Dec. 9	1	1020			0 - 5		+3.0	-12.0	
Dec. 10	1	0940			0 - 5		+2.0	-12.0	
Dec. 15	1	0920			0 - 5		+3.0	- 1.0	
Dec. 19	1	0930			0 - 5		+3.0	- 1.0	
Dec. 28	1	1310	Poor*		0 - 5		+2.0	-14.0	*Water visibility
'83 Jan. 5	5	1515					+4.0	- 1.0	
Jan. 6	5	0930					+2.0	- 4.0	
	3	1100					+1.0	- 2.0	
	1	1245					+3.0	- 0.5	
Jan. 7	1	1000					+2.5	- 1.0	
	3	1210					+1.0	- 2.5	

Blanks indicate no observations made.

11 Minor Study Areas

STREAM	DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
THUNDER RIVER	JAN. 5	NA	1300	POOR	NA	0	100	-0.5	-2.0	Surveyed by snowshoe
COOK CREEK	JAN. 5	NA	1050	GOOD	NA	0-5	100	-0.5	-3.0	Slushy ice throughout
	"	"	1130	"	"	"	"	"		
	"	"	1350	"	"	"	"	0.0		JUVENILE TRAPPING
	"	"	1400	"	"	"	"	"		
CEDAR CREEK	JAN.4	NA	1130	NA	NA	0	100	-1.0	-4.0	
	"	"	1500	"	"	"	"	"		JUVENILE TRAPPING
GOOSE CREEK	JAN.4	NA	1100	NA	NA	0	100	-1.0	-4.0	
	"	"	1300	"	"	"	"	"		
PEDDIE CREEK	DEC.15	NA	1250	POOR	NA	0	100	0.0	-1.5	
	"	"	1320	"	"	"	"	-0.5	"	
	"	"	1340	"	"	"	"	"		JUVENILE TRAPPING IN SIDE CHANNELS NEAR MOUTH
	"	"	1540	"	"	"	"	0.0		
	"	"	1550	"	"	"	"	-0.5	-3.0	
	"	"	1615	"	"	"	"	"	"	

NA = Not Applicable Blank space indicates no observation made

11 Minor Study Areas (2)

STREAM	DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
FINN CREEK	NOV.25	NA	1030	POOR	SHADED	0	20	-1.0	-12.0	Extensive surface & anchor ice
	JAN. 6	"	1100	NA	NA	"	60	0.0		Juvenile trapping in side-
	"	"	1300	"	"	"	100	"		channel along highway #5
RAFT RIVER	NOV.29	NA		POOR						
	DEC. 3	"		"						Survey conditions poor
MANN CREEK	JAN. 3	2B	0915	FAIR-GOOD	NA	0-2	100	0.0	-3.5	Reach 1 60% iced over
	JAN. 7	1	1200		"	0	"	"	-2.0	
	"	"	1350		"	"	"	"		Juvenile Trapping
HARPER CREEK	DEC. 2	NA								
	JAN.10	"	1000					0.0	-2.0	
	"	"	1345					"	-0.5	Juvenile Trapping

NA = Not Applicable

11 Minor Study Areas (3)

STREAM	DATE	REACH	TIME	VISIBILITY	SUN POSITION	WIND (KMH)	CLOUD COVER (%)	TEMPERATURE (°C) Water	Air	COMMENTS
EAST BARRIERE	NOV.28	1	1310			0-5		+3.0	+1.0	Deep snow, stream iced-over.
RIVER	JAN. 9	1	1530					+2.0	-0.5	
"	"	2	1600					0.0	-2.0	
"	JAN.10	1	1100					"	-0.5	
"	"	2	1220					+0.5	"	Juvenile Trapping
"	"	3	1245					+1.0	0.0	
"	JAN.11	3	0945					"	-4.5	
HAGGARD CREEK	JAN.10	NA	1045					+1.5	-0.5	Juvenile Trapping

NA = Not Applicable

APPENDIX 2

GEE'S MINNOW TRAPPING SUMMARIES - COHO

2A Lion Creek

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Aug. 20	1	7.2	13:27	2.5	5	12.5	82	6.56
20	2		14:30	4.5	6	27.0	109	4.04
Sept. 15	1	10.0	11:00	2.5	49	122.5	1171	9.56
15	2	10.0	13:00	2.0	46	92.0	1394	15.15
15	1	10.0	13:30	22.5	49	1102.5	805	0.73
15	2	10.0	15:00	21.5	46	989.0	943	0.95
16	1	10.0	15:00	20.25	46	931.5	458	0.49
16	2	10.0	15:30	20.0	46	920.0	1002	1.09
17	1	10.0	13:00	2.0	49	98.0	156	1.59
17	2	10.0	13:30	2.0	46	92.0	268	2.91
Sept. 24	1						497	
24	2						194	
24	3						646	
Oct. 18	1	6.0	11:30	2.0	13	26.0	367	14.12
18	2	6.0	10:45	2.5	53	132.5	1042	7.82
18	1	6.0	13:30	20.5	13	266.5	324	1.22
18	2	6.0	13:15	21.0	53	1113.0	716	0.64
19	1	7.0	10:30	3.75	13	48.75	76	1.56
19	2	7.0	10:45	3.5	54	189.0	200	1.06
19	1	5.0	14:15	20.5	12	246.0	70	0.28
19	2	7.0	14:00	20.5	54	1107.0	237	0.21
Jan. 6	1		10:15	3.5	8	28.0	68^1 / 45^2	4.04
TOTAL					661	7543.75	10870	

[1] marked [2] unmarked

2B Wire Cache Creek

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Aug. 20	1		11:00	26.5	6	159.0	126	0.79
Sept. 29	1		10:30	2.0	43	86.0	525	6.10
30	1		12:30	21.5	43	924.5	1052	1.14
30	1		10:00	2.5	40	100.0	106	1.06
30	1		12:30	21.0	40	840.0	644	0.77
Nov. 25	1		9:40	4.5	4	18.0	15^1 / 183^2	11.00
TOTAL					176	2127.5	2651	

[1] marked [2] unmarked

2C Lemieux Creek

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Oct. 5	1	7.0	9:10	4.0	50	200.0	147	0.735
5	2	7.0	11:05	4.0	50	200.0	7	0.035
5	1	7.0	13:00	20.5	49	1004.5	433	0.431
5	2	7.0	15:00	20.0	32	640.0	152	0.238
6	1		9:30	4.5	49	220.5	503	2.281
6	2		9:30	5.0	37	185.0	112	0.605
6	1		14:00	19.5	49	955.5	377	0.395
6	2		14:20	21.0	42	882.0	238	0.270
7	1	8.0	9:20	24.0	38	912.0	663	0.727
7	2	8.0	11:30	22.5	38	855.0	212	0.248
13	1	7.0	9:00	3.25	55	178.75	526	2.943
13	2	7.0	10:30	2.0	34	68.0	88	1.294
13	1	8.0	12:15	21.25	55	1168.75	670	0.573
13	2	8.0	12:30	21.0	34	714.0	206	0.289
14	1	8.0	9:30	3.0	55	165.0	121	0.733
14	2	8.0	9:30	5.0	29	145.0	24	0.166
14	1	9.0	12:40	21.0	56	1176.0	319	0.271
14	2	9.0	14:20	19.75	33	651.75	116	0.178
15	1	8.5	9:10	5.0	56	280.0	58	0.207
15	2	8.5	10:20	5.0	33	165.0	21	0.127
Jan. 3	1		10:20	3.5	16	56.0	58^1 / 38^2	1.714
3	1		14:00	19.5	17	331.5	116^1 / 150^2	0.802
4	3B		12:30	21.0	21	252.0	705	1.071
TOTAL					928	11406.25	6060	

[1] marked [2] unmarked

2D Louis Creek

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Aug. 22	1		12:00	4.0	12	48.0	96	2.0
22	3		13:00	4.0	6	24.0	62	2.583
22	5		14:45	2.25	2	7.5	6	0.800
22	6		14:45	2.25	1	3.75	1	0.267
22	7		15:00	3.25	2	6.5	15	2.308
23	8		14:10	2.0	2	4.0	0	0.000
23	9		14:00	2.25	2	4.5	0	0.000
23	10		13:40	3.0	2	6.0	2	0.333
Oct. 25	6	7.0	10:00	4.0	45	180.0	29	1.611
25	5	7.0	11:00	3.5	16	56.0	139	2.482
25	6	8.5	14:00	20.0	41	820.0	133	0.162
25	5	8.5	14:30	20.0	20	400.0	320	0.800
26	5	6.0	10:20	3.5	61	213.5	327	1.532
26	5	6.5	14:00	19.0	61	1159.0	400	0.345
27	5	6.5	9:10	5.0	56	280.0	198	0.707
27	7	6.0	11:00	3.0	5	15.0	172	11.467
27	5	5.0	14:00	19.0	45	855.0	276	0.323
27	7	5.5	14:10	21.0	8	168.0	133	0.792
27	9	5.0	13:10	21.0	7	147.0	38	0.259
27	11	5.0	13:40	20.0	7	140.0	79	0.564
28	3	5.5	11:30	21.75	71	1544.25	1281	0.830
29	3	2.0	9:15	1.5	71	106.5	544	5.108
31	3	4.0	10:45	22.0	71	1562.0	478	0.306
Nov. 1	3	3.0	8:45	5.25	70	367.5	120	0.327
1	3	3.5	14:00	19.0	70	1330.0	240	0.180
1	1	3.5	13:00	23.0	18	414.0	110	0.266
2	3	2.0	9:00	24.5	18	441.0	140	0.317
2	1	2.0	12:00	21.5	70	1505.0	233	0.155
3	1	3.0	9:30	23.5	58	1363.0	150	0.110
4	1	4.5	9:00	24.25	58	1406.5	99	0.070

cont.

2D Louis Creek (2)

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Nov. 5	1	4.5	9:15	71.25	58	4132.5	121	0.029
5	2		11:00	71.0	21	1491.0	110	0.074
8	1		8:30	5.5	58	319.0	18	0.056
8	2		10:00	5.0	21	105.0	17	0.162
8	1	-1.0	14:00	20.0	58	1160.0	124	0.107
8	2	1.0	15:00	5.5	21	115.5	29	0.251
9	1	-1.0	10:00	4.5	33	148.5	32	0.215
9	2	-1.0	10:10	4.0	15	60.0	23	0.383
9	1	2.0	12:00	3.0	15	45.0	224	4.978
9	2	2.0	14:15	18.25	15	273.75	65	0.237
9	1	0.0	14:30	18.0	33	594.0	73	0.123
9	1	2.0	15:00	19.5	15	292.5	261	0.892
10	1	0.0	9:30	3.5	15	52.5	6	0.114
10	1	1.0	10:30	4.0	48	192.0	489	2.547
10	1		14:00	20.5	15	307.5	11	0.036
10	1		14:30	19.5	48	936.0	666	0.712
11	1		10:00	3.5	63	220.5	236	1.070
12	1	2.0	13:30	22.0	63	1386.0	233	0.168
12	1	2.0	11:30	48.0	63	3024.0	248	0.082
14	1	1.5	11:30	22.0	63	1386.0	480	0.346
15	1	2.0	9:30	22.0	63	1386.0	176	0.127
Dec. 14	13		13:00	4.5	3	13.5	26^2	1.926
Jan. 10	11		15:00	22.0	8	176.0	16^2	0.091
10	10		15:50	20.0	7	140.0	3^2	0.021
11	9		11:30	4.5	6	15.0	1^1 / 21^2	1.467
11	7		16:40	41.25	7	288.75	28^1 / 154^2	0.630
11	3		15:30	43.5	7	304.5	7^1 / 113^2	0.394
11	1		13:50	46.0	7	322.0	10^1 / 91^2	0.314
TOTAL						32204.75	9463	

[1] marked [2] unmarked

2E Albreda River

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Dec. 14	Albreda Lk.	0.5	10:30	4.0	3	12.0	0	0
Dec. 17	1	0.5	11:20	3.0	3	9.0	16	1.78
Dec. 17	1	2.5[1]	11:30	3.25	1	3.25	3	0.92
Dec. 17	2	0.5	12:00	3.0	4	12.0	99	8.25
Dec. 18	2	1.0	10:00	2.0	2	4.0	53	13.25
Dec. 18	2	1.0	10:10	2.25	2	4.5	186	41.33
Dec. 18	2	1.0	10:15	2.5	2	5.0	61	12.2
Dec. 18	3	1.0	10:40	2.5	2	5.0	2	0.4
Dec. 30	4	-1.0	11:00	2.0	2	4.0	0	0
TOTAL					21	58.75	420	

[1]ground water

2F Blue River

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Jan. 4	1	-1.0	12:00	2.5	3	7.5	0	0
Jan. 4	2	2.0	12:10	2.5	1	2.5	1	0.4
TOTAL					4	10.0	1	

2G Barriere Ri\ -

Date	Reach	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
Jan. 5	5	4.0	15:15	18.25	7	127.75	101	0.79
Jan. 6	3	1.0	11:00	25.00	10	250.00	250	1.00
Jan. 6	1	3.0	12:45	21.25	6	127.5	265	2.08
TOTAL					23	505.25	616	

2H Minor Study Areas

Stream	Date	Temp °C	Time In	Hours	# Traps	Total Trap Hours	Coho Catch	Coho Catch/ Trap Hour
N. Thompson River								
Little Fort	Aug. 18	14.5	16:00	2.0	12	24.0	4	0.17
Birch Island	Sept.21	19.0	16:35	2.1	2	4.2	0	0.00
Gosnell	Dec. 30	-1.0	12:00	1.8	2	3.6	0	0.00
Clearwater	Jan. 3	2.0	10:30	2.0	1	2.0	0	0.00
Clearwater	Jan. 3	2.0	10:40	1.8	1	1.8	0	0.00
Clearwater	Jan. 3	2.0	10:45	1.8	1	1.8	0	0.00
Little Fort	Jan. 3	1.0	11:10	3.3	4	13.2	0	0.00
Little Fort	Jan. 3	1.0	14:30	19.0	4	76.0	3	0.04
3 mi. N. of Barriere	Jan. 5	1.0	14:00	18.8	3	56.4	0	0.00
Bridge at Barriere	Jan. 5	1.0	14:40	24.0	5	120.0	3	0.03
Little Fort	Jan. 7	1.0	12:30	1.8	2	3.6	0	0.00
Little Fort	Jan. 7	0.0	13:00	1.8	2	3.6	0	0.00
Cook Creek	Jan. 5	-0.5	10:50	3.0	1	3.0	0	0.00
	Jan. 5	-0.5	11:30	2.5	3	7.5	0	0.00
Cedar Creek	Jan. 4	-1.0	11:30	3.5	2	7.0	0	0.00
Goose Creek	Jan. 4	-1.0	11:00	2.0	3	6.0	6	1.00
Km 3 Swamp	Jan. 5	0.0	09:40	3.8	2	7.6	0	0.00
Peddie Creek	Dec. 15	0.0	12:50	2.8	3	8.4	0	0.00
	Dec. 15	-0.5	13:20	2.5	2	5.0	159	31.80
	Dec. 15	-0.5	13:40	2.6	1	2.6	7	2.70
Finn Creek	Jan. 6	0.0	11:00	2.0	2	4.0	0	0.00
Mann Creek	Jan. 7	0.0	12:00	1.8	4	7.6	0	0.00
E. Barriere River								
Reach 1	Jan. 9	2.0	15:30	19.3	5	96.5	4	0.04
Reach 2	Jan. 9	0.0	15:50	20.3	5	101.5	0	0.00
Reach 3	Jan. 10	1.0	12:30	21.2	6	127.2	10	0.08
Harper Creek	Jan. 10	0.0	10:00	3.5	6	21.0	0	0.00
Haggard Creek	Jan. 9		15:30	19.2	5	96.0	0	0.00
TOTAL					89	811.1	190	

APPENDIX 3

GEE'S MINNOW TRAPPING - OTHER SPECIES

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Aug. 20	1								
	2								
Sept. 15	1								
15	2	3			2				
16	1				1				
16	2			1	3				
17	1				5				
17	2				3				
17	1	1			2				
17	2								
Oct. 18	1								
18	2	2			5				
19	1				1				
19	2	1			24		2		
19	1								
19	2	3							
20	1			1	2				
20	2	9			14				
Jan. 6	1		1						
TOTAL		19	1	2	62		2		

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

3B Wire Cache Creek

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Aug. 21	1				4				
Sept. 29	1		2		40			5	
30	1	1	6		103			17	
30	1		1		10			3	
Oct. 1	1		3		51			4	
Nov. 25	1								
TOTAL		1	12		208			29	

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

3C Lemieux Creek

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Oct. 5	1								
5	2								
6	1					1		1	
6	2	1			1				
6	1								
6	2								
7	1				2				
7	2				5				
8	1	5							
8	2								
13	1				2				
13	2	2							
14	1				5				
14	2	1			3				
15	1								
15	2				2		1		
15	1				1				
15	2								
TOTAL		9			21	1	1	1	

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

3D Louis Creek

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Aug. 22	1	2							
22	3	1							
22	5	1							
22	6								
22	7								
23	8								
23	9	1							
23	10								
Oct. 25	6	16							
25	5								
26	6								
26	5	10							
26	5	5							
27	5	10	5						
27	5								
27	7	7							
28	5	2	5						
28	7								
28	9	5							
28	11								

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

cont.

3D Louis Creek (2)

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Oct. 29	3	3							
31	3	15	3						
Nov. 1	3	5							
1	3								
2	3	15		1					
2	1								
3	3								
3	1	13			2				
4	1								
5	1								
8	1	4			8		1		
8	2				1		1		
9	1						1		
9	2	3							
9	1								
9	2								
9	1	13							
10	2				1				
10	1								
10	1	2			1				

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

cont.

3D Louis Creek (3)

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Nov. 10	1								
10	1	16							
11	1	2			1				
11	1	29					2		
11	1	8							
12	1	28							
14	1	61	5				2		
15	1	63							
16	1	31					1		
TOTAL		371	18	1	14		8		

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

3E Barriere River

Date	Reach	Species							
		RBT	WTF	DVD	COT	SUC	NAS	LEE	RSS
Jan. 5	5	12							
Jan. 6	3	14			3				
Jan. 6	1	11			4				
TOTAL		37			7				

RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner
NAS - navigator shrew

3F Minor Study Areas

Stream	Date	Species							
		SOK	RBT	WTF	DVD	COT	SUC	LEE	RSS
N. Thompson River									
Little Fort	Aug. 18								112
Birch Island	Sept.21								
Gosnell	Dec. 30								-
Clearwater	Jan. 3								
Clearwater	Jan. 3								
Clearwater	Jan. 3								
Little Fort	Jan. 3								
Little Fort	Jan. 3								
3 mi. N. of Barriere	Jan. 5								
Bridge at Barriere	Jan. 5								
Little Fort	Jan. 7	21							
Little Fort	Jan. 7								
Cook Creek	Jan. 5								
Cook Creek	Jan. 5								
Cedar Creek	Jan. 4		1						
Goose Creek	Jan. 4								
Km 3 Swamp	Jan. 5								
Peddie Creek									
Reach 1	Dec. 15					1			
Reach 2	Dec. 15								
Reach 3	Dec. 15								

SOC - sockeye
RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner

3F Minor Study Areas (2)

Stream	Date	Species							
		SOK	RBT	WTF	DVD	COT	SUC	LEE	RSS
Finn Creek	Jan. 6								
Mann Creek (R 1)	Jan. 7		1						
E. Barriere River									
Reach 1	Jan. 9		19						
Reach 2	Jan. 9		4						
Reach 3	Jan. 10		2						
Harper Creek	Jan. 10								
Haggard Creek	Jan. 9		8						
TOTAL		21	35	0	0	1	0	0	112

SOC - sockeye
RBT - rainbow trout
WTF - rocky mountain whitefish
DVD - dolly varden
COT - sculpin
SUC - sucker
LEE - leech
RSS - redsided shiner

APPENDIX 4

DAILY TAGGING SUMMARIES

4A Lion Creek 2-23-37 Code Group

Project: North Thompson
Location: Lion Creek Species: Coho Age: 0+ Tag Code: 2-23-37

Date	Pre-tag Morts	Under-Sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Sept.											
17	1	235	0		1292	19	350	1	0.3	1269	4
18	5	217	0		2192	5	350	2	0.6	2174	13
22	10	223	0		1490	2	350	0	0.0	1488	0
24	4	0	0		234	1	227	2	0.9	231	2
27	0	0	0		390	2	388	0	0.0	388	0
27	0	0	0		327	1	297	30	10.1	293	33
Oct.											
19	80	547	1178	0	866	1	350	3	0.9	857	9
21	20	165	134	0	212	1	0		1.9 *	207	4
TOTAL	120	1387	1312	0	7003	32	2312	38	1.6	6907	65

* averaged % rejection

4B Lion Creek 2-23-41 Code Group

Project: North Thompson
Location: Lion Creek Species: Coho Age: 1+ Tag Code: 2-23-41

Date	Pre-tag Morts	Under-Sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Sept.											
23	3		0		1257	4	350	9	2.6	1220	33
27	0		0		70	1	64	5	7.8	63	6
27	0		0		66	1	65	0	0.0	65	0
27	0		0		304	1	270	30	11.1	269	34
Oct.											
19	1		0		500	1	350	1	0.3	497	2
21	0		0		216	1	0		3.3 *	207	8
TOTAL	4				2413	9	1099	45	4.1	2321	83

* averaged % rejection

4C Wire Cache Creek 2-23-28 Code Group

Project: North Thompson
Location: Wire Cache Creek Species: Coho Age: 0+ Tag Code: 2-23-28

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
1	3	210	22	0	366	2	364	0	0.0	364	0
5	36	133	0		1601	0	350	53	15.1	1358	243
6	0	1	12		131				7.4*	121	10
TOTAL	39	344	34		2098	2	714	53	7.4	1843	253

*average % rejected

4D Wire Cache Creek 2-23-32 Code Group

Project: North Thompson
Location: Wire Cache Creek Species: Coho Age: 1+ Tag Code: 2-23-32

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
7	4	0	12	0	375	0	0	0	3.3*	362	13
TOTAL	4	0	12	0	375	0	0	0	3.3	362	13

*average Lion Creek rejection rate

4E Lemieux Creek 2-23-23 Code Group

Project: North Thompson
Location: Lemieux Creek Species: Coho Age: 0+ Tag Code: 2-23-23

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
7	1	78	0		1153	1	350	0	0.0	1152	0
8	2	75	14	0	468	0	350	0	0.0	468	0
13	2	33	123	0	227	1	308	0	0.0	226	0
14	2	39	219	0	367	0	358	2	0.6	364	3
15	2	30	121	0	181	3	150	0	0.0	178	0
TOTAL	9	255	477	0	2396	5	1516	2	0.1	2388	3

4F Lemieux Creek 2-21-1 Code Group

Project: North Thompson
Location: Lemieux Creek Species: Coho Age: 1+ Tag Code: 2-21-1

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
8	1	4	3	0	1228	0	350	0	0.0	1228	0
13	0		60	0	155	0	155	0	0.0	155	0
15	0		91	0	105	0	105	2	1.9	103	2
16	4		168	0	340				0.3*	338	2
TOTAL	5	4	322	0	1828	0	610	2	0.3	1824	4

*average % rejection

4G Louis Creek 2-23-30 Code Group

Project: North Thompson
Location: Louis Creek Species: Coho Age: 0+ Tag Code: 2-23-30

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
27	5	152	0		1051	0	350	1	0.3	1048	3
28	1	23	0		237	0	230	0	0.0	237	0
29	4	169	0		996	0	350	0	0.0	996	0
Nov.											
1	20	164	23	0	719	0	438	1	0.2	717	2
4	5	19	0		557	5	371	1	0.3	550	2
10	1	21	0		518	0	356	4	1.1	512	6
11	3	10	0		339	9	327	0	0.0	330	0
15	13	64	0		1637	0			0.3*	1632	5
TOTAL	52	622	23	0	6054	14	2027	7	0.3	6022	18

*average % rejected

4H Louis Creek 2-23-31 Code Group

Project: North Thompson
Location: Louis Creek Species: Coho Age: 1+ Tag Code: 2-23-31

Date	Pre-tag Morts	Under-sized	Recaptures		Number Tagged	Mortalities	Tag Retention			Number Released	
			Total	Tag Loss			# Held	# Rejected	% Rejected	Tagged	Untagged
Oct.											
27	0		0		462	1	317	1	0.3	459	2
29	0		0		265	1	261	0	0.0	264	0
Nov.											
1	0		1	0	343	0	0	0	0.1*	342	1
4	0		0		190	0	190	0	0.0	190	0
10	0		0		201	1	200	0	0.0	200	0
11	1		0		175	3	171	0	0.0	172	0
15	0		0		359	0			0.1*	358	1
TOTAL	1	0	1	0	1995	6	1139	1	0.1	1985	4

*average % rejected

APPENDIX 5

ANOMALIES

5A Lion Creek

Date	Age	# Checked	# Clip Rejects	Anomalies									
				Nat Ad	Pop Eye	Fog Eye	Scale Loss	Fin/ Tail Rot	Fungus	Scoliosis	Blood Fluke	Nose Rubbed	Split Dorsal
Sept. 20	0+	700	5					2					
23	0+	350	7					2					
24	1+	350	17	2		1			10				
27	0+	912	3	1		2							
27	1+	399	2			1		1					
Oct. 20	0+	350	3			2	4	2					
20	1+	350	9			3	2	2					
TOTAL		3412	46	3		9	6	9	10				

5B Wire Cache Creek

Date	Age	# Checked	Clip Rejects	Anomalies									
				Nat Ad	Pop Eye	Fog Eye	Scale Loss	Fin/ Tail Rot	Fungus	Scoliosis	Blood Fluke	Nose Rubbed	Split Dorsal
Oct. 5	0+	363	10		5		1	1	2	1	1		
6	0+	350	7			1		1					
7	0+	131	5										
7	1+	375	3										
TOTAL		1219	25		5	1	1	2	2	1	1		

5C Lemeiux Creek

Date	Age	# Checked	# Clip Rejects	Anomalies									
				Nat Ad	Pop Eye	Fog Eye	Scale Loss	Fin/ Tail Loss	Fungus	Scoliosis	Blood Fluke	Nose Rubbed	Split Dorsal
Oct. 7	0+	350	4				5	1					
8	0+	350	7				1						
8	1+	350	10					1				3	
13	0+	227	4				3	2			1		
13	1+	231	7		2							1	
15	0+	150	2					3			1		
15	1+	205						1					
TOTAL		1863	34		2		9	8			2	4	

5D Louis Creek

Date	Age	# Checked	Clip Rejects	Anomalies									
				Nat Ad	Pop Eye	Fog Eye	Scale Loss	Fin/ Tail Rot	Fungus	Scoliosis	Blood Fluke	Nose Rubbed	Split Dorsal
Oct. 27	0+	350	5		1		3	1					
27	1+	317	7		1	1	1	9					
28	0+	230	2					1					
29	0+	350	3		1			2					
29	1+	261	2					5					
Nov. 1	0+	438	5				1	6			1		
4	0+	371	7				4	8			1		
4	1+	190	6				1	1					
10	0+	356	1					5					
10	1+	201	4				1	1					
11	0+	327	2		1			5					1
11	1+	171	2					2					1
TOTAL		3562	46		4	1	11	46			2		2

APPENDIX 6

MEAN LENGTH & EYE DIAMETER SUMMARY
BY AGE GROUP

6A Lion Creek

Date	Reach	Age Group	0+					1+				
			Length			Eye Diameter		Length			Eye Diameter	
			n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd	n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd
Aug. 20/82	1	M	51	58.55	8.82	4.17	0.55	6	85.83	8.50	5.67	0.52
Sept. 20	1 & 2	0+	86	60.09	10.05	4.40	0.44					
Sept. 23	1	M	17	59.00	9.17	4.79	0.53					
Sept. 27	1	M	24	61.08	11.81	4.29	0.73					
	2	M	35	58.37	9.89	4.43	0.57					
	3	M	39	62.51	9.46	4.65	0.56					
Oct. 20	1	M	20	54.35	7.17	4.90	0.48	3	92.67	8.50	7.0	0.5
	2 & 3	M	21	68.14	12.82	5.79	0.89	2	90.5		7.0	
Jan. 4/83	1	M						22	68.18	10.04	4.52	0.48

$\bar{L}$ - Mean Length (mm)
$\overline{ED}$ - Mean Eye Diameter (mm)
sd - Standard Deviation
M - Mixed (0+ and 1+)

6B Wire Cache Creek

Date	Reach	Age Group	0+					1+				
			Length			Eye Diameter		Length			Eye Diameter	
			n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd	n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd
Oct. 1/82	1	M	44	56.73	7.89	4.22	0.46	2	101.50	4.95	6.75	0.35
Oct. 6	1	0+	16	56.44	6.22	4.50	0.37					
	2	1+	23	78.30	6.78	5.70	0.36	5	99.2	7.09	7.0	0.50

$\bar{L}$ - Mean Length (mm)
$\overline{ED}$ - Mean Eye Diameter (mm)
sd - Standard Deviation
M - Mixed (0+ and 1+)

6C Lemieux Creek

Date	Reach	Age Group	0+					1+				
			Length			Eye Diameter			Length		Eye Diameter	
			n	$\bar{L}$(mm)	sd	$\bar{ED}$(mm)	sd	n	$\bar{L}$(mm)	sd	$\bar{ED}$(mm)	sd
Oct. 8/82	1 & 2	0+	39	62.43	4.65	5.03	0.35					
	1	1+	27	70.81	5.68	5.72	0.29	1	98.0		7.0	
Oct. 14	1 & 2	0+	41	63.31	6.27	4.93	0.41					
	1 & 2	1+	40	68.60	6.52	5.47	0.30					
Oct. 15	1	M	42	65.05	9.25	5.30	0.43					
	2 & 3	M	44	67.11	6.39	5.44	0.31					
Jan. 3/83	1	M						1	72.0		5.50	
Jan. 4	1	M						3	78.33	5.13	5.67	0.29
Jan. 5	3B	M						3	75.0	5.29	6.0	

$\bar{L}$ - Mean Length (mm)
$\bar{ED}$ - Mean Eye Diameter (mm)
sd - Standard Deviation
M - Mixed (0+ and 1+)

6D Louis Creek

Date	Reach	Age Group	0+					1+				
			Length			Eye Diameter			Length		Eye Diameter	
			n	$\bar{L}$(mm)	sd	$\bar{ED}$(mm)	sd	n	$\bar{L}$(mm)	sd	$\bar{ED}$(mm)	sd
Aug.22/82	1	M	25	53.72	7.41	4.34	0.43					
	2 & 4	M	14	61.5	7.51	5.04	0.37	1	98.0		7.0	
	3	M	25	53.0	7.55	4.50	0.41					
	5 & 6	M	7	51.29	8.08	4.57	0.61					
	7	M	7	65.43	7.02	5.0	0.82	6	86.67	9.09	6.5	0.45
Oct. 27	3	M	39	63.72	10.40	5.54	0.57					
Oct. 28	3	0+	46	59.52	5.54	4.97	0.27					
	3	1+	46	75.93	5.80	6.10	0.44					
Nov. 11	1	0+	44	62.07	6.72	4.95	0.35					
	1	M	36	62.92	12.62	5.17	0.64					
Nov. 14	1	1+	27	77.48	6.72	6.04	0.44	1	92.0		7.0	

$\bar{L}$ - Mean Length (mm)
$\bar{ED}$ - Mean Eye Diameter (mm)
sd - Standard Deviation
M - Mixed (0+ and 1+)

6E Minor Study Areas

Date	Reach	Age Group	0+					1+				
			Length			Eye Diameter		Length			Eye Diameter	
			n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd	n	$\bar{L}$(mm)	sd	$\overline{ED}$(mm)	sd
Aug. 18/82	NT[1]	M	4	70.25	9.46	5.13	0.48					
Dec. 15	PC-S[2]	M	5	79.2	9.04	5.10	0.55	2	94.0	2.83	6.0	
Dec. 17/18	AR-2[3]	M	36	57.95	10.45	3.88	0.60					

$\bar{L}$ - Mean Length (mm)

$\overline{ED}$ - Mean Eye Diameter (mm)

sd - Standard Deviation

M - Mixed (0+ and 1+)

[1]North Thompson 001 (above Little Fort)

[2]Peddie Creek Slough

[3]Albreda River - Reach 2

APPENDIX 7

BIOLOGICAL SAMPLES OF JUVENILES

7A Lion Creek

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH: 1

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	4.5	55	0	1	4.5	65	0
2	4.5	57	0	2	5	76	0
3	4.5	70	0	3	4.5	64	
4	4.5	65	0	4	4.5	65	0
5	4.5	61	0	5	4	53	0
6	4.5	55	0	6	3.5	50	0
7	5.5	80		7	3.5	49	0
8	4.5	59	0	8	4.5	65	0
9	4	44	0	9	4	55	0
10	4.5	56	0	10	3.5	52	0
11	4	51		11	4	57	
12	3	50	0	12	4	50	0
13	4	57	0	13	3.5	46	0
14	3.5	50	0	14	5	74	
15	3.5	51	0	15	4.5	69	0
16	3	45	0	16	6	94	1
17	3.5	45	0	17	5.5	71	
18	4.5	65	0	18	4.5	61	0
19	4	55	0	19	4	58	0
20	3.5	50	0	20	3.5	47	0
21	3	45		21	5	76	1
22	5.5	82	0	22	5.5	76	
23	5.5	75	0	23	4.5	74	R
24	4	55	0	24	4.5	62	0
25	3.5	45		25	4.5	55	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1423		1564
AVERAGE	56.92		62.56
S.D.	10.75453		11.74762

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	427		436.5
TARE	367.1		353.7
FISH	59.9		82.8
# FISH/KG.	417.3623		301.9324

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	103.5		110
AVERAGE	4.14		4.4
S.D.	.7291548		.6770032

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH:

SCALE BK.# 3	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	6	80	1	1			
2	5	82	1	2			
3	4.5	60	0	3			
4	4.5	58	0	4			
5	4	61		5			
6	6	85	1	6			
7	4.5	70	R	7			
8	4.5	65	0	8			
9	4.5	70		9			
10	4	55	0	10			
11	5.5	90	R	11			
12	6	98	1	12			
13	5	75	0	13			
14	4.5	64	0	14			
15	4.5	71	0	15			
16	4.5	69	0	16			
17	3.5	52	0	17			
18	4	61	0	18			
19	3.5	55	0	19			
20	3	45		20			
21	4	64	0	21			
22	5	65	R	22			
23	5	66		23			
24	4.5	60		24			
25	4	55	0	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1678		
AVERAGE	67.12		
S.D.	12.45097		

WEIGHTS		WEIGHTS	
SAMPLE #	25		
TARE + FISH	486.4		
TARE	359.7		
FISH	126.7		
# FISH/KG.	197.3165		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	114		
AVERAGE	4.56		
S.D.	.7681146		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER 20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1&2 REACH: 1&2

SCALE BK.# 4	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 5	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5.5	73	0	1	5	68	0
2	4.5	55	0	2	4	65	
3	4.5	65	0	3	4.5	61	
4	4.5	60	0	4	4.5	68	0
5	3.5	55	0	5	4.5	61	0
6	5	70	0	6	4	52	0
7	4.5	68	0	7	4.5	55	0
8	5	72		8	5	65	0
9	5	69	R	9	5	70	0
10	3	57	0	10	4.5	62	0
11	4	62	0	11	4.5	63	0
12	4.5	63	0	12	5	68	0
13	4.5	70	0	13	4.5	55	R
14	4	57	0	14	4.5	57	0
15	4.5	64		15	4	54	0
16	4	56	0	16	4	53	0
17	4	53	0	17	4	59	0
18	4.5	56	0	18	4	51	0
19	4	51	0	19	4	49	0
20	4	55	0	20	4	56	0
21	4	51	0	21	3.5	51	0
22	4	54	0	22	4	50	0
23	4	51	0	23	4	51	0
24	4	50		24	4	49	0
25	4	48	0	25	4	49	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1493		1442
AVERAGE	59.72		57.68
S.D.	7.818354		6.932532

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	428.1		423.2
TARE	373.6		375.5
FISH	54.5		47.7
# FISH/KG.	458.7156		524.1090

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	109		107.5
AVERAGE	4.36		4.3
S.D.	.4681524		.4082483

7A Lion Creek (2)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1&2 REACH: 1&2

SCALE BK.# 6	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 7	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5	75	0	1	4.5	64	0
2	5	64	0	2	4.5	65	0
3	5	69	0	3	5	71	0
4	4.5	59	0	4	4	58	0
5	4	49	0	5	4.5	64	0
6	4.5	61	0	6	5	67	0
7	5	67		7	5	65	0
8	5	77		8	5	66	0
9	4.5	57	0	9	4.5	53	0
10	5	65		10	5	65	0
11	4.5	67	0	11	5	65	0
12	5	69	0	12	4.5	64	0
13	4.5	68	0	13	4.5	55	R
14	4.5	60	0	14	4.5	58	0
15	4.5	61	0	15	4.5	51	0
16	4.5	65	0	16	4.5	60	0
17	4.5	65	0	17	4.5	60	0
18	5	69		18	4.5	63	R
19	4	58	0	19	5	65	0
20	5	60	0	20	4.5	60	
21	4	51	0	21	4	55	0
22	4.5	59	0	22	4.5	60	0
23	4.5	60	0	23	4	51	0
24	4	55	0	24	3	49	0
25	4	51	0	25	4	50	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1561		1504
AVERAGE	62.44		60.16
S.D.	7.030173		6.046211

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	373.7		401.7
TARE	312.2		339.8
FISH	61.5		61.9
# FISH/KG.	406.5041		403.8772

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	114.5		112.5
AVERAGE	4.58		4.5
S.D.	.3730505		.4564355

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER 23/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH:

SCALE BK.# 13	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	5.5	73	R	1			
2	6	75	R	2			
3	6	80	0	3			
4	5.5	67	0	4			
5	5	68	R	5			
6	4.5	59	0	6			
7	4.5	58	0	7			
8	5.5	70	R	8			
9	5	59	0	9			
10	6	78	R	10			
11	5	65	0	11			
12	4.5	65	0	12			
13	5.5	70	0	13			
14	4.5	52	0	14			
15	5.5	72	R	15			
16	4.5	51	0	16			
17	5	62	0	17			
18	5	61	R	18			
19	5	67	0	19			
20	5	53	0	20			
21	4	49	0	21			
22	5	62	R	22			
23	4	48	0	23			
24	4.5	48	0	24			
25	4.5	50	0	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1562		
AVERAGE	62.48		
S.D.	9.657122		

WEIGHTS		WEIGHTS	
SAMPLE #	25		
TARE + FISH	445.9		
TARE	378.6		
FISH	67.3		
# FISH/KG.	371.4710		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	125		
AVERAGE	5		
S.D.	.5773503		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER 27/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH: 2

SCALE BK.# 9	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 9	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5	74	0	1	5	80	0
2	5.5	75	0	2	6.5	96	1
3	3.5	56	0	3	5.5	78	R
4	5.5	81	0	4	4.5	58	0
5	5	72	0	5	5.5	80	0
6	4	49	0	6	5	70	0
7	5	74	0	7	4.5	65	0
8	5	78	0	8	5.5	77	0
9	5	78	0	9	5	68	0
10	4	54	0	10	5.5	65	0
11	4	56	0	11	4	52	0
12	5	72	0	12	4.5	60	0
13	3.5	52		13	4.5	63	R
14	3.5	53	0	14	4.5	58	0
15	4.5	62	0	15	4.5	64	R
16	4.5	59	0	16	4.5	57	0
17	3.5	44	0	17	4	53	0
18	4.5	59	0	18	4	54	0
19	4	58	0	19	4	53	0
20	4.5	55	0	20	4	56	R
21	4	60	0	21	4	52	0
22	4	61	0	22	4	50	
23	3.5	52	0	23	4.5	51	0
24	3	43	0	24	3	48	0
25	3	41	0	25	3.5	44	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1518		1552
AVERAGE	60.72		62.08
S.D.	11.70655		12.44294

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	423.7		377.1
TARE	361		312.4
FISH	62.7		64.7
# FISH/KG.	398.7241		386.3988

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	106.5		114
AVERAGE	4.26		4.56
S.D.	.7376765		.7544314

7A Lion Creek (3)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER 27/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 3 REACH:

SCALE BK.# 12	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	5	69	R	1			
2	5	65	0	2			
3	6	80	0	3			
4	5.5	86	R	4			
5	5	70	0	5			
6	5	69	0	6			
7	5	71	0	7			
8	4.5	65	0	8			
9	5	60	0	9			
10	5	68	0	10			
11	4.5	61	R	11			
12	5	68	0	12			
13	4	54	0	13			
14	5.5	72	0	14			
15	4.5	60	0	15			
16	4.5	60	0	16			
17	4.5	59	0	17			
18	4.5	61	0	18			
19	4	58	R	19			
20	3.5	50	R	20			
21	4.5	58	0	21			
22	4.5	55	0	22			
23	4.5	51	0	23			
24	4	50	0	24			
25	3.5	45	0	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1565		
AVERAGE	62.6		
S.D.	9.552487		

WEIGHTS		WEIGHTS	
SAMPLE #	25		
TARE + FISH	464.4		
TARE	395		
FISH	69.4		
# FISH/KG.	360.2305		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	116.5		
AVERAGE	4.66		
S.D.	.5901977		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: SEPTEMBER 27/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 2 REACH: 3

SCALE BK.# 10	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 11	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5	72	0	1	5.5	74	0
2	6	90	R	2	5.5	80	R
3	6	90	R	3	5.5	84	0
4	5	60	0	4	5	72	0
5	5	61	0	5	5.5	75	R
6	5	74	R	6	5	72	0
7	4.5	55	0	7	5	75	R
8	4.5	56		8	5	74	0
9	4.5	56	0	9	5	66	0
10	4	50	R	10	4.5	67	0
11	4.5	60	R	11	4.5	60	0
12	4	51	0	12	5	65	0
13	5	71	0	13	5	70	R
14	4	50	0	14	5	66	0
15	4	49	0	15	4.5	65	0
16	4.5	56	R	16	5	63	0
17	4	55	0	17	5	70	R
18	4.5	59	0	18	4.5	61	0
19	4	55	R	19	4.5	60	0
20	4	58	R	20	4	54	0
21	4.5	58	0	21	4	45	0
22	4	49	0	22	3.5	42	0
23	4	47	0	23	3.5	49	0
24	4	45	0	24	3.5	50	R
25	4	50	0	25	4	58	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1477		1617
AVERAGE	59.08		64.68
S.D.	11.88458		10.70327

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	395.3		502.4
TARE	328.2		418.4
FISH	67.1		84
# FISH/KG.	372.5782		297.6190

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	112.5		117
AVERAGE	4.5		4.68
S.D.	.5951190		.6271629

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH: 1

SCALE BK.# 19	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 20	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	6	100	R	1	5	69	R
2	6	82	R	2	5	50	0
3	6	96	R	3	5	60	R
4	5	71	R	4	6	78	R
5	5	57	0	5	5.5	68	0
6	6.5	99	1	6	4.5	54	0
7	4.5	58	R	7	6.5	82	R
8	6	70	0	8	4.5	49	0
9	6	76	R	9	4.5	50	0
10	5.5	66	0	10	6	69	R
11	5.5	63	R	11	4.5	48	R
12	4.5	45	P	12	5	54	R
13	5.5	65	0	13	5	59	R
14	4.5	45	0	14	5.5	52	0
15	7	83	1	15	4.5	45	R
16	5	52	0	16	5	52	0
17	7.5	96	1	17	4.5	42	R
18	6	73	R	18	4.5	53	R
19	5	63	R	19	5	56	
20	5	53	0	20	4.5	50	0
21	4.5	54	0	21	5	60	R
22	5	52		22	4.5	48	R
23	6	60	M	23	4.5	50	0
24	5.5	55	R	24	4.5	49	0
25	4.5	48	0	25	4.5	51	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1684		1398
AVERAGE	67.36		55.92
S.D.	16.97763		10.09092

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	450.3		402.4
TARE	330.8		352.7
FISH	119.5		49.7
# FISH/KG.	209.2050		503.0181

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	137.5		123.5
AVERAGE	5.5		4.94
S.D.	.8036376		.5649484

7A Lion Creek (4)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 20/82 SPECIES: COHO

LOCATION: LION CREEK

REACH: 2&3 REACH: 2&3

SCALE BK.# 21	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 22	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5.5	70	R	1	8	116	R
2	5.5	71	0	2	6.5	91	1
3	5	65	0	3	6.5	89	R
4	6.5	79	R	4	7	86	R
5	6.5	77	0	5	7.5	90	1
6	6.5	80	R	6	6.5	81	R
7	5	50	R	7	5.5	63	0
8	6	73	R	8	6	71	0
9	5	58	0	9	5	54	R
10	6.5	85	0	10	7	86	0
11	5.5	61	0	11	5	59	0
12	5.5	64	R	12	5	58	0
13	5.5	62	R	13	6.5	75	R
14	7	95	R	14	5	63	R
15	6.5	72	0	15	5	65	R
16	7	86	0	16	5	52	R
17	5	56	R	17	5	56	0
18	5.5	65	0	18	6	70	
19	6.5	73	R	19	4.5	50	
20	7.5	93	0	20	6	64	0
21	4.5	52	0	21	7	84	0
22	5	60	R	22	4.5	46	R
23	4.5	53	R	23	5.5	59	0
24	4.5	46	0	24	5.5	56	R
25	5	52	R	25			

LENGTHS		LENGTHS
SUM OF LENGTHS	1698	1684
AVERAGE	67.92	70.16667
S.D.	13.48431	17.02343

WEIGHTS		WEIGHTS
SAMPLE #	25	24
TARE + FISH	449.2	344.5
TARE	347.8	249.9
FISH	101.4	94.6
# FISH/KG.	246.5483	253.6998

EYE DIAMETER		EYE DIAMETERS
SUM OF DIAMETERS:	143	141
AVERAGE	5.72	5.875
S.D.	.8669871	.9807938

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 4/83 SPECIES: COHO

LOCATION: LION CREEK

REACH: 1 REACH: 1

SCALE BK.#	EYE DIAMETER M.M	LENGTH M.M	AGE	SCALE BK.# 1	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1				1	5	80	1
2				2	4.5	71	1
3				3	4.5	66	1
4				4	4	53	1
5				5	4.5	66	1
6				6	4	55	1
7				7	5	81	1
8				8	5	86	1
9				9	5	75	1
10				10	4.5	69	1
11				11	5	74	1
12				12	5	74	1
13				13	5.5	79	1
14				14	4	59	1
15				15	4.5	70	1
16				16	4.5	74	1
17				17	4.5	63	1
18				18	4.5	67	R
19				19	3.5	52	1
20				20	4	50	1
21				21	4.5	70	R
22				22	4.5	74	1
23				23	5	70	R
24				24	4	60	1
25				25	4.5	69	1

LENGTHS		LENGTHS
SUM OF LENGTHS		1707
AVERAGE		68.28
S.D.		9.409747

WEIGHTS		WEIGHTS
SAMPLE #		
TARE + FISH		
TARE		
FISH		
# FISH/KG.		

EYE DIAMETER		EYE DIAMETERS
SUM OF DIAMETERS:		113.5
AVERAGE		4.54
S.D.		.4546061

7B Wire Cache Creek

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 1/82 SPECIES: COHO

LOCATION: WIRE CACHE CREEK

REACH: 1 REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 2	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	7	105	1	1	6.5	98	1
2	5.5	70	0	2	5	72	0
3	5.5	75	0	3	6	79	R
4	4	53	0	4	4	59	R
5	5	69	0	5	5	69	0
6	4.5	69	0	6	5	74	0
7	4.5	62	0	7	4	58	0
8	4.5	60	0	8	4	47	0
9	4	60	0	9	4	55	0
10	4.5	58	0	10	4	55	0
11	4	54	0	11	3.5	50	0
12	4	59	0	12	4.5	69	0
13	3.5	51	R	13	4	48	0
14	4	61	0	14	4	58	0
15	4	63	R	15	4	52	0
16	3.5	45	0	16	4	54	0
17	4.5	58	0	17	4	50	0
18	4	50	0	18	4	50	0
19	4	55	0	19	4.5	52	0
20	4	56	0	20	4	49	0
21	3.5	54	0	21	4	50	0
22	4	50	0	22	4.5	55	0
23	4	50	0	23	4	48	0
24	4	48	0	24	4	53	0
25	4	58	0	25	4	54	0

LENGTHS		LENGTHS
SUM OF LENGTHS	1493	1458
AVERAGE	59.72	58.32
S.D.	11.98791	12.15771

WEIGHTS		WEIGHTS
SAMPLE #	25	25
TARE + FISH	436.4	409.1
TARE	374.3	347.6
FISH	62.1	61.5
# FISH/KG.	402.5765	406.5041

EYE DIAMETER		EYE DIAMETERS
SUM OF DIAMETERS	108	108.5
AVERAGE	4.32	4.34
S.D.	.7621242	.6879922

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 6/82 SPECIES: COHO

LOCATION: WIRE CACHE CREEK

REACH: 1 REACH: 1

SCALE BK.# 3	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 6	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5	71		1	5	66	
2	5	62	0	2	5	66	
3	5	66	0	3	5.5	72	
4	4.5	55	R	4	5.5	66	
5	4.5	57	0	5	6	70	
6	4	50	0	6	5	60	
7	5	68	R	7	5.5	66	
8	4.5	56	0	8	5.5	66	
9	5	69	0	9	5	63	
10	4	50	0	10	5.5	62	
11	4.5	51	0	11	5	65	
12	4.5	58	0	12	4.5	60	
13	4	47	0	13	5	61	
14	4	50	R	14	5	58	
15	4.5	57	0	15	5	62	
16	4	50	0	16	5.5	69	
17	4	49	R	17	4.5	54	
18	4.5	55		18	5.5	68	
19	5	63	0	19	5.5	69	
20	4	48	R	20	5	65	
21	5	64	R	21	5	68	
22	4	45	R	22	5.5	63	
23	4.5	58	0	23	5.5	70	
24	4.5	55	0	24	5.5	71	
25	4.5	54	0	25	4.5	55	

LENGTHS		LENGTHS
SUM OF LENGTHS	1408	1615
AVERAGE	56.32	64.6
S.D.	7.318470	4.778424

WEIGHTS		WEIGHTS
SAMPLE #	25	25
TARE + FISH	428.4	460.9
TARE	382	387.4
FISH	46.4	73.5
# FISH/KG.	538.7931	340.1361

EYE DIAMETER		EYE DIAMETERS
SUM OF DIAMETERS	112	130
AVERAGE	4.48	5.2
S.D.	.3947573	.3818813

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 6/82 SPECIES: COHO

LOCATION: WIRE CACHE CREEK

REACH: 2 REACH: 2

SCALE BK.# 4	EYE DIAMETER M.M	LENGTH M.M	AGE 1	SCALE BK.# 5	EYE DIAMETER M.M.	LENGTH M.M.	AGE 1
1	6	79	R	1	7	100	1
2	6.5	93		2	5	72	
3	6.5	87	1	3	6	80	0
4	6	75	0	4	7.5	105	1
5	5.5	72	R	5	5.5	81	0
6	6.5	101	1	6	7.5	103	1
7	6.5	90		7	5.5	68	0
8	6.5	98	R	8	6.5	94	0
9	6	73		9	6	85	0
10	5.5	92		10	5.5	71	
11	6	78	0	11	5.5	78	0
12	5.5	82	0	12	6.5	88	0
13	6	80		13	6	83	0
14	5.5	70	R	14	5.5	68	P
15	5.5	70		15	5.5	73	0
16	5.5	68	R	16	6.5	90	R
17	5.5	79	R	17	5.5	66	
18	5.5	73	R	18	6	79	0
19	5.5	79	0	19	5.5	71	0
20	5.5	82	0	20	5.5	83	0
21	6	78		21	5.5	71	0
22	5.5	68	0	22	5.5	81	0
23	5	85	0	23	5.5	78	0
24	5.5	72	R	24	5.5	79	0
25				25	5.5	79	

LENGTHS		LENGTHS
SUM OF LENGTHS	1904	2026
AVERAGE	79.33333	81.04
S.D.	9.778711	10.76832

WEIGHTS		WEIGHTS
SAMPLE #	24	25
TARE + FISH	478.8	491.3
TARE	356.3	344.9
FISH	122.5	146.4
# FISH/KG.	195.9184	170.7650

EYE DIAMETER		EYE DIAMETERS
SUM OF DIAMETERS	139.5	147.5
AVERAGE	5.8125	5.9
S.D.	.4376941	.6614378

7C Lemieux Creek

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 8/82 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 1&2 REACH: 1&2

SCALE BK.# 6	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 7	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5	66	R	1	4.5	58	0
2	5	66	0	2	5	61	R
3	5.5	72	R	3	4.5	63	R
4	5.5	66	R	4	4.5	59	0
5	6	70	0	5	5	56	0
6	5	60	0	6	5	63	R
7	5.5	66	0	7	5	65	0
8	5.5	66	0	8	5	60	0
9	5	63	0	9	4.5	55	0
10	5.5	62	0	10	5	63	0
11	5	65	0	11	5	63	0
12	4.5	60	0	12	4.5	54	
13	5	61	0	13	4.5	61	0
14	5	58	0	14	5	68	0
15	5	62	0	15	5.5	67	R
16	5.5	69	0	16	5	66	0
17	4.5	54	0	17	5	62	0
18	5.5	68	0	18	5	53	0
19	5.5	69	M	19	5	65	0
20	5	65	0	20	5	60	0
21	5	68	0	21	5	60	0
22	5.5	63	0	22	5	58	0
23	5.5	70	0	23	4.5	59	R
24	5.5	71	0	24	5	61	0
25	4.5	55	0	25	5	62	M

LENGTHS		LENGTHS	
SUM OF LENGTHS	1615		1522
AVERAGE	64.6		60.88
S.D.	4.778424		3.887158

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	460.9		433.8
TARE	387.4		373.3
FISH	73.5		60.5
# FISH/KG.	340.1361		413.2231

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	130		122
AVERAGE	5.2		4.88
S.D.	.3818813		.2614065

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 8/82 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 1 REACH: 1

SCALE BK.# 8	EYE DIAMETER M.M	LENGTH M.M	AGE 1	SCALE BK.# 9	EYE DIAMETER M.M.	LENGTH M.M.	AGE 1
1	7	98	I	1	5.5	67	0
2	6	70	0	2	6	79	P
3	6.5	91	R	3	6	74	0
4	5.5	64	0	4	6	74	0
5	6	78	0	5	6.5	89	R
6	6	77	R	6	5.5	61	0
7	6	78	0	7	6	70	0
8	5.5	74		8	6	76	R
9	6	72	R	9	6	70	0
10	5.5	70	0	10	5.5	68	0
11	6	69	0	11	5.5	79	0
12	5.5	64		12	5.5	70	0
13	6.5	80	M	13	6	73	0
14	6	72	0	14	6	83	0
15	6	71	R	15	5.5	70	
16	5.5	70	P	16	5	63	0
17	5.5	71	0	17	5.5	70	P
18	6	65	R	18	6	70	0
19	5.5	70		19	6	79	0
20	5.5	67	0	20	5.5	80	
21	5.5	78	0	21	6	70	R
22	5.5	69	P	22	6.5	75	
23	5.5	80		23	5.5	67	0
24	5.5	62	0	24	5.5	64	R
25	5.5	65	R	25	5.5	65	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1825		1806
AVERAGE	73		72.24
S.D.	8.31		6.54

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	430.8		378.6
TARE	319.4		274.5
FISH	111.4		104.1
# FISH/KG.	224.4165		240.1537

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	145.5		144.5
AVERAGE	5.82		5.78
S.D.	.4051749		.3559026

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 14/82 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 1&2 REACH: 1&2

SCALE BK.# 10	EYE DIAMETER M.M	LENGTH M.M	AGE 1	SCALE BK.# 11	EYE DIAMETER M.M.	LENGTH M.M.	AGE 1
1	6	71		1	6	80	0
2	5	61	0	2	6	80	0
3	5.5	72	R	3	5.5	65	R
4	5.5	65	0	4	5.5	68	0
5	6	76	0	5	5	60	0
6	5.5	68	0	6	5	62	0
7	5.5	66	0	7	5	65	0
8	5	65	0	8	5.5	65	R
9	5.5	70	R	9	6	80	R
10	5.5	70	0	10	5.5	70	0
11	5.5	73	0	11	5.5	71	0
12	5.5	75	0	12	5.5	72	0
13	5	64	0	13	5.5	65	0
14	5.5	78	R	14	5.5	68	0
15	5.5	70	0	15	5.5	75	0
16	5.5	68	0	16	5.5	70	0
17	5.5	70	0	17	6	82	0
18	5.5	70	0	18	5.5	64	0
19	5	54	0	19	5.5	65	0
20	5.5	65	R	20	5.5	65	0
21	5.5	67	0	21	5.5	72	R
22	5.5	63	0	22	5.5	64	0
23	6	78	0	23	5.5	78	0
24	5.5	60	0	24	6	80	0
25	5	61	0	25	6	72	R

LENGTHS		LENGTHS	
SUM OF LENGTHS	1696		1758
AVERAGE	67.84		70.32
S.D.	5.878492		6.574699

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	443.6		410.6
TARE	350.4		302.9
FISH	93.2		107.7
# FISH/KG.	268.2403		232.1263

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	136.5		139
AVERAGE	5.46		5.56
S.D.	.2857738		.3

7C Lemieux Creek (2)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 14/82 SPECIES: COHO

LOCATION: LEMEIUX CREEK

REACH: 1&2 REACH: 1&2

SCALE BK.# 12	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 13	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5.5	62	0	1	5	69	0
2	5	60	0	2	4.5	65	R
3	5.5	69	0	3	5	71	0
4	5	67	0	4	3.5	49	0
5	5	60	0	5	5	67	0
6	5	63	0	6	4.5	58	0
7	5.5	69	0	7	5	75	0
8	5	60	0	8	4.5	56	0
9	4.5	55	0	9	4.5	61	0
10	5	65	0	10	4.5	58	0
11	5.5	70	0	11	5	62	0
12	5.5	63	0	12	5	67	0
13	5	65	0	13	4.5	66	0
14	4.5	50	0	14	4.5	48	R
15	5	63	0	15	5	69	0
16	5	70	0	16	4.5	62	W
17	5	69	0	17	5	70	W
18	5	69	0	18	4.5	63	W
19	5	65	0	19	4.5	63	W
20	5	53	0	20	4.5	60	0
21	6	72	0	21	4.5	60	W
22	5	65	0	22	4.5	59	W
23	4.5	53	0	23	5	70	0
24	5	57	0	24	4	58	W
25	5	59	0	25	4.5	63	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1573		1589
AVERAGE	62.92		63.56
S.D.	6.013319		5.774080

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	386.5		392.4
TARE	314.1		314
FISH	72.4		78.4
# FISH/KG.	345.3039		318.8776

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	127		115.5
AVERAGE	5.08		4.62
S.D.	.3439961		.3617089

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 15/82 SPECIES: COHO

LOCATION: LEMEIUX CREEK

REACH: 1 REACH: 1

SCALE BK.# 15	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 16	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5	59	0	1	5.5	69	0
2	5.5	62	0	2	5.5	73	0
3	5.5	65	0	3	5	60	0
4	6	72	0	4	5	58	0
5	6	81	0	5	5	63	0
6	6	70	0	6	6.5	98	0
7	4.5	46	0	7	5	60	0
8	5	68	0	8	5.5	70	R
9	5	53	0	9	5.5	80	0
10	5	59	0	10	5.5	69	R
11	5.5	65	0	11	5.5	56	0
12	6	75	0	12	5	64	0
13	5.5	75	R	13	6	80	0
14	5	60	R	14	4.5	58	0
15	5	60	0	15	5.5	45	0
16	5	51	0	16	5.5	63	
17	5.5	67	0	17	5.5	70	R
18	5.5	65	0	18	5.5	75	0
19	5	69	0	19	5	63	0
20	5.5	65	0	20	5.5	73	0
21	5	63	0	21	5	60	0
22	5.5	67	R	22	5	61	0
23	5	58	0	23	5	60	0
24	5	55	0	24	5.5	65	0
25	5.5	63	0	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1593		1613
AVERAGE	63.72		67.20833
S.D.	7.934734		9.417741

WEIGHTS		WEIGHTS	
SAMPLE #	25		24
TARE + FISH	380.6		349.9
TARE	304.5		282.1
FISH	76.1		87.8
# FISH/KG.	328.5151		273.3485

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	133		128
AVERAGE	5.32		5.333333
S.D.	.4051749		.4082483

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 15/82 SPECIES: COHO

LOCATION: LEMEIUX CREEK

REACH: 2&3 REACH: 2&3

SCALE BK.# 17	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 18	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5	63	0	1	5.5	65	0
2	5.5	68	0	2	5.5	70	0
3	5.5	67	0	3	5.5	65	0
4	5.5	72	0	4	5.5	69	0
5	5.5	72	0	5	6	79	0
6	5	63		6	5	66	0
7	5	62	0	7	5.5	62	0
8	5.5	65	0	8	6	78	0
9	6	75	0	9	6.5	88	
10	5.5	65	0	10	5	66	0
11	5.5	72	0	11	5.5	70	0
12	6	80	0	12	5.5	72	0
13	5	60	0	13	5.5	69	0
14	5.5	53	0	14	5	64	
15	5.5	61	0	15	5.5	63	0
16	6	75	0	16	5	63	0
17	5	63	0	17	5.5	65	0
18	5.5	65	R	18	5.5	63	0
19	5.5	66	0	19	5.5	64	R
20	5.5	73	0	20	5.5	65	0
21	5	55	0	21	5	60	0
22	5.5	60	0	22	5.5	60	
23	5	56	0	23	5	63	0
24	5.5	70	0	24	5.5	69	0
25	6	75	0	25	5.5	63	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1676		1681
AVERAGE	67.04		67.24
S.D.	7.311407		6.450323

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	404.3		397.5
TARE	332		305.6
FISH	72.3		91.9
# FISH/KG.	345.7815		272.0348

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	136		136.5
AVERAGE	5.44		5.46
S.D.	.3329164		.3511885

7C Lemieux Creek (3)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 3/83 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 1 REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	5	71	R	1			
2	5.5	75	R	2			
3	5	69	W	3			
4	5.5	70	R	4			
5	5	66	R	5			
6	5	68		6			
7	5.5	72	1	7			
8	5	58	R	8			
9	5	65	R	9			
10	4.5	60	R	10			
11				11			
12				12			
13				13			
14				14			
15				15			
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	674		
AVERAGE	67.4		
S.D.	5.295701		

WEIGHTS		WEIGHTS	
SAMPLE #	10		
TARE + FISH	333.4		
TARE	289.6		
FISH	43.8		
# FISH/KG.	228.3105		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	51		
AVERAGE	5.1		
S.D.	.3162278		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 4/83 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 1 REACH:

SCALE BK.# 2	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	4.5	68		1			
2	6	80		2			
3	5	64		3			
4	5	68		4			
5	5.5	77	1	5			
6	5.5	65		6			
7	6	84	1	7			
8	6	68		8			
9	6	81		9			
10	6	81		10			
11	5	62		11			
12	5.5	77		12			
13	5.5	74		13			
14	5.5	76		14			
15	5.5	71		15			
16	6	82		16			
17	5.5	71		17			
18	5.5	74	1	18			
19	5.5	65		19			
20	5.5	82		20			
21	6	78		21			
22	5.5	74		22			
23	5.5	72		23			
24	5.5	69		24			
25	5	64		25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1777		
AVERAGE	71.08		
S.D.	8.765082		

WEIGHTS		WEIGHTS	
SAMPLE #	25		
TARE + FISH	306		
TARE	202.3		
FISH	103.7		
# FISH/KG.	241.0800		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	138		
AVERAGE	5.52		
S.D.	.3947573		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 5/82 SPECIES: COHO

LOCATION: LEMIEUX CREEK

REACH: 3B REACH:

SCALE BK.# 3	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	6	67		1	6	80	
2	6	71	1	2	6.5	89	R
3	6	70		3	6	74	
4	6	77	R	4	5.5	67	
5	7	98		5	5	56	
6	5.5	68		6	6	73	
7	5.5	69	R	7	5.5	71	R
8	6	80		8	6	76	
9	5	61		9	6.5	84	
10	6	81	1	10	6.5	81	
11	5.5	71		11	6.5	82	
12	6.5	80		12	6	73	
13	6	75		13	6	72	
14	6	75		14	6	69	
15	5.5	67		15	5.5	73	
16	5.5	69		16	5	64	
17	5.5	67		17	5.5	64	
18	6	73	1	18	5	66	
19	5.5	68		19	5.5	70	R
20	5.5	66		20	5	54	
21	5.5	72		21	5	57	
22	5	61		22	5	59	
23	5.5	67		23	5.5	65	
24	5	62		24	5	61	
25	4.5	55		25	5	60	

LENGTHS		LENGTHS	
SUM OF LENGTHS	1770		1740
AVERAGE	70.8		69.6
S.D.	8.455767		9.237604

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	409.7		373.9
TARE	316.2		283.5
FISH	93.5		90.4
# FISH/KG.	267.3797		276.5487

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	142		141
AVERAGE	5.68		5.64
S.D.	.5180090		.5500000

7D Louis Creek

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 22/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 1 REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	4.5	62	0	1			
2	5	64	0	2			
3	4.5	54	0	3			
4	3.5	46	0	4			
5	4.5	60	0	5			
6	4.5	59	0	6			
7	4	50	0	7			
8	4.5	49	0	8			
9	3.5	44	0	9			
10	4	46	0	10			
11	4.5	63	0	11			
12	5	68	0	12			
13	5	65	0	13			
14	4	52	0	14			
15	4.5	57	0	15			
16	5	64	0	16			
17	4.5	49	0	17			
18	4.5	56	0	18			
19	4	48	0	19			
20	4	45	0	20			
21	4.5	48	0	21			
22	4	47	0	22			
23	4	47	0	23			
24	4.5	51	0	24			
25	4	49	0	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1343		
AVERAGE	53.72		
S.D.	7.407879		

WEIGHTS		WEIGHTS	
SAMPLE #	25		
TARE + FISH	314.3		
TARE	255.5		
FISH	58.8		
# FISH/KG.	425.1701		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	108.5		
AVERAGE	4.34		
S.D.	.4262237		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 22/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 3 REACH: 2&4

SCALE BK.# 4	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 2	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	4.5	61	0	1	5.5	74	0
2	4.5	58	0	2	4.5	52	0
3	5	60	0	3	5	59	0
4	4.5	55	0	4	4.5	65	P
5	4	43	0	5	6.5	96	P
6	5	65	0	6	7	98	1
7	4	57	0	7	5	61	P
8	5	58	0	8	5	65	
9	4	36	0	9	4.5	55	0
10	4.5	52	0	10	4.5	48	
11	4	52	0	11	5	58	0
12	4.5	56	0	12	5.5	65	0
13	4.5	55	0	13	4.5	54	
14	4.5	49	0	14	4.5	56	P
15	4.5	44	0	15	5	61	0
16	5.5	64	0	16	4.5	53	
17	4.5	58	0	17	5	58	0
18	5	63	0	18	5	60	0
19	4	46	0	19	5	62	0
20	4	42	0	20	5.5	76	0
21	5	56	0	21	5	62	0
22	4.5	50	0	22	4.5	50	0
23	4.5	53	0	23	5.5	69	0
24	4.5	48	0	24	5	61	P
25	4	44	0	25	4.5	58	

LENGTHS		LENGTHS	
SUM OF LENGTHS	1325		1576
AVERAGE	53		63.04
S.D.	7.549834		12.20478

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	332.8		388.8
TARE	289		316.8
FISH	43.8		72
# FISH/KG.	570.7763		347.2222

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	112.5		126
AVERAGE	4.5		5.04
S.D.	.4082483		.6278269

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 22/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 5&6 REACH: 7

SCALE BK.# 3	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 5	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5.5	68	0	1	5	62	0
2	5	53	0	2	7	92	1
3	5	50	0	3	6.5	84	1
4	4.5	51	0	4	7	100	1
5	4	46	0	5	6	76	1
6	4	48	0	6	7	89	M
7	4	43	0	7	6.5	90	1
8				8	6	78	1
9				9	4.5	61	0
10				10	5.5	78	0
11				11	5.5	55	0
12				12	5.5	64	0
13				13	6	74	0
14				14	5	62	R
15				15	5	68	0
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	359		1129
AVERAGE	51.28571		75.26667
S.D.	8.077010		13.44548

WEIGHTS		WEIGHTS	
SAMPLE #	7		15
TARE + FISH	232.2		371.5
TARE	219.5		288.2
FISH	12.7		83.3
# FISH/KG.	551.1811		180.0720

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	32		86
AVERAGE	4.571429		5.733333
S.D.	.6074929		1.015358

7D Louis Creek (2)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 27/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 3 REACH: 3

SCALE BK.# 23	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 24	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	6	73	0	1	5.5	60	0
2	5.5	65	0	2	6.5	80	R
3	5.5	62	0	3	5.5	64	0
4	6	63	R	4	6	65	0
5	6	71	0	5	5	52	0
6	5.5	60	0	6	6	76	R
7	6.5	91	0	7	6	72	0
8	5.5	68	0	8	5.5	62	0
9	5	60	0	9	6.5	92	0
10	5.5	58	0	10	6.5	82	R
11	6	70	0	11	5.5	64	0
12	6.5	76	0	12	4	42	0
13	5.5	60	0	13	6.5	72	0
14	5.5	61	0	14	4.5	50	0
15	5.5	60	R	15	5	53	R
16	5.5	69	0	16	5.5	60	0
17	5	49	0	17	6.5	70	R
18	5	56	0	18	5.5	62	0
19	4.5	48	0	19	5	52	0
20	6.5	76	0	20	5.5	65	0
21	5	59	R	21	5.5	52	0
22	5.5	65	0	22	6	63	R
23	6	70	0	23	5.5	70	0
24	5	54	0	24	5.5	67	0
25	5.5	59	R	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1603		1547
AVERAGE	64.12		64.45833
S.D.	9.288523		11.39786

WEIGHTS		WEIGHTS	
SAMPLE #	26		24
TARE + FISH	314.4		369.6
TARE	252.3		295.2
FISH	62.1		74.4
# FISH/KG.	418.6795		322.5806

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	139.5		135
AVERAGE	5.58		5.625
S.D.	.5139715		.6468990

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 28/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 3 REACH: 3

SCALE BK.# 25	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 26	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	5.5	65	0	1	5	58	0
2	5.5	58	0	2	6	70	R
3	5	60	0	3	5.5	64	0
4	5	63	0	4	5	64	0
5	5	65	0	5	5	55	0
6	5	65	0	6	5	66	0
7	5	58	0	7	5	58	0
8	5	63	0	8	5	53	0
9	5	58	0	9	4.5	49	0
10	5.5	70	0	10	5	58	0
11	5	62	R	11	5	69	0
12	5	61	0	12	5	58	0
13	5	64	0	13	5	68	0
14	5	60	0	14	5	55	0
15	4.5	55	0	15	5	63	0
16	5.5	70	0	16	5	65	0
17	5	60	R	17	4.5	50	0
18	5	55	0	18	5	55	0
19	5	62	0	19	5	53	0
20	4.5	52	0	20	5	60	0
21	5	63	0	21	4.5	51	0
22	4.5	55	0	22	5	65	0
23	4.5	55	R	23	5	58	0
24	4.5	50	0	24	5	60	0
25	4.5	58	0	25	5	53	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1507		1478
AVERAGE	60.28		59.12
S.D.	5.020956		6.112283

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	394		306
TARE	346.9		246.5
FISH	47.1		59.5
# FISH/KG.	530.7856		420.1681

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	124		125
AVERAGE	4.96		5
S.D.	.3201562		.2886751

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: OCTOBER 28/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 3 REACH: 3

SCALE BK.# 27	EYE DIAMETER M.M	LENGTH M.M	AGE 1	SCALE BK.# 28	EYE DIAMETER M.M.	LENGTH M.M.	AGE 1
1	6	72	0	1	7.5	92	0
2	6.5	80	0	2	6.5	80	0
3	6.5	85	0	3	6.5	74	0
4	6	80	0	4	7.5	81	R
5	5.5	68	0	5	6	79	0
6	6	72	0	6	6.5	83	0
7	6.5	88	0	7	6	78	0
8	5.5	75	0	8	6.5	80	0
9	5.5	70	0	9	5.5	70	0
10	6.5	83	0	10	6	80	0
11	6	73	R	11	6	72	0
12	5.5	72	0	12	6.5	80	0
13	6	77	0	13	5.5	68	0
14	5.5	65	0	14	6	71	0
15	6	73	0	15	6.5	78	0
16	6	72	R	16	6.5	76	0
17	6.5	83	0	17	6	73	0
18	6	74	0	18	6	77	0
19	6	75	0	19	6	73	0
20	5.5	65	0	20	6		0
21	5.5	70	0	21	6.5	75	0
22	6.5	75	0	22	6	75	0
23	6.5	81	0	23	5.5	70	0
24	5.5	69	0	24	6.5	82	0
25	6.5	80	0	25	6	75	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1877		1842
AVERAGE	75.08		76.75
S.D.	6.095900		5.260600

WEIGHTS		WEIGHTS	
SAMPLE #	27		25
TARE + FISH	378.9		390.2
TARE	248.2		287.2
FISH	130.7		103
# FISH/KG.	206.5800		242.7184

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	150		156
AVERAGE	6		6.24
S.D.	.4082483		.5024938

7D Louis Creek (3)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: NOVEMBER 11/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 1 REACH: 1

SCALE BK.# 29	EYE DIAMETER M.M	LENGTH M.M	AGE 0	SCALE BK.# 30	EYE DIAMETER M.M.	LENGTH M.M.	AGE 0
1	4.5	58	0	1	5.5	69	0
2	5	70	0	2	5	63	0
3	5	57	0	3	5	59	0
4	5	62	0	4	5.5	69	0
5	4.5	60	0	5	5	68	0
6	4	49	0	6	5.5	76	R
7	5	58	0	7	5	64	0
8	5	62	0	8	4.5	53	0
9	5	73	0	9	5	60	0
10	5.5	76	0	10	4.5	53	0
11	5	63	0	11	5	65	0
12	5	65	0	12	5	54	0
13	5	68	0	13	5	62	0
14	4.5	55	0	14	4.5	56	0
15	5.5	78	0	15	4.5	58	0
16	5	64	0	16	5	70	R
17	5.5	69	0	17	5	64	0
18	5	64	0	18	5.5	65	0
19	4.5	50	0	19	5.5	69	0
20	5	60	0	20	5	75	
21	4.5	55	0	21	5	53	R
22	5	62	0	22	4.5	49	M
23	5	60	0	23	5.5	72	0
24	5	58	0	24	5	58	R
25	4.5	52	0	25	5	60	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1548		1564
AVERAGE	61.92		62.56
S.D.	7.460563		7.337575

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	306.5		268.5
TARE	237.5		196.8
FISH	69		71.7
# FISH/KG.	362.3188		348.6750

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	122.5		125.5
AVERAGE	4.9		5.02
S.D.	.3535534		.3378856

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: NOVEMBER 11/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 1 REACH: 1

SCALE BK.# 31	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 32	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	5	59	0	1	7.5	93	0
2	4.5	51	0	2	5	69	R
3	5.5	72	0	3	6.5	84	R
4	5.5	66	R	4	5	57	0
5	5.5	66	0	5	6.5	93	0
6	5.5	76	R	6	5	56	0
7	5.5	76	R	7	6	75	0
8	5.5	79	0	8	5	54	0
9	4	46	0	9	6.5	90	R
10	4.5	55	0	10	5	58	0
11	5.5	77	0	11	5	60	0
12	4	75	R	12	5	62	0
13	5	59	0	13	5.5	78	0
14	5	62	R	14	5	66	0
15	5.5	77	0	15	4.5	53	0
16	5	64	R	16	6	70	M
17	5	70	0	17	6	76	R
18	5	50	0	18	5.5	72	0
19	6	66	R	19	5.5	49	0
20	6	78	R	20	5.5	70	0
21	4.5	45	0	21	5	55	0
22	4.5	48	0	22	6	76	0
23	4.5	70	0	23	4.5	46	0
24	5	60	0	24	5	53	0
25	5	55	R	25	5	55	0

LENGTHS		LENGTHS	
SUM OF LENGTHS	1604		1668
AVERAGE	64.16		66.72
S.D.	10.81157		13.84594

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	361.7		306.3
TARE	282.9		205.5
FISH	78.8		100.8
# FISH/KG.	317.2589		248.0159

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	128.5		137
AVERAGE	5.14		5.48
S.D.	.5307228		.7285831

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: NOVEMBER 14/82 SPECIES: COHO

LOCATION: LOUIS CREEK

REACH: 1 REACH: 1

SCALE BK.# 33	EYE DIAMETER M.M	LENGTH M.M	AGE 1	SCALE BK.# 34	EYE DIAMETER M.M.	LENGTH M.M.	AGE 1
1	6.5	85	R	1	5.5	76	0
2	5.5	70	0	2	5.5	74	R
3	6	69	0	3	5.5	78	0
4	6	72	0	4	6	76	R
5	6	80	R	5	6	75	0
6	6.5	78	R	6	6	70	0
7	6	74	0	7	5.5	66	0
8	6.5	90	0	8	6.5	80	0
9	6	75	R	9	6	76	R
10	6.5	80	0	10	6	78	0
11	6.5	78	R	11	7	92	1
12	6.5	84	0	12	6	75	0
13	5.5	73	0	13	7	95	0
14	6	77	R	14	7	86	0
15	6	81	R	15	6	69	0
16	6	78	R	16	6.5	86	R
17	6.5	86	0	17	5.5	74	0
18	6.5	85	R	18	6	76	R
19	5.5	74	R	19	6	75	0
20	6	80	0	20	6	76	R
21	6	81	0	21	5.5	68	R
22	6	80	0	22	6	75	R
23	5.5	75	R	23	6	78	0
24	5.5	73	R	24	5.5	70	R
25	5.5	78	0	25	6	80	R

LENGTHS		LENGTHS	
SUM OF LENGTHS	1956		1924
AVERAGE	78.24		76.96
S.D.	5.230340		6.876772

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	451.5		392
TARE	314.1		265.4
FISH	137.4		126.6
# FISH/KG.	181.9505		197.4724

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	151		150.5
AVERAGE	6.04		6.02
S.D.	.3796929		.4672615

7E North Thompson River

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: AUGUST 18/82 SPECIES: COHO

LOCATION: ABOVE LITTLE FORT ON N. THOMPSON

REACH: NT. 001 REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	5.5	78	0	1			
2	4.5	57	0	2			
3	5	70	0	3			
4	5.5	76	0	4			
5				5			
6				6			
7				7			
8				8			
9				9			
10				10			
11				11			
12				12			
13				13			
14				14			
15				15			
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	281		
AVERAGE	70.25		
S.D.	9.464847		

WEIGHTS		WEIGHTS	
SAMPLE #	4		
TARE + FISH	320.8		
TARE	303.4		
FISH	17.4		
# FISH/KG.	229.8851		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	20.5		
AVERAGE	5.125		
S.D.	.4787136		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 4/83 SPECIES: COHO

LOCATION: T.S.301-280

REACH: 301-280 REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
			MIXED				
1	5.5	84		1			
2	6	104		2			
3	6	95		3			
4	5	75		4			
5	5.5	88		5			
6	5	84		6			
7				7			
8				8			
9				9			
10				10			
11				11			
12				12			
13				13			
14				14			
15				15			
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	530		1707
AVERAGE	88.33333		68.28
S.D.	10.05319		9.409747

WEIGHTS		WEIGHTS	
SAMPLE #			
TARE + FISH			
TARE			
FISH			
# FISH/KG.			

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	33		113.5
AVERAGE	5.5		4.54
S.D.	.4472136		.4546061

7F Peddie Creek, Albreda River and Barriere River

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: DECEMBER 15/82 SPECIES: COHO

LOCATION: PEDDIE CREEK

REACH: SLOUGH REACH:

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	4.5	69	R	1			
2	5	70	0	2			
3	5	88	0	3			
4	4.5	71	0	4			
5	5.5	84	R	5			
6	5	78	0	6			
7	6	96	1	7			
8	6	92	1	8			
9	6	89	0	9			
10	4.5	66	R	10			
11				11			
12				12			
13				13			
14				14			
15				15			
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	803		
AVERAGE	80.3		
S.D.	10.86329		

WEIGHTS		WEIGHTS	
SAMPLE #			
TARE + FISH			
TARE			
FISH	0		
# FISH/KG.			

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	52		
AVERAGE	5.2		
S.D.	.6324555		

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: DECEMBER 17-18/82 SPECIES: COHO

LOCATION: ALBREDA RIVER

REACH: 2 REACH: 2

SCALE BK.# 1	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.# 2	EYE DIAMETER M.M.	LENGTH M.M.	AGE MIXED
1	4.5	74	0	1	4.5	76	0
2	4	60	0	2	4.5	70	0
3	4	66	0	3	4	64	0
4	4	67	0	4	4	64	0
5	4.5	65	0	5	4	60	0
6	5.5	93		6	3.5	55	0
7	3.5	59	0	7	3.5	61	0
8	4	95	0	8	4	56	0
9	4.5	64	0	9	4.5	64	0
10	4	50	0	10	3.5	49	0
11	3.5	55	0	11	4.5	61	0
12	4	53	0	12	3.5	47	0
13	4	51	0	13	3.5	51	0
14	3.5	52	0	14	3	48	0
15	3.5	51	0	15	3	43	0
16	5.5	86		16	3.5	49	0
17	4	59		17	3.5	50	0
18	3.5	50	0	18	3	45	0
19	3.5	57	M	19	3.5	55	0
20	3.5	52	0	20	3	47	0
21	3	51		21			
22	5.5	89	R	22			
23	4	66		23			
24	3.5	51		24			
25	3.5	51	M	25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	1567	1115	
AVERAGE	62.68	55.75	
S.D.	14.18250	8.972912	

WEIGHTS		WEIGHTS	
SAMPLE #			
TARE + FISH			
TARE			
FISH			
# FISH/KG.			

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	102.5	75	
AVERAGE	4.1	3.75	
S.D.	.7772816	.5501196	

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 6/83 SPECIES: COHO

LOCATION: BARRIERE RIVER

REACH: 5 REACH:

SCALE BK.# 5	EYE DIAMETER M.M	LENGTH M.M	AGE MIXED	SCALE BK.#	EYE DIAMETER M.M.	LENGTH M.M.	AGE
1	6.5	101	R	1			
2	6	84		2			
3	5	71		3			
4	5	2		4			
5	5	60		5			
6	5	66		6			
7	5.5	74		7			
8	5	67		8			
9	4.5	56		9			
10	4.5	53		10			
11				11			
12				12			
13				13			
14				14			
15				15			
16				16			
17				17			
18				18			
19				19			
20				20			
21				21			
22				22			
23				23			
24				24			
25				25			

LENGTHS		LENGTHS	
SUM OF LENGTHS	634		
AVERAGE	63.4		
S.D.	25.76043		

WEIGHTS		WEIGHTS	
SAMPLE #	10		
TARE + FISH	293.5		
TARE	253.7		
FISH	39.8		
# FISH/KG.	251.2563		

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS:	52		
AVERAGE	5.2		
S.D.	.6324555		

7F Barriere River (2)

BIOLOGICAL SAMPLING OF JUVENILE SALMON

PROJECT: NORTH THOMPSON DATE: JANUARY 7/82 SPECIES: COHO

LOCATION: BARRIERE RIVER

REACH: 1 REACH: 3

SCALE BK.# 6	EYE DIAMETER	LENGTH M.M	AGE	SCALE BK.# 7	EYE DIAMETER	LENGTH M.M.	AGE
1	5.5	70		1	5	60	
2	5.5	80		2	5.5	76	
3	5	58		3	5.5	72	
4	5	69		4	6	76	
5	5	61		5	4.5	49	
6	5.5	73		6	5.5	66	
7	5	61		7	5.5	69	
8	5	63		8	6.5	82	
9	6	76		9	5.5	63	
10	5	61		10	5.5	66	
11	5.5	66		11	5.5	66	
12	4.5	56		12	5.5	70	
13	5	68		13	5.5	68	
14	5.5	77		14	5	56	
15	4.5	53		15	5.5	72	
16	5	61		16	5	56	
17	5	57		17	5.5	79	
18	5	61		18	5.5	72	
19	4	49		19	5	60	
20	4.5	56		20	5	53	
21	5	58		21	5	54	
22	5	60		22	5.5	65	
23	5	63		23	5.5	64	
24	5	62		24	5	55	
25	5	60		25	4.5	48	

LENGTHS		LENGTHS	
SUM OF LENGTHS	1579		1617
AVERAGE	63.16		64.68
S.D.	7.614022		9.245359

WEIGHTS		WEIGHTS	
SAMPLE #	25		25
TARE + FISH	338.8		361.7
TARE	277.4		297.2
FISH	61.4		64.5
# FISH/KG.	407.1661		387.5969

EYE DIAMETER		EYE DIAMETERS	
SUM OF DIAMETERS	126		133.5
AVERAGE	5.04		5.34
S.D.	.4062019		.4262237

APPENDIX 8

DAILY ADULT COHO BIOLOGICAL DATA REPORT

8A Lion Creek

DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
		HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
SEPT.22	2	NA		Pres.	1	0	0	1	1	0	1	several live Coho seen
NOV. 30	1	2	20	53	24	30	0	54	0	0	0	
	2			205	120	137	0	257	21	38	59*	All fish live-killed for disease samp.
DEC. 1	3	2	40	24	65	93	13	171	4	2	6	
6	1	3	45	17	12	36	0	48	1	10	11	About ½ dozen
6	2			160	33	80	0	113	8	22	30	Eagle Kills
9	1	3	10	16	4	9	0	13	2	5	7	
9	2			135	11	33	0	44	8	24	32	
DEC.12	1	2	30	17	6	18	0	24	2	3	5	
12	2			113	6	38	0	44				
16	1	1	30	14	3	14	0	17				2 Eagle Kills
16	2			104	12	45	0	57				
19	1	1	20	15	5	12	0	17				
19	2			94	8	24	0	32				
28	1	1	45	10	5	7	14*	26				3 Unk, 11 Inaccessable
28	2			39	4	22	11*	37				2 Unk, 9 Inaccessable
JAN. 6	1	NA		PRES								Trapped for Juveniles
	TOTAL	19		73*	319	598	38	955	47	104	151**	* Final Counts - All Reaches ** Samples included in dead count

8B Wire Cache Creek

DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
		HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
NOV.24	NA		25	6	NOT COUNTED				0	0	0	Initial Reconnaisance
NOV.25	NA	1	5	3	32	38	0	70	6	4	10	
	TOTAL	1	30	3*	32	38	0	70	6	4	10	*Final Count **Samples included in dead count

8C Lemieux Creek

DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
		HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
Nov. 28	1	2		0	0	1	0	1	0	1	1	
	2			0	1	0	0	1	1	0	1	
Dec. 2	3A	3	10	3	2	2	0	4	0	0	0	
	3B			110	10	22	0	32	4	10	14	
Dec. 7	3B	3		102	3	15	0	18	1	9	10	Moved 3A/B boundary
	4			1	0	0	0	0	0	0	0	
Dec. 10	3B	2	45	73	10	10	0	20	7	7	14	
Dec. 13	3A	2	50	8	10	6	0	16	3	2	5	
	3B			36	3	13	0	16	3	7	10	Several Eagle Kills
Dec. 16	3A&B	3	55	14	8	10	7	25	2	7	9	
	4			0	0	0	0	0	0	0	0	
Dec. 17	3B	5		30	11	20	10	41	6	10	16	
Dec. 29	3A&B	6		9	10	15	2	27	3	11	14	
Jan. 3	4	1		0	0	0	0	0	0	0	0	
Jan. 4	1		35	0	1	0	0	1	0	0	0	
	TOTAL	30	15	9*	69	114	19	202	30	64	94**	* Final Count **Samples included in dead count.

8D Louis Creek

DATE	REACH	LENGTH OF SURVEY	LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
				MALES	FEMALES	UNK.	TOTAL	M	F	TOTAL	
NOV.2	3			2	0	0	2	2	0	2	
NOV.5	1			10	15	0	25	10	15	25	"Killed for egg take
NOV.12	1		19	9	5	0	14	9	5	14	
NOV.27	3	2 Hrs.	4	7	9	2	18	1	6	7	
DEC.3	1		0	3	1	2	6	0	0	0	
"	2	6 Hours	0	0	1	0	1	0	0	0	
"	3	50 Min.	5	6	6	2	14	1	1	2	
DEC.5	1	4 Hrs.	1	20	14	4	38	2	3	5	
DEC.6	5	5 Hrs. 45 Min.	0	19	16	3	38	3	7	10	
DEC.8	4	40 Min.	0	0	0	0	0	0	0	0	
DEC.13	3	5.0 Hrs.	0	1	6	0	7	0	2	2	
"	4		1	17	27	0	44	1	3	4	
DEC.14	6	1 Hr. 50 Min.	0	6	1	0	7	0	0	0	
DEC. 15	1		0	1	0	0	1	0	0	0	
"	2	3 Hrs. 30 Min.	0	0	0	0	0	0	0	0	
"	3		1	1	0	0	1	0	0	0	
DEC.20	7 and 8	1 Hr.	0	1	1	0	2	0	0	0	
TOTAL		30 Hrs. 35 Min.		103	101	13	217	29	42	71*	*Samples included in dead count

8E Albreda River

DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
		HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
NOV. 24	1	1	10	1	0	0	0	0	0	0	0	A 1 kilometer section walked
DEC. 17	1	4	20	1	0	1	0	1	0	0	0	150 meter section walked
"	2			13	14	17	0	31	6	7	13	A 1 kilometer section walked
DEC. 18	2		30	4	4	4	2	10	2	2	4	150 meter section walked
"	3			0	0	0	0	0	0	0	0	A 1 kilometer section walked
TOTAL		6		19	18	22	2	42	8	9	17*	* Samples included in dead count.

8F Blue River

DATE	REACH	LENGTH OF SURVEY	LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
				MALES	FEMALES	UNK.	TOTAL	M	F	TOTAL	
DEC. 3	1		41	0	0	0	0	0	0	0	0.3 km. walked
"	2	~~45 min.~~	137	1	0	0	1	1	0	1	150 meters walked
DEC. 8	1		1	0	0	0	0	0	0	0	200 meters walked
"	2	~~45 min.~~	169	1	0	0	1	1	0	1	100 meters walked
DEC. 11	2	20 min.	128	0	0	0	0	0	0	0	100 meters walked
DEC. 19	2	25 min.	69	0	2	0	2	0	1	1	100 meters walked
DEC. 30	2	35 min.	9	0	0	0	0	0	0	0	100 meters walked
JAN. 4	1		1	0	0	0	0	0	0	0	1.0 kilometer walked
"	2	~~1 hr.~~	6	0	0	0	0	0	0	0	100 meters walked
TOTAL		3hr 50min	*	2	2	0	4	2	1	3**	* Final Count ** Samples included in dead count

8G Barriere River

DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
		HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
Nov. 28	3		30	0	0	0	1	1	0	0	0	
Dec. 2	1	2	40	0	0	0	0	0	0	0	0	
Dec. 8	1		45	0	0	0	0	0	0	0	0	
Dec. 9	1	2	30	34	2	14	7	23	0	5	5	
Dec. 10	1	2	20	30	2	5	1	8	1	1	2	
Dec. 15	1	1	25	28	2	7	0	9	1	4	5	
Dec. 19	1	1	30	37	4	10	3	17	3	8	11	
Dec. 19	2		45	0	0	0	0	0	0	0	0	
Dec. 28	1	1		9	2	3	0	5	2	3	5	
TOTAL		13	25	9*	12	39	12	63*	7	21	28	* Final Count ** Samples included in dead count.

8H Minor Study Areas

STREAM	DATE	REACH	LENGTH OF SURVEY		LIVE COUNT	DEAD COUNT				SAMPLES TAKEN			COMMENTS
			HRS.	MIN.		M	F	UNK.	TOTAL	M	F	TOTAL	
Thunder River	JAN.5	NA	1	0	0	0	0	0	0	0	0	0	Walked down from highway 300 m.
Cook Creek	JAN. 5	NA	0	45	0	1	0	0	1	0	0	0	Walked 300 m., highway area
Cedar Creek	JAN. 4	NA	0	10	0	0	0	0	0	0	0	0	Walked 30 m upsteam from highway
Finn Creek	NOV.25	NA	0	45	0	0	0	0	0	0	0	0	0.5 Kilometer walked, highway area
Raft River	NOV.25	NA	0	20	0	0	0	0	0	0	0	0	200 meters walked, highway area
	DEC. 3	NA	0	10	0	0	0	0	0	0	0	0	Stationary observation near hwy.
Mann Creek	JAN. 3	1, 2A, 2B	1	15	0	0	0	0	0	0	0	0	Several Redds seen over 1½ kms.
Harper Creek	DEC. 2	NA	3	0	0	0	0	0	0	0	0	0	Walked 2.5 kms, poor survey conditions
East Barriere River	NOV.28	1	1	0	2	0	0	0	0	0	0	0	Poor survey conditions, visibility constrained.
Total			8	25	2	1	0	0	1	0	0	0	

NA = Not Applicable

APPENDIX 9

ADULT COHO DEAD PITCH DATA

9A Lion Creek

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
SEPT. 22		39.0	M	3_2	1		
NOV. 30	2	50.6	M	3_2	1		
	5	43.1	M	3_2	1		
	2	50.7	F	3_2	1	99	
	2	44.8	M	3_2	1		
	2	48.1	F	3_2	1	99	
	2	51.7	F	3_2	1	0	Caught in wire
	2	43.3	F	3_2	1	99	
	2	43.1	F	3_2	1	99	
	2	50.6	M	4_3	1		
	2	49.0	F	3_2	1	99	
	2	49.0	F	3_2	1	99	
	2	56.1	M	3_2	1		
	2	57.5	F	3_2	1	99	
	2	46.8	F	3_2	1	99	
	2	54.1	F	3_2	1	99	
	2	48.2	F	3_2	1		
	2	47.2	M	3_2	1		
	2	36.9	M	3_2	1		
	2	52.7	M	3_2	1		
	2	45.6	F	3_2	1	99	
	2	45.2	F	3_2	1	99	
	2	50.5	F	3_2	1	99	
	2	41.9	F	3_2	1	99	
	2	50.2	F	3_2	1	99	
	2	47.6	F	3_2	1	99	

9A Lion Creek (2)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV. 30	2	52.4	F	3_2	1	99	
	2	50.0	F	3_2	1	99	
	2	46.9	F	3_2	1	99	
	2	47.8	M	3_2	1		
	2	45.9	F	3_2	1	99	
	2	53.1	F	3_2	1	99	
	2	45.9	F	3_2	1	99	
	2	53.4	F	3_2	1	99	
	2	45.4	M	3_2	1		
	2	48.3	F	3_2	1	99	
	2	49.8	M	3_2	1		
	2	45.1	M	4_3	1		
	2	41.1	M	3_2	1		
	2	46.2	F	3_2	1	99	
	2	51.6	F	3_2	1	99	
	2	54.4	M	3_2	1		
	2	50.0	F	3_2	1	99	
	2	49.4	M	4_3	1		
	2	47.4	F	3_2	1	50	
	2	44.0	F	3_2	1	99	
	2	42.6	M	3_2	1		
	2	42.0	F	3_2	1	99	
	2	45.7	F	3_2	1	99	
	2	43.0	M	3_2	1		
	2	48.3	F	3_2	1	99	
	2	37.2	M	R	1		

9A Lion Creek (3)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV. 30	2	43.0	F	3_2	1	99	
	2	42.9	F	3_2	1	99	
	2	51.3	F	4_3	1	99	
	2	41.5	M	3_2	1		
	2	51.4	F	3_2	1	99	
	2	46.1	F	3_2	1	99	
	2	43.8	M	3_2	1		
	2	44.8	F	3_2	1	99	
DEC. 1	3	52.9	F	3_2	3	99	
	3	50.4	F	3_2	3	99	
	3	54.7	M	3_2	1		
	3	50.2	M	3_2	1		
	3	53.2	M	3_2	1		
	3	40.4	M	3_2	2		
DEC. 6	1	46.6	F	4_3	1	99	
	1	47.2	F	3_2	1	99	
	1	53.2	M	3_2	1		
	1	48.7	F	3_2	1	99	
	1	49.2	F	3_2	2	99	
	1	50.8	F	3_2	1	99	
	1	45.3	F	3_2	1	99	
	1	46.3	F	3_2	2	99	
	1	37.3	F	3_2	1	99	
	1	50.1	F	3_2	1	99	
	1	53.6	F	4_3	1	99	
	2	49.8	F	3_2	2	99	

9A Lion Creek (4)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 6	2	51.7	F	3_2	1	99	
	2	37.5	F	3_2	2	99	
	2	50.5	F	3_2	2	99	
	2	52.2	M	3_2	2		
	2	48.3	F	3_2	2	99	
	2	51.9	F	3_2	1	99	
	2	48.3	F	3_2	2	99	
	2	44.5	F	3_2	1	99	
	2	38.5	M	3_2	1		
	2	48.9	F	3_2	2	99	
	2	52.6	M	3_2	1		
	2	47.2	F	3_2	3	99	
	2	48.1	F	3_2	1	99	
	2	51.3	F	3_2	3	99	
	2	52.2	M	4_3	1		
	2	49.0	F	4_3	2	99	
	2	51.3	F	R	2	99	
	2	45.3	F	3_2	1	99	
	2	51.0	M	3_2	1		
	2	54.5	F	3_2	2	99	
	2	44.5	M	3_2	1		
	2	46.7	F	3_2	2	99	
	2	53.1	F	3_2	2	99	
	2	50.4	F	3_2	2	99	
	2	49.0	F	3_2	1	99	
	2	51.7	F	4_3	1	99	

9A Lion Creek (5)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 6	2	46.3	M	3_2	1		
	2	52.4	F	3_2	1	99	
	2	34.8	M	3_2	2		
DEC. 9	1	47.6	F	R	1	99	
	1	36.1	F	3_2	1	0	
	1	49.6	F	3_2	1	99	
	1	51.0	F	4_3	2	99	
	1	45.4	F	R	1	99	
	1	36.1	M	3_2	1		
	1	39.8	M	3_2	1		
	2	39.1	F	3_2	2	99	
	2	51.1	F	3_2	1	99	
	2	50.2	F	3_2	1	99	
	2	45.9	F	3_2	2	99	
	2	48.7	F	3_2	2	99	
	2	47.2	F	3_2	1	99	
	2	48.3	M	R			
	2	48.8	M	3_2	1		
	2	52.0	F	3_2	2	99	
	2	48.7	F	3_2	1	99	
	2	49.5	F	3_2	1	99	
	2	48.8	F	3_2	1	99	
	2	44.5	F	3_2	1	99	
	2	51.5	F	3_2	2	99	
	2	50.8	M	3_2	1		
	2	45.0	F	3_2	1	99	

9A Lion Creek (6)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 9	2	52.1	M	3_2	2		
	2	44.7	M	3_2	1		
	2	41.3	F	3_2	3	99	
	2	46.0	M	3_2	2		
	2	50.0	F	3_2	1	99	
	2	48.4	F	3_2	1	99	
	2	41.8	F	3_2	1	99	
	2	42.8	F	3_2	1		
	2	47.5	F	3_2	3	99	
	2	46.5	F	R	2	99	
	2	54.7	F	3_2	1	99	
	2	41.7	F	3_2	1	99	
	2	49.2	F	3_2	1	99	
	2	49.7	M	3_2	2		
	2	43.6	F	3_2	1	99	
		42.1	F	3_2	1	99	
DEC. 12	1	41.8	F	3_2	2	99	
	1	39.5	F	3_2	1	99	
	1	56.0	M	3_2	1		
	1	44.2	F	3_2	1	99	
	1	50.6	M	3_2	1		

9B Wire Cache Creek

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV.25		35.0	M	3_2	2		
		37.4	M	3_2	2		
		41.2	F	3_2	2	99	
		46.3	F	3_2	2	99	
		52.6	M	3_2	3		
		37.4	M	3_2	2		
		43.8	F	3_2	3	99	
		41.1	M	3_2	1		
		39.4	F	3_2	3	99	
		43.5	M	3_2	3		

9C Lemieux Creek

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV.28	1	36.6	F	3_2	3	99	
	2	34.1	M	3_2	2		
DEC.2	3B	38.0	F	4_3	2	99	
	3B	47.2	F	3_2	1	99	
	3B	45.7	F	3_2	1	99	
	3B	44.5	M	3_2	2		
	3B	36.3	F	3_2	2	99	
	3B	45.2	F	3_2	2	99	
	3B	39.4	M	3_2	3		
	3B	41.5	F	3_2	3	99	
	3B	34.3	F	3_2	3	99	
	3B	42.4	F	R	2	99	
	3B	44.6	F	3_2	3	99	
	3B	37.6	M	3_2	2		
	3B	40.4	F	3_2	1	99	
	3B	45.9	M	3_2	2		
DEC.7	3B	45.4	F	3_2	1	99	
	3B	39.1	M	4_3	1		
	3B	41.9	F	3_2	3	99	
	3B	50.6	F	3_2	1	99	
	3B	47.0	F	3_2	3	99	
	3B	44.0	F	3_2	3	99	
	3B	42.7	F	3_2	3	99	
	3B	38.8	F	3_2	1	99	
	3B	46.6	F	3_2	1	99	
	3B	43.7	F	3_2	2	99	

9C Lemieux Creek (2)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 10	3B	38.7	M	3_2	1		
	3B	44.4	M	3_2	1		
	3B	35.7	M	R	2		
	3B	37.0	M	R	1		
	3B	44.2	M	3_2	1		
	3B	41.4	F	3_2	3	99	
	3B	45.0	F	3_2	1	99	
	3B	50.3	F	3_2	1	99	
	3B	39.0	M	3_2	1		
	3B	45.3	F	3_2	2	99	
	3B	44.2	F	3_2	1	99	
	3B	50.7	F	3_2	2	99	
	3B	36.6	F	3_2	2	99	
	3B	50.4	M	3_2	1		
DEC. 13	3B	49.8	F	3_2	1	99	
	3B	41.3	F	3_2	3	99	
	3B	45.5	F	3_2	1	50	
	3B	39.5	F	3_2	1	99	
	3B	44.2	F	3_2	2	99	
	3B	41.3	F	3_2	2	99	
	3B	43.6	M	3_2	1		
	3B	44.5	M	3_2	1		
	3B	42.3	M	3_2	3		
	3B	36.5	F	3_2	3	99	
	3A	46.4	M	3_2	2		
	3A	45.7	M	3_2	1		

9C Lemieux Creek (3)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 13	3A	37.5	F	3_2	3	99	
	3A	44.1	F	3_2	2	99	
	3A	46.2	M	3_2	2		
DEC. 16	3A&B	39.6	M	3_2	1		Different crew sampling
	3A&B	41.3	F	3_2	1	99	- live kill
	3A&B	43.5	F	3_2	2	99	
	3A&B	42.9	F	R	1	99	
	3A&B	41.9	F	R	1	99	
	3A&B	39.2	M	3_2	1		
	3A&B	46.3	F	R	1	99	
	3A&B	39.5	F	R	1	99	
	3A&B	44.4	F	R	1	99	
DEC. 17	3B	37.9	F	3_2	1	50	
	3B	44.9	F	3_2	1	99	
	3B	43.6	F	3_2	1	99	
	3B	45.2	M	3_2	2		
	3B	42.9	F	3_2	2	99	
	3B	42.8	M	3_2	2		
	3B	52.0	M	3_2	3		
	3B	45.7	F	3_2	2	99	
	3B	46.7	F	3_2	2	99	
	3B	48.3	F	3_2	2	99	
	3B	40.3	F	3_2	1	99	Live Kill
	3B	37.9	M	3_2	2		
	3B	41.3	F	R	2	99	
	3B	44.5	F	3_2	1	99	

9C Lemieux Creek (4)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC.17	3B	42.6	M	3_2	1		
	3B	40.2	M	3_2	1		
DEC.29	3A&B	31.6	M	R	1		Live Kill
	3A&B	49.4	F	3_2	3	99	
	3A&B	47.3	M	3_2	2		
	3A&B	50.7	F	3_2	2	99	
	3A&B	47.1	F	3_2	1	99	Live Kill
	3A&B	41.9	F	3_2	3	99	
	3A&B	44.9	F	3_2	3	99	
	3A&B	42.8	F	3_2	3	99	
	3A&B	39.7	F	3_2	1	99	
	3A&B	44.1	F	3_2	1	99	Live Kill
	3A&B	48.5	M	3_2	2		
	3A&B	42.5	F	3_2	2	99	
	3A&B	43.0	F	3_2	1	99	Live Kill
	3A&B	43.5	F	3_2	2	99	

9D Louis Creek

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV.2	3	34.0	M	3_2	1		
	3	37.5	M	3_2	1		
NOV.5	3	38.0	M	3_2	1		Live Killed for Egg take:
	3	34.6	M	3_2	1		Louis Creek Project
	3	37.0	M	3_2	1		
	3	43.0	F	3_2	1		
	3	34.0	M	3_2	1		
	3	45.0	M	3_2	1		
	3	44.0	M	3_2	1		
	3	36.0	M	3_2	1		
	3	37.0	M	4_3	1		
	3	47.0	M	3_2	1		
	3	44.5	M	3_2	1		
	3	42.0	F	3_2	1		
	3	40.0	F	4_3	1		
	3	41.0	F	3_2	1		
	3	50.0	F	3_2	1		
	3	45.0	F	3_2	1		
	3	44.0	F	3_2	1		
	3	49.0	F	3_2	1		
	3	50.0	F	3_2	1		
	3	45.0	F	R	1		
	3	46.0	F	R	1		
	3	44.0	F	4_3	1		
	3	43.0	F	3_2	1		
	3	52.0	F	3_2	1		End of egg-take

9D Louis Creek (2)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
NOV. 12	1	43.0	M	3_2	2		
	1	34.3	M	3_2	3		
	1	36.2	M	3_2	2		
	1	42.3	M	3_2	2		
	1	37.5	M	3_2	1		
	1	41.5	M	3_2	2		
	1	48.1	F	3_2	2	99	
	1	36.4	M	3_2	1		
	1	36.1	F	3_2	1	99	
	1	39.1	M	3_2	2		
	1	43.5	F	R	3	99	
	1	50.1	F	3_2	2	99	
	1	38.8	F	3_2	2	99	
	1	44.3	M	3_2	2		
NOV. 27	3	39.8	M	3_2	1		
	3	42.9	M	R	1		
	3	44.3	M	3_2	2		
	3	42.4	M	3_2	2		
	3	41.8	F	3_2	2	99	
	3	39.4	M	3_2	3		
	3	46.9	M	3_2	2		
DEC. 3	3	34.7	M	R	2		
	3	37.2	F	3_2	1	99	
DEC. 5	1	43.3	M	3_2	2		
	1	44.0	M	3_2	2		
	1	38.5	F	3_2	3	99	

9D Louis Creek (3)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 5	1	42.0	F	R	3	99	
	1	44.2	F	3_2	2	99	
DEC. 6	5	44.2	F	3_2	2	99	
	5	44.9	F	3_2	3	99	
	5	45.5	M	3_2	3		
	5	39.6	F	3_2	2	99	
	5	39.0	F	R	3	99	
	5	37.2	M	3_2	2		
	5	44.4	F	3_2	2	99	
	5	46.3	F	3_2	3	99	
	5	41.2	F	3_2	1	99	live kill
	5	34.7	M	3_2	2		
DEC. 13	3	46.3	F	3_2	1	99	live kill
	3	37.9	F	3_2	3	99	
	4	45.2	F	3_2	3	99	
	4	39.3	M	3_2	3		
	4	40.2	F	3_2	1	99	
	4	47.1	F	3_2	2	99	

9E Albreda River

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 17	2	45.0	M	3_2	3		
	2	47.9	M	3_2	3		
	2	48.4	F	3_2	1	99	
	2	47.2	F	3_2	2	99	
	2	51.6	F	4_3	2	99	
	2	54.3	M	3_2	1		
	2	56.3	M	3_2	2		
	2	56.5	F	3_2	3	99	
	2	50.0	F	R	3	99	
	2	45.7	F	4_3	2	99	
	2	50.7	F	3_2	2	99	
	2	54.3	M	3_2	2		
	2	39.8	M	3_2	2		
DEC. 18	2	56.7	M	4_3	3		
	2	55.0	M	3_2	3		
	2	54.1	F	3_2	3	99	
	2	54.0	F	4_3	3	99	

9F Blue River

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
DEC. 3	2	53.4	M	3_2	1		
DEC. 8	2	51.3	M	3_2	1		
DEC.19	2	49.9	F	3_2	2	99	

9G Barriere River

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
Dec. 9	1	36.2	F	R	3	50	
		51.2	F	3_2	1	99	
		51.8	F	3_2	3	99	
		41.5	F	3_2	1	99	Live Kill
		46.4	F	3_2	1	99	Live Kill
Dec. 10		49.2	M	3_2	1		Live Kill
		42.0	F	3_2	1	99	Live Kill
Dec. 15		39.0	F	3_2	2	99	
		49.2	F	R	3	99	
		42.1	F	3_2	3	99	
		43.2	M	3_2	2		
		43.2	F	3_2	1	99	
Dec. 19		51.5	F	3_2	2	99	
		36.5	F	3_2	1	99	
		43.3	F	3_2	1	99	
		40.7	M	3_2	1		
		44.0	F	3_2	2	99	
		45.6	F	3_2	2	99	
		38.5	M	3_2	1		
		43.1	F	3_2	2	99	
		41.5	F	R	2	99	
		44.9	F	3_2	1	99	
		37.9	M	3_2	2		
Dec. 28		45.2	F	3_2	2	99	
		36.2	M	3_2	1		
		41.8	M	3_2	3		

9G Barriere River (2)

DATE	REACH	P.O.H.L.	SEX	AGE	FISH COND.	% SPAWNED	COMMENTS
Dec. 28	1	49.2	F	3_2	2	99	
		47.2	F	3_2	2	99	

APPENDIX 10

ESCAPEMENT TIMING

10 Timing of Spawning - Coho

	STREAM	SURVEY PARTY	ARRIVAL	START SPAWNING	PEAK SPAWNING	PEAK DIE-OFF	END SPAWNING
MAJOR SURVEY STREAMS	ALBREDA RIVER	S. F.O	Early Nov. Mid October	Mid - November Early November	Early December November 20	Mid - Late Dec.	Late Dec. Early Dec.
	BLUE RIVER	S. F.O	Early - Mid Nov. Mid - October	Late Nov./Early Dec. Early November	Late Dec./Early Jan. November 20	Early Mid Jan.	Mid Jan. Early Dec.
	LION CREEK	S. F.O	Mid September Mid October	Late September Early November	Early - Mid Nov. Mid November	Late November	Mid Late Jan. Early Dec.
	WIRE CACHE CREEK	S. F.O	Mid October	Late October	Early November		Mid Nov. Late Nov.
	LEMIEUX CREEK	S. F.O	Mid Oct.,Late Nov. Late October	Mid Nov, Mid Dec. Early November	Late Nov./Early Dec. November 20	Mid December	Late Dec. Early Dec.
	BARRIERE RIVER	S. F.O	Mid October	Early November	November 20		Mid Jan. Early Dec.
	LOUIS CREEK	S. F.O	Late August Early October	Late October	Mid November Early November		Late November
	COOK CREEK	S. F.O	Early October	Late October	Early November		Mid November
	CEDAR CREEK	S. F.O	Early October	Late October	Early November		Mid November
	FINN CREEK	S. F.O	Late October	Early November	Mid November		Late November
MINOR SURVEY STREAMS	RAFT RIVER	S. F.O	Early November	Mid November	Late November		Mid December
	MANN CREEK	S. F.O	Begin October	Early October	Late October		Early Nov.
	E. BARRIERE RIVER	S. F.O	Mid October	Late October	November 10		November 20
	HAGGARD CREEK	S. F.O	Late October	Early November	Mid November		Late November

F.O - Fishery Officer, S. - Current Survey

APPENDIX 11

SUMMARY RECOMMENDATIONS

11A Major Study Areas

STREAM	PROGRAM DESCRIPTION	DURATION
ALBREDA RIVER	Juvenile Production Study	April to June
	Habitat Inventory	April to June
	Biological Sampling of Adults and Disease Analysis	Nov. to Dec.
	Adult Reconnaisance	Oct. to Dec.
BLUE RIVER	Juvenile Production Study and Habitat Inventory	April to June
	Biological Sampling and Adult Reconnaisance	Oct. to Jan.
LION CREEK	Juvenile Production Study and Habitat Inventory	April to June
	Juvenile Tagging	July to August
	Adult Mark and Recovery and Disease Analysis	Sept. to Jan.
WIRE CACHE CREEK	Juvenile Production Study and Habitat Inventory	April to June
	Juvenile Tagging	July to August
	Adult Reconnaisance	Oct. to Dec.
LEMIEUX CREEK	Juvenile Production and Habitat Inventory	April to June
	Juvenile Tagging	July to August
	Adult Mark and Recovery, Disease Analysis and Water Quality	Oct. to Dec.
BARRIERE RIVER	Juvenile Production and Habitat Assessment	April to June
	Biological Sampling of Adults	Nov. to Dec.
LOUIS CREEK	Juvenile Production and Habitat Assessment	April to June
	Biological Sampling of Adults	Nov. to Dec.

11B Minor Study Areas

STREAM	PROGRAM DESCRIPTION	DURATION
THUNDER RIVER	Habitat Assessment	April
COOK CREEK	Habitat Assessment and Juvenile Production Stream Clearance Adult Reconnaisance	April to May September Oct. to Dec.
CEDAR CREEK	Habitat Assessment and Juvenile Production Adult Reconnaisance	April to May Oct. to Dec.
NORTH BLUE RIVER	Habitat Assessment and Juvenile Trapping Adult Reconnaisance (1-2 surveys)	April to May November
WHITE RIVER	Habitat Assessment and Juvenile Trapping Adult Reconnaisance (1-2 surveys)	April to May November
GOOSE CREEK	Juvenile Production and Habitat Assessment Adult Reconnaisance	April to June Oct. to Nov.
PEDDIE CREEK	Juvenile Production and Habitat Assessment Tagging of Juveniles Adult Reconnaisance	April to June July to August Nov. to Dec.
FINN CREEK	Juvenile Production and Habitat Assessment Adult Reconnaisance	April to June Oct. to Nov.
RAFT RIVER	Juvenile Production and Habitat Assessment Adult Reconnaisance	April to June Oct. to Dec.
BROOKFIELD CREEK	Adult Reconnaisance (1-2 surveys)	Oct. to Nov.
MANN CREEK	Juvenile Production and Habitat Assessment Stream improvement Program Adult Reconnaisance	April to June Aug. to Sept. Oct. to Nov.
HARPER CREEK	Juvenile Survey Stream improvement Program Adult Survey	May to July June or July Oct. to Nov.
E. BARRIERE RIVER	Juvenile Survey Biophysical Assessment Adult Survey	June to July Apr. and Nov. Oct. to Nov.
HAGGARD CREEK	Juvenile Survey Biophysical Assessment Adult Survey	June to July Apr. and Nov. Oct. to Nov.
McGILLIVRAY CREEK	Juvenile Survey Adult Survey	Aug. to Sept. Oct. - Nov.

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Thank you.

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