
**Reconnaissance (1:20,000 scale)
Fish and Fish Habitat Inventory in the
Tochcha Lake Watershed and
Select Tributaries to Babine Lake
(Tochcha Lake Planning Area)
WSC 480 to WSC 182-819600-63300-40900**

Prepared for:

Canadian Forest Products Ltd.
PO Box 158; 1397 Morice River Road
Houston, BC
V0J 1Z0

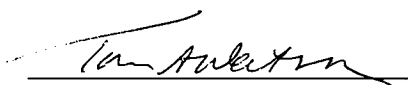
March 2003

Prepared by:

TRITON
ENVIRONMENTAL CONSULTANTS LTD.

#300 - 4546 Park Avenue
Terrace, BC Canada V8G 1V4
Tel: (250) 635-1494 Fax: (250) 635-1495

Report Reviewed by:



Tom Watson, Ph.D., R.P.Bio.

PROJECT REFERENCE INFORMATION

FDIS Project Number:	5271
MWLAP Project Number:	CNF_C172_010_2003
FIA Project Number:	FIA 2002-8
FIA Region:	Skeena-Bulkley Region
MWLAP Region:	06/07
MWLAP District:	Omineca- Peace / Skeena
FW Management Unit:	6-8, 7-27
Fisheries Planning Unit:	North Coast
DFO Sub-district:	4D/29I
Forest Region:	Prince Rupert
Forest District:	Morice
Forest Licensee and Tenure #:	Canadian Forest Products Ltd. TSA 20
First Nation Traditional Areas:	Wet'suwet'en First Nation, Burns Lake Band, Lake Babine, Broman Lake, Skin Tyee, Cheslatta, Sekanni- Carrier, Nee-Tahi-Buhn, Yekooche, Tl'azt'en Nak'azdli and Takla Lake

WATERSHED INFORMATION

Watershed Group:	Tochcha Lake and Babine Lake
Watershed Code:	182-819600-63300-40900 and 480-000000
UTM at Mouth:	10 309760 6100680 (Tochcha Lake)
Watershed Area:	1352.9 km ²
Total of All Stream Lengths:	2033.9 km
Stream Order:	5 th (largest)
NTS Maps:	93M/01, 93M/08, 93N/04, 93L/16, 93K/13, 93K/12
TRIM Maps:	93M.038, 93M.039, 93M.040, 93M.028, 93M.029, 93M.030, 93M.019, 93M.020, 93N.011, 93M.009, 93M.010, 93N.001, 93N.002, 93L.100, 93K.091, 93L.090, 93K.081, 93K.082, 93K.071, 93K.072, 93K.092
BGC Zones:	SBS, ESSF, AT

SAMPLE DESIGN SUMMARY

Total number of Reaches:	2763
Random Sampling Sites:	0
Biased Sampling Sites:	100
Fish Sampling Only Sites:	19
Total Sampling Sites:	119
Total Historical Sampling Sites:	365
Field Sampling Dates:	August 27 - October 8, 2002
Fish Species Captured During Survey:	RB, DV, CO, PCC, SU

CONTRACTOR INFORMATION

Project Manager:	Jason Harris, Fisheries Technician Triton Environmental Consultants Ltd. (Terrace) P.O. Box 88, Terrace, BC V8G 4A2 Courier: #300 - 4546 Park Avenue Terrace, BC V8G 1V4 (250) 635-1494 Fax (250) 635-1495 e-mail: jharris@triton-env.com
Field Crew:	J. Harris, J. Dorey, S. Giesbrecht, S. Hartman, D. Taft, J. Anaka.
Data Entry by:	S. Hartman
Report Prepared by:	S. Hartman
Report Edits by:	J. Dorey and J. Harris
GIS Services:	Triton Environmental Consultants Ltd. (Prince George) Technicians: K. Strong, S. Johal Courier: #201 - 1157 Fifth Avenue Prince George, BC V2L 2Y8 Phone: (250) 562-9155 Fax: (250) 562-9135

DISCLAIMER

"The Province has not accepted the contents of this product* for the purposes of the Forest Practices Code, and reserves the right to dispute the validity of summarized results. The province does not necessarily agree with the classification assigned to any individual stream reach, for use in logging plans, silviculture prescriptions or any other application."

* Product refers to the information detailed in the following pages of this report.

ACKNOWLEDGMENTS

Triton would like to thank John Brockley and Colin Johnston of Canadian Forest Products Ltd. and Todd Mahon of WildFor Consulting Ltd. for their assistance throughout the planning and field phases of this project. Paul Giroux (Ministry of Water, Land and Air Protection) for his guidance throughout the project.

TABLE OF CONTENTS

	Page
PROJECT REFERENCE INFORMATION	I
WATERSHED INFORMATION	I
SAMPLE DESIGN SUMMARY	II
CONTRACTOR INFORMATION	II
DISCLAIMER	III
ACKNOWLEDGMENTS	III
LIST OF TABLES	V
LIST OF FIGURES	VI
LIST OF APPENDICES	VI
LIST OF ATTACHMENTS AVAILABLE AT MWLAP REGIONAL OFFICE	VII
1.0 INTRODUCTION	1
1.1 Project Scope/Objectives	1
1.2 Location	1
1.2.1 Access	2
2.0 RESOURCE INFORMATION	4
2.1 Existing Fisheries Information	5
3.0 METHODS	6
3.1 Field Data Collection	7
3.1.1 Pre-Field Preparations	7
3.1.2 Field Procedures	7
3.2 Field Data Compilation	9
3.2.1 Site Cards	9
3.2.2 Fish Collection Cards	9
4.0 RESULTS AND DISCUSSION	9
4.1 Logistics	9
4.2 Survey Information	9
4.3 Fish Age, Size and Life History	10
4.3.1 Rainbow Trout	15
4.3.2 Dolly Varden	17
4.3.3 Coho Salmon	20
4.3.4 Kokanee Salmon	23
4.3.5 Mountain Whitefish	24
4.3.6 Northern Pikeminnow	24
4.3.7 Peamouth Chub	25
4.3.8 Prickly Sculpin	25
4.3.9 Redside Shiner	26
4.3.10 Slimy Sculpin	27
4.3.11 White Sucker	27
4.3.12 In-Stream Work Windows	28
4.4 Habitat and Fish Distribution	29
4.4.1 Barriers to Fish Distribution	31

4.5	Significant Features and Fisheries Observations	38
4.5.1	Fish and Fish Habitat	38
4.5.2	Habitat Protection Concerns	38
4.5.2.1	Fisheries Sensitive Zones.....	38
4.5.2.2	Fish above 20% Gradients	38
4.5.2.3	Restoration and Rehabilitation Opportunities.....	38
4.5.2.4	Unstable Slopes.....	44
4.6	Fish Bearing Status	44
4.6.1	Fish Bearing Reaches.....	44
4.6.2	Additional Sampling Recommendations	44
4.6.3	Non-Fish Bearing Status	74
5.0	STREAM CLASSIFICATION SUMMARY.....	99
6.0	REFERENCES	129

LIST OF TABLES

Table		Page
Table 1	Survey summary information.....	10
Table 2	Fish capture locations within the study area	11
Table 3	Rainbow trout life stages and requirements.....	16
Table 4	Dolly Varden life stages and requirements	19
Table 5	Coho salmon life stages and requirements.....	22
Table 6	Instream work windows for species captured within the Tochcha Lake planning area	28
Table 7	Features within the study area.....	32
Table 8	Crossings within the study area and recommendations for maintenance...40	
Table 9	Fish bearing reaches within the study area.....	45
Table 10	Additional sampling recommendations for the study area.....	71
Table 11	Non fish bearing reaches within the study area.....	75
Table 12	Stream sampling summary.....	100

LIST OF FIGURES

Figure		Page
Figure 1	Study area location map	3
Figure 2	Length frequency distribution for rainbow trout.....	17
Figure 3	Photo of two adipose clipped coho salmon.....	23
Figure 4	Length frequency distribution for prickly sculpin.....	26
Figure 5	Length frequency distribution for redbreasted sunfish	27
Figure 6	Gradient vs width relationship for sampled streams.....	30

LIST OF APPENDICES

Appendix I	Reach Cards/Site Cards/Fish Collection Forms and Photographs
Appendix II	Phase Completion Reports
Appendix III	Quality Assurance Forms and Correspondence
Appendix IV	Phase I-III Project Plan (with attachments)
Appendix V	Project/Interpretive Maps

LIST OF ATTACHMENTS AVAILABLE AT MWLAP REGIONAL OFFICE

Attachment I	Planning Document Triton Environmental Consultants Ltd., 2002. Phase I-III Pre-field Project Planning Report Reconnaissance (1:20,000) Fish and Fish Habitat Inventory in selected tributaries within the Tochcha and Morice Planning Areas. Prepared for Canadian Forest Products Ltd.
Attachment II	Field Notes Site Cards/Fish Collection Forms
Attachment III	Fish Ageing Structures (Not applicable for this area)
Attachment IV	Photo Documentation Photo Summary Report Photo CD Prints in Plastic Sleeves Negatives in Plastic Sleeves
Attachment V	Digital Data Watershed Report Files FDIS Files Mapping Files
Attachment VI	FISS Update Data FISS Update Forms FISS Update Maps

1.0 INTRODUCTION

Triton Environmental Consultants Ltd. (Triton, Terrace) was retained by Canadian Forest Products Ltd. (Canfor) to conduct a Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory in Canfor's Tochcha Lake planning area, which is located within the Morice Timber Supply Area (T.S.A. 20).

This project commenced as a result of Ministry of Water, Land and Air Protection (MWLAP) initiatives to gather information about fish distribution, population status, and the condition and capability of stream habitats (Resource Inventory Committee, 2001). Forest Investment Account (FIA) funding and MWLAP supervision facilitated the commencement of this sample-based survey of the sub-basins outlined within the study area. The inventory provides information regarding the characteristics, the distribution and the relative abundance of fish species, as well as information on biophysical lake and stream data. This information can be used for the interpretation of habitat sensitivity and fish production capability (Resource Inventory Committee, 2001). The results of the inventory may be applied to initial Riparian Management Area (RMA) and lake classification under the Forest Practices Code for forest development planning, watershed restoration, and for the establishment of some landscape-level biodiversity objectives (Resource Inventory Committee, 2001).

1.1 Project Scope/Objectives

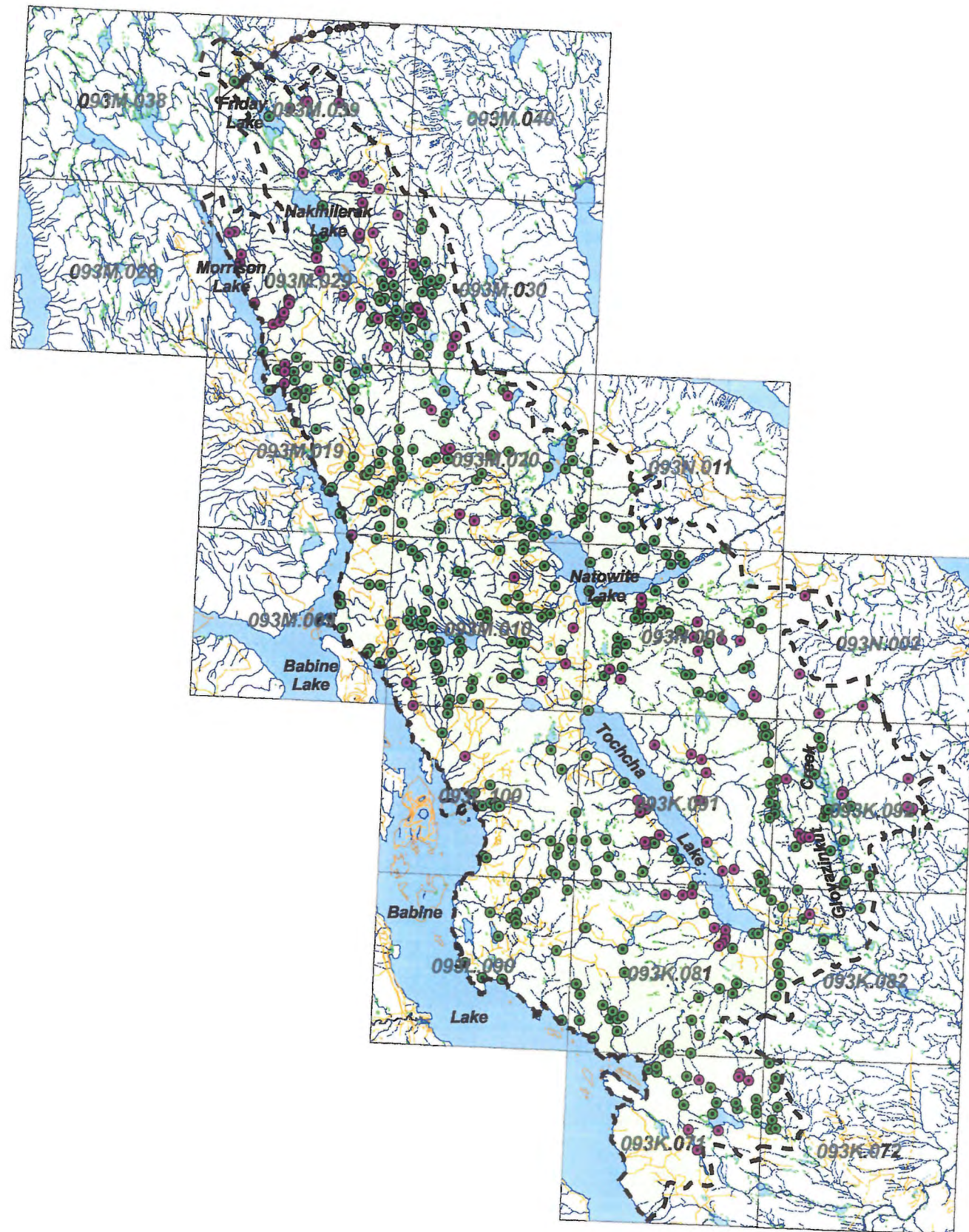
Fish and fish habitat values were the primary components of the inventory:

- Fish
 - Identify and map fish-bearing stream reaches and lakes using existing information and new field information (field inventory).
- Fish Habitat
 - Identification and coding of all waterbodies.
 - Identification and characterization of stream reaches utilizing topographic maps and aerial photographs, with confirmation via field sampling.

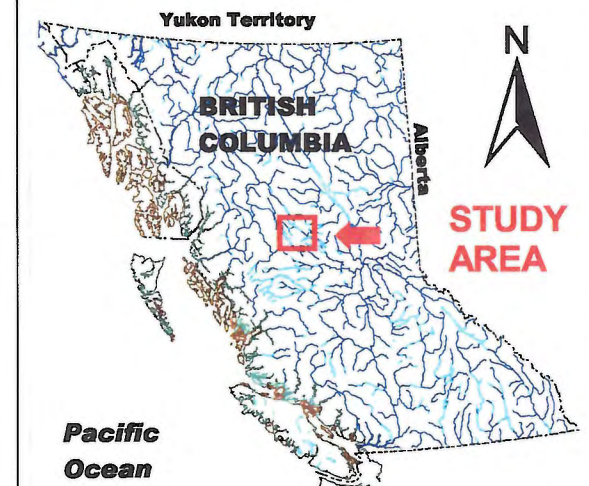
The results of the inventory are presented on 1:20,000 scale Terrain Resource Information Management (TRIM) based maps, Field Data Information Summary (FDIS) data forms, and in the body of this report.

1.2 Location

Canfor's Tochcha Lake planning area is located to the east of Topley Landing, BC and is comprised of two main 5th order drainages and extends over 72 km south from Friday Lake to Gloyazikut Creek (Tochcha Lake). The Tochcha Lake planning area also includes tributaries entering the east side of Babine Lake and Morrison Lake from "unnamed" stream (WSC 480-751800) to "unnamed" stream (WSC 480-598800-93600).



Reconnaissance (1:20,000)
Fish and Fish Habitat Inventory
Tochcha Lake Planning Area
Overview Map
Figure 1



Legend

- Sample Site
- Historical Sample Site
- Gravel
- Rough
- Paved
- River/Stream
- Marsh
- Swamp
- Glacier/Icefield
- Lake
- Project Boundary

1: 350,000

5 0 5 Kilometers

Source: 1:20,000 TRIM Projection: UTM

Date: January 15, 2003
Created by: KS

TRITON
ENVIRONMENTAL CONSULTANTS LTD.

The study area is situated in the northern portion of the Sub-boreal Interior Ecoprovince of British Columbia. The Sub-boreal Eco-province extends northwest from the low lying Nechako Plateau and the southern portion of the Rocky Mountain Trench, east to include the Skeena and Omineca Mountains as well as the Hart Ranges, and south to the Muskwa and McGregor Ranges (Demarchi, 1996; Holland, 1976). The watershed lies in the Babine Upland Ecosection which is characterized by rolling uplands with low ridges and large lakes in the depressions (Campbell *et al.*, 1990). The Tochcha Lake planning area is approximately 1352.9 km² and covers 21 TRIM map sheets (Figure 1).

The biogeoclimatic zonation for the study area is Sub-Boreal Spruce (SBS) and Engelmann Spruce Subalpine Fir (ESSF) (Meidinger & Pojar, 1991).

1.2.1 Access

Topley Landing is the largest community located near the study area (Figure 1). Sampling sites within the watershed were accessed by both road and air. In watersheds where road access was unavailable transportation was provided out of Houston by Westland Helicopters' Bell Jet Ranger helicopters.

Directions from Topley Landing to major drainages and sample locations within the study area are as follows:

Northern "unnamed" tributaries to Babine Lake

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn left onto the Jinx Mainline.
- Drive 7 km north on the Jinx Mainline and then turn left onto the Hagan Forest Service Road (FSR).
- Sample sites were accessed from the Hagan FSR and several secondary spur roads.

Northern "unnamed" tributaries to Morrison Lake

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn left onto the Jinx Mainline.
- Drive 7 km north on the Jinx Mainline and then turn left onto Hagan FSR.
- Drive ~30 km north on the Hagan FSR and then turn right onto Booker FSR.
- Sample sites were accessed from the Booker FSR and several secondary spur roads.

Big Loon Creek

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn right onto the Wright Bay FSR.
- Sample sites were accessed from the Wright Bay FSR and several secondary spur roads.
- Big Loon Creek is located ~16 m down the Wright Bay FSR.

Nizik Creek

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn left onto the Jinx Mainline.
- Drive 18.5 km north on the Jinx Mainline (stay right at 7 km) and turn left onto the Nizik FSR
- The Nizik FSR can be used to access the southern and northern portions of the Nizik Lake area.

Gloyazikut Creek and southern “unnamed” tributaries to Tochcha Lake

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then right onto Nose Bay FSR.
- The Nose Bay FSR and several secondary roads can be used to access Gloyazikut Creek and “unnamed” tributaries in the southern portion of Tochcha Lake.

Hautête Creek and northern “unnamed” tributaries to Tochcha Lake

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn left onto the Jinx Mainline.
- Drive 27 km northeast on the Jinx Mainline and then turn right onto the Hautête Mainline.
- Drive 2 km north on the Hautête Mainline. Turn right onto Natowite Mainline for access to sampling sites around the Natowite Lake area. Stay on the Hautête Mainline for access to the Hautête Creek sampling area.

“Unnamed” tributaries to Tochcha Lake

- From Topley Landing take the Canfor barge northeast across Babine Lake.
- Drive 2.5 km northeast on the barge road and then turn left onto the Jinx Mainline.
- Drive 19 km or 23 km on the Jinx Mainline. Turn right onto West Tochcha Mainline at 19 km or turn right onto the Descius Mainline at 23 km.
- The West Tochcha Mainline along with secondary roads can be used to access “unnamed” tributaries flowing into the west side of Tochcha Lake.
- The Descius Mainline along with secondary roads can be used to access “unnamed” tributaries flowing into the east side of Tochcha Lake.

2.0 RESOURCE INFORMATION

Resource values within the SBS and ESSF biogeoclimatic zones include forest harvesting, outdoor recreation, tourism and mining. Canfor has current logging operations within the study area. Most of the SBS and ESSF have low capability for agriculture due to adverse climate, topography, bedrock, stoniness or poor drainage (Meidinger & Pojar, 1991). Fur harvest from this zone is among the highest in the province (Meidinger & Pojar 1991).

First Nation traditional fishing grounds of the Wet'suwet'en First Nation, Burns Lake Band, Lake Babine, Broman Lake, Skin Tyee, Cheslatta, Sekanni-Carrier, Nee-Tahi-Buhn, Yekooche, Tl'azt'en Nak'azdli and Takla Lake lie in and adjacent to the study area (Government of British Columbia, Treaty Negotiations, 2002).

Canfor's chart area (TSA 20) lies within the study area. Road maintenance, active log hauling, and logging was being conducted within the study area during the inventory. Canfor is actively participating in Forest Development Planning and Land Use planning of the forest lands in and adjacent to the study area.

A de-activated open-pit copper mine previously operated on an island situated in Babine Lake was visually observed during the project. It was at this mine that workers unearthed a partly articulated skeleton of a Columbian mammoth (The Canadian Museum of Nature Online, 2002). A marine provincial park also exists on Babine Lake (Pendleton Bay Campground). In addition, two prospective mines (Morrison and Hearne Hill) are also located within the study area (EMCBC, 2002). Explorative drilling at these locations were observed by field crews during 2002 sampling. No water quality data specific to the streams within the study area were identified.

Babine Lake is important recreationally, as it offers excellent fishing and boating opportunities. Babine Lake is the principal sockeye salmon (*Oncorhynchus nerka*) lake of the Skeena River system, which supports the second largest sockeye run in British Columbia. Fisheries and Oceans Canada (FOC) maintains and operates a fish counting fence and two spawning channels at the mouth of the Fulton River, which is adjacent to the study area. These spawning channels are the single biggest sockeye producer within the Babine Lake watershed (Groot & Margolis 1991). Rainbow trout (*O. mykiss*), also present in the Babine watershed, make Babine Lake important to anglers and businesses supported by fishing (Scott & Crossman 1985). In addition, the surrounding forested areas are used for hunting, hiking, snowmobiling, camping, and cross-country skiing (Meidinger & Pojar, 1991).

The study area, located within the Sub-Boreal Interior Ecoprovince supports moose (*Alces alces*), caribou (*Rangifer tarandus*), mule deer (*Odocoileus hemionus hemionus*), whitetail deer (*O. virginianus*) and mountain goat (*Oreamnos americanus*) habitats. In addition, black bear (*Ursus americanus*), cougars (*Felis concolor*), coyotes (*Canis latrans*), wolf (*C. lupis*), fisher (*Martes pennanti*), and lynx (*Lynx canadensis*) are widely distributed throughout the ecoprovince. Common herptiles and amphibians include the western garter snake (*Thamnophis elegans*), the spotted frog (*Rana pretiosa*) and the western toad (*Bufo boreas*) (Campbell *et al.*, 1990).

2.1 Existing Fisheries Information

Fisheries Information Summary System (FISS) records indicate that chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), pink salmon (*O. gorbuscha*), kokanee/sockeye salmon (*O. nerka*), steelhead (*O. mykiss*), rainbow trout (*O. mykiss*),

cutthroat trout (*O. clarki*), lake trout (*Salvelinus namaycush*), Dolly Varden (*S. malma*), largescale sucker (*Catostomus macrocheilus*), longnose sucker (*C. catostomus*), white sucker (*C. commersoni*), lake chub (*Couesius plumbeus*), lake whitefish (*Coregonus clupeaformis*), northern pikeminnow (*Ptychocheilus oregonensis*), peamouth chub (*Mylocheilus caurinus*), redbase shiner (*Richardsonius balteatus*), longnose dace (*Rhinichthys cataractae*), mountain whitefish (*Prosopium williamsoni*), pygmy whitefish (*P. coulteri*), prickly sculpin (*Cottus asper*), slimy sculpin (*C. cognatus*) and burbot (*Lota lota*) are present in the Tochcha Planning Area (BC Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 1995).

A number of lake surveys were conducted during the summer of 1996 in the Tochcha study area. A survey of two unmaned lakes (WSC 182-8196-633-409-976-02 and WSC 182-8196-633-409-976-03) flowing into Hautête Creek identified ten species of fish residing in each lake: lake trout, kokanne, mountain whitefish, rainbow trout, northern pikeminnow, prickly sculpin, redbase shiner, longnose sucker, coarsescale sucker (*C. macrosheilus*) and peamouth chub (DeGisi and Schell, 1996a and 1996b). A survey of an unnamed lake (WSC 182-8196-633-409-638-01) that drains into Natowite Lake identified three species of fish: rainbow trout, longnose sucker and lake chub (DeGisi and Schell, 1996).

The fish species identified from existing sources were placed in the Field Data Information System (FDIS) database for this project and mapped according to Resource Inventory Committee (RIC) standards for historical information.

MWLAP (Region 6) stream and lake files located in the Smithers regional office were reviewed during Phase 1 and found to support the FISS information for the study area.

3.0 METHODS

The Reconnaissance (1:20,000 Scale) Fish and Fish Habitat Inventory was completed in the following six phases:

- Phase 1: Existing Data Review
- Phase 2: Map and Air Photo Analysis
- Phase 3: Sampling Design and Project Plan
- Phase 4: Field Data Collection
- Phase 5: Data Compilation
- Phase 6: Report and Map preparation.

The methods employed for each phase of the project followed those outlined in the *Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures*,

April 2001 (Resource Inventory Committee, 2001). Alterations were made to the project plan in Phase 4 and are outlined in the sections below.

3.1 Field Data Collection

The following sections describe the methods and approaches taken to complete field sampling and data collection.

3.1.1 Pre-Field Preparations

The stream reaches inventoried were biased sites identified by Canfor and Triton. Biased sites were selected by Colin Johnston (Canfor) and Triton (Terrace) to address gaps in the RFFHI inventory data that had been previously collected within the Tochcha Lake planning area (Triton 1998, 1999a, 1999b, 1999c, 1999d). Todd Mahon (FIA Coordinator) and Triton (Terrace) reviewed the final sample sites that were incorporated into the contract to ensure they met the requirements of Canfor, MWLAP and the FDIS planning model. Required fish collection permits were obtained from MWLAP and FOC prior to the commencement of field activities.

3.1.2 Field Procedures

All sampling procedures followed those outlined in the *Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures, April 2001* (Resource Inventory Committee, 2001) and the *Forest Practices Code Fish Stream Identification Guidebook*, (BC Forest Practices Code, 1998).

Two person field crews conducted the fieldwork. In watersheds where road access was available, the crews used 4X4 pick-up trucks. In watersheds where road access was unavailable transportation was provided out of Houston by Westland Helicopters' Bell Jet Ranger helicopters.

Field data were recorded on RIC field site cards and fish collection forms. Fish sample sites were used to collect additional information about fish species composition and to confirm fish distribution within the study area. Fish sample sites only recorded the information listed on the RIC fish collection forms. In addition, the following information was collected at each random or bias sample site and was recorded in the comments section of the site card:

- Stream classification,
- Comments supporting stream classification,
- Comments regarding fish access (i.e. downstream barriers), and
- General comments regarding rearing, spawning and overwintering habitats were also included in the Habitat Quality section of the site card.

Prior to the commencement of field activities each crew was equipped with the following:

- Smith-Root Model 12A backpack electrofisher
- Electrofisher safety gear (leak proof waders, wading belts, Linesman's gloves, hat with a brim, polarized sunglasses)
- Minnow traps and bait
- Backpacks
- Clinometer
- Compass
- Hip chain
- 50 m tape
- Meter stick
- VHF radio
- Garmin handheld GPS unit
- First aid kit
- Water quality kit (hand held pH and conductivity meters)
- Thermometer
- Canon waterproof camera and print film
- Voucher specimen container
- MELP Site cards
- MELP Fish collection forms
- MELP Individual fish data cards
- Field maps

Fish sampling within stream reaches was conducted using three primary sampling techniques: electrofishing, minnow trapping, and visual observation. Electrofishing is the most efficient method of sampling shallow stream habitats and was the preferred sampling method for all habitat types in small streams. In these habitats and where using an additional sampling method would not provide additional information (i.e. species, relative abundance), it was the only fish sampling technique employed. In a few cases, minnow traps baited with salmon roe were employed in streams of greater depth and in ponded habitats. Visual observation was also used when other methods failed to catch fish or fish sampling was not practical (spawning fish). A combination of techniques was employed where the use of only one method would not have effectively sampled all habitats and in areas that were not suited to electroshocking (deep pools, wetlands, etc.). Where appropriate, and where return visits were practical, minnow traps baited with salmon roe were set and allowed to soak for a 24-hour period.

3.2 Field Data Compilation

Following each field day, field crews met to compile field notes, review field data and summarize the field findings onto hard copy maps. This system ensured that all information was thoroughly documented, allowing for preliminary stream classifications and changes to the sampling plan. In most cases sites downstream of known fish bearing reaches were moved to reduce sampling redundancy, address potential barriers, identify species composition, establish fish distribution and provide additional sampling data.

3.2.1 Site Cards

Site Cards and Reach forms were entered into MWLAP's FDIS database following the completion of the Phase 4 field inventory. Hard copy versions of the Reach/Site Cards are presented in Appendix I.

3.2.2 Fish Collection Cards

The Fish Collection Cards were entered into MWLAP's FDIS database following the completion of the Phase 4 field inventory. Hard copies of the Fish Collection Forms are presented in Appendix I following the Reach/Site cards.

4.0 RESULTS AND DISCUSSION

4.1 Logistics

Weather conditions were variable over the field sampling dates. A total of 23 out of 119 sampled sites were classified as dry/intermittent for sampling conducted in 2002. Poor driving conditions were encountered on secondary roads and crews often had to use winches to make it through muddy sections of road. The lack of a developed road network in some areas, combined with a lack of drivable roads throughout the project area were the biggest obstacles for using vehicles to access sample sites. The majority of sample sites were accessed by helicopter. No sites were dropped from the sample plan due to lack of access.

4.2 Survey Information

Table 1 provides an overview of the survey information compiled for the Tochcha Lake planning area.

Table 1. Summary Survey Information for the Study Area.

Major Watershed Code:	182-819600-63300-40900 (Sakeniche River) 480-000000 (Babine River)
Watershed Name:	Tochcha Lake Planning Area
Drainage:	Friday Lake → Hautête Creek → Hautête Lake → Hautête Creek → Natowite Lake → Sakeniche River → Takla Lake → Middle River → Stuart Lake → Stuart River → Nechako River → Fraser River → Pacific Ocean Gloyazikut Creek → Tochcha Lake → Unnamed Creek → Natowite Lake → Sakeniche River → Takla Lake → Middle River → Stuart Lake → Stuart River → Nechako River → Fraser River → Pacific Ocean Morrison Lake → Babine Lake → Babine River → Skeena River → Chatham Sound
NTS Maps:	93M/01, 93M/08, 93N/04, 93L/16, 93K/13, 93K/12
TRIM Maps:	93M.038, 93M.039, 93M.040, 93M.028, 93M.029, 93M.030, 93M.019, 93M.020, 93N.001, 93M.009, 93M.010, 93N.001, 93N.002, 93L.100, 93K.091, 93L.090, 93K.081, 93K.082, 93K.071, 93K.072, 93M.010, 93N.001, 93M.040, 93M.028, 93M.029, 93M.030, 93K.092
Total Number of Lakes:	133
Total Number of Reaches:	2763
Stream Field Sampling Dates:	August 27 - October 8, 2002
Number of Random Sites Sampled:	0
Number of Bias Sites Sampled:	100
Number of Fish Sampling Sites:	19
Total Number of Sampling Sites:	119
Total Number of Historical Sampling Sites:	365

4.3 Fish Age, Size and Life History

Fish were captured in 106 of 484 sampling locations (current and historical data, historical data is shown in green in Tables and on maps) within the Tochcha Lake planning area. Sampling during the 2002 field season captured fish at 26 of 119 locations. Table 2 provides a summary of the reaches in which fish were captured for all the sampling periods (current and historical). Coho salmon, kokanee, rainbow trout, Dolly Varden, northern pikeminnow, redbside shiner, peamouth chub, mountain whitefish, white sucker, prickly sculpin and slimy sculpin were captured in the study area (Triton 1998, 1999a, 1999b, 1999c and 1999d).

As requested in the project plan a complete life history of each salmonid fish species captured within the study area along with capture locations, age information and length-frequency distributions are provided in the sections below. For other fish species captured, a brief life history description as well as a length frequency distribution histogram is included where appropriate. Quantitative abundance figures were not generated for this study, as sampling methods to determine abundance were not utilized.

Table 2. Fish capture locations within the study area.

Site	ILP	Reach	Order	Species	Stage	Number	Minimum Length (mm)	Maximum Length (mm)
A12	1441	3	2	RB	F	4	34	48
A14	1447	1	3	RB	F	11	34	52
A17	1752	6	2	RB	F	1	32	32
A17	1752	6	2	RB	A	1	123	123
A110	1484	1	1	RB	J	1	46	46
A120	1283	1	2	RB	J	1	63	63
A130	1743	2	3	RB	J	1	123	123
A199	2066	2	1	RB	A	6	160	180
A1102	2290	5	2	RB	J	4	78	116
B134	2369	1	1	RSC	J	4	32	49
B134	2369	1	1	RSC	J	9	22	36
B135	2354	1	4	RB	A	1	120	120
B135	2354	1	4	RSC	J	2	19	23
B135	2354	1	4	WSU	J	10	39	47
B135	2354	1	4	CAS	J	14	27	66
B139	2406	1	3	CAS	A	5	44	53
B170	1537	4	3	RB	J	4	35	41
B170	1537	4	3	RB	A	13	61	150
B174	1524	2	2	RB	J	3	48	53
B175	1524	3	2	RB	A	1	176	176
B1505	2174	3	3	RB	J	6	50	100
B1508	2151	7	3	RB	J	1	80	80
B1508	2151	7	3	RB	F	1	40	40
B1516	2354	4	4	RB	F	5	50	60
B1516	2354	4	4	RB	J	2	70	80
B1517	2354	5	4	RB	F	1	40	40
B1519	2210	1	3	RB	J	2	100	110
B1524	2151	10	3	RB	J	2	90	90
B1535	2350	5	3	RB	A	2	110	110
B1540	1349	3	3	RB	J	1	80	80
B1540	1349	3	3	RB	F	4	50	50
B1543	1361	2	2	RB	J	2	80	80
B1544	1361	3	2	RB	J	8	70	80
B1567	2151	1	3	RB	J	5	70	80
B1576	1242	1	4	RB	F	8	30	40
B1576	1242	1	4	RB	J	10	50	80
B1602	1242	6	2	RB	A	3	150	190
B1616	1866	3	3	RB	J	50	80	115
B1619	1537	5	3	RB	J	1	120	120
B1701	2174	3	3	RB	F	3	30	40
B1701	2174	3	3	RB	J	2	50	70
B1701	2174	3	3	RB	A	7	100	300
B1702	2174	4	3	RB	A	5	105	215
B1702	2174	4	3	RB	J	2	70	90
B1704	1347	3	3	DV	A	4	110	200
B1705	1347	4	3	DV	A	6	150	300
B1712	1349	4	3	RB	A	5	150	300
B1719	2213	1	2	RB	A	6	175	250
C11001	1495	1	5	RB	J	2	75	85

Table 2. Fish capture locations within the study area.

Site	ILP	Reach	Order	Species	Stage	Number	Minimum Length (mm)	Maximum Length (mm)
C11007	1450	12	2	CC	J	1	NS	NS
C11014	1495	1	5	SU	A	1	160	160
C11014	1495	1	5	CC	J	1	80	80
C11014	1495	1	5	RSC	J	3	68	75
C11014	1495	1	5	RB	F	1	35	35
C11018	1778	1	1	RB	F	2	65	67
C11020	1771	1	2	RB	F	3	40	45
C11020	1771	1	2	RSC	F	50	35	35
C11021	1742	3	3	RB	J	15	60	124
C11021	1742	3	3	RB	F	17	50	63
C11025	1801	4	5	RB	J	4	120	150
C11025	1801	4	5	NSC	F	2	45	50
C11025	1801	4	5	KO	A	20	NS	NS
C11027	1801	15	4	RB	J	1	85	85
C11028	2075	1	4	RB	J	1	80	80
C11029	2104	2	1	RB	J	2	80	95
C11029	2104	2	1	RSC	J	3	75	75
C11035	1742	10	3	RB	J	3	84	89
C11035	1742	10	3	RB	F	2	50	52
C11041	1801	13	5	RB	J	12	75	120
C11041	1801	13	5	RB	F	100	40	65
C11042	2290	4	2	RB	F	3	45	60
C11042	2290	4	2	RB	J	3	70	85
C11042	2290	4	2	RB	A	1	150	150
C11043	1276	3	4	RB	F	40	NS	NS
C11043	1276	3	4	RB	J	3	79	81
C11043	1276	3	4	RB	A	1	129	129
C11044	1455	1	3	RB	J	17	70	95
C11044	1455	1	3	RB	F	32	43	68
C11051	1933	1	3	RB	J	1	120	120
C11090	1485	1	2	RB	J	13	74	130
C11090	1485	1	2	RB	F	4	55	60
C12002	1495	27	2	RB	J	2	122	122
C12002	1495	27	2	RB	F	1	70	70
C12004	1495	16	5	CC	J	2	55	60
C12004	1495	16	5	RB	J	2	110	130
C12004	1495	16	5	SU	A	2	106	122
C12004	1495	16	5	CC	A	2	100	120
C12004	1495	16	5	RSC	J	2	58	65
C12004	1495	16	5	RSC	A	7	75	90
C12004	1495	16	5	KO	A	100	NS	NS
C12004	1495	16	5	NSC	A	2	115	151
C12013	1495	4	5	MW	J	1	87	87
C12013	1495	4	5	SU	F	1	55	55
C12013	1495	4	5	RSC	F	1	49	49
C12013	1495	4	5	RSC	J	5	71	75
C12013	1495	4	5	RSC	A	5	82	100
C12013	1495	4	5	RB	F	2	52	54
C12013	1495	4	5	RB	J	5	96	115

Table 2. Fish capture locations within the study area.

Site	ILP	Reach	Order	Species	Stage	Number	Minimum Length (mm)	Maximum Length (mm)
C12015	1452	2	1	RB	F	2	48	48
C12017	1594	2	3	RB	F	10	45	53
C12017	1594	2	3	RB	J	12	65	145
C12023	1744	1	2	RB	J	4	60	80
C12030	1742	1	4	RB	F	7	40	55
C12030	1742	1	4	CAS	J	2	68	82
C12030	1742	1	4	RB	J	11	40	105
C12030	1742	1	4	RB	A	1	210	210
C12031	1500	1	2	RB	F	4	50	65
C12031	1500	1	2	RB	J	5	65	110
C12032	1801	16	4	RB	F	3	42	42
C12032	1801	16	4	RB	J	8	60	130
C12033	2052	1	3	RB	J	1	90	90
C12033	2052	1	3	RB	F	3	40	42
C12034	2127	2	3	RB	A	1	190	190
C12046	1455	1	3	RB	F	4	40	46
C12046	1455	1	3	RB	J	2	92	105
C12114	2316	1	2	RB	J	3	60	110
C12114	2316	1	2	RB	F	9	35	55
C12120	1276	7	3	RB	J	6	115	205
E155	1686	1	2	RB	J	3	42	86
E163	1611	5	4	RB	A	9	72	181
E181	1642	7	2	RB	A	1	120	120
F1302	2298	5	3	RB	J	1	120	120
F1527	2298	2	3	RB	J	2	70	70
F1527	2298	2	3	RB	A	1	130	130
F1548	1416	3	2	RB	J	2	70	80
F1548	1416	3	2	RB	F	10	40	60
E1557	1642	2	3	RB	F	16	50	60
E1601	1676	1	2	RB	J	6	45	60
E1608	1618	2	2	RB	J	3	82	90
F1610	1412	1	2	RB	J	2	65	74
F1611	1406	5	3	RB	J	6	93	136
F1622	1406	9	3	RB	J	12	100	200
F1715	1412	4	2	RB	A	5	160	285
T02-ST2	1183	1	2	RB	J	1	150	150
7	2358	2	3	RB	J	2	100	150
15	1948	1	2	RB	J	2	120	135
18	2009	1	3	RB	J	7	75	110
22	2251	1	3	RB	J	8	135	162
28	1989	3	2	RB	J	15	80	150
31	1990	1	2	RB	J	15	48	95
32	1450	11	2	RB	J	3	105	140
32	1450	11	2	PCC	A	5	130	185
36	1119	3	3	RB	J	16	65	140
38	1429	2	1	RB	J	1	65	65
57	1296	3	3	RB	J	7	70	110
67	2052	2	3	RB	J	2	150	170
72	1757	3	1	RB	J	12	65	95

Table 2. Fish capture locations within the study area.

Site	ILP	Reach	Order	Species	Stage	Number	Minimum Length (mm)	Maximum Length (mm)
357	1231	1	3	RB	J	5	72	92
358	1231	2	3	RB	J	2	135	165
361	1204	1	4	RB	J	3	45	115
361	1204	1	4	SU	F	3	15	20
363	1398	4	2	RB	J	2	70	140
367	1432	5	2	RB	J	1	150	150
369	1520	1	3	DV	J	1	140	140
372	1877	2	2	RB	J	1	90	90
372	1877	2	2	RB	J	1	110	110
372	1877	2	2	RB	F	1	36	36
373	1594	5	2	RB	J	2	130	145
579	1792	1	2	RB	J	1	75	75
580	1763	1	3	RB	J	5	70	90
620	1224	1	2	CO	J	10	60	70
627	1155	6	3	RB	A	2	110	110
629	1155	5	3	RB	A	2	120	130
632	1022	4	4	RB	F	5	40	40
632	1022	4	4	RB	J	5	70	80

CO = coho

CAS = prickly sculpin

CC = slimy sculpin

DV = Dolly Varden

KO = kokanee

LKC = lake chub

MW = mountain whitefish

NSC = Northern pikeminnow

PCC = peamouth chub

RB = rainbow trout

RSC = redbside shiner

WSC = white sucker

A = adult

F = fry

J = juvenile

4.3.1 Rainbow Trout



Illustration by C. Groot from Pollard, W.R., G.F. Hartman, C. Groot, and Phil Edgell. 1997. Field Identification of Coastal Juvenile Salmonids. Harbour Publishing, PO Box 219, Madeira Park, BC, Canada, V0N 2H0.

Life History

There are two forms of rainbow trout, the anadromous form (moving from salt water to fresh water spawn), commonly referred to as steelhead and the non-anadromous form (remain in freshwater), commonly referred to as rainbow trout (Ford *et al.*, 1995).

Rainbow trout can be a stream dwelling or lake-resident population. Sexual maturity for rainbow trout is reached in 3-5 years (Scott and Crossman, 1973). Rainbow trout spawn from mid-April to late June in tributary streams (or inlets/outlets of their lakes) with fine gravel substrates and riffle/pool morphology (Lindsey *et al.*, 1959; Hartman *et al.*, 1962). Spawning temperature for rainbow trout has been reported to range from 7.2 to 13.3 °C, with the optimal temperature being 11°C (Hooper, 1973; Walburg *et al.*, 1981).

The young emerge from the gravel in the summer and usually migrate into rearing areas of streams or lakes in the first year (Ford *et al.*, 1995). Adequate instream and overstream cover is important for rainbow trout production as it provides resting areas and refuge places from predators (Ford *et al.*, 1995). The diet for rainbow trout generally consists of invertebrates (plankton and crustaceans), insects, snails, leeches, salmon eggs and once mature, rainbow trout may prey on other fish as part of their feeding behavior (Scott and Crossman, 1973).

Life stage, activity, timing and specific habitat requirements for stream dwelling and lake-resident rainbow trout are presented in Table 3.

Table 3. Rainbow Trout Life Stages and Requirements.

Stage	Activity	J	F	M	A	M	J	J	A	S	O	N	D	Habitat Requirements
Egg / Fry	incubation of the eggs (~28 to 40 days)													Gravel substrate with minimal fines, typically in pool tail-outs.
	hatching of the eggs													Remain in gravel/cobble substrate until yolk sac is absorbed.
	emergence of the fry from the gravel after yolk sac is absorbed (~7 to 14 days)													Fry will often hold in schools along stream margins.
Juvenile / Immature	young rear in natal stream													Juveniles will often occupy margins of riffle and boulder areas.
	outmigration of juveniles to lake or mainstem													
	Rearing (growth and maturation) of immature fish (1 to 3 years)													Rearing habitat (during summer months) consists of undercut banks, instream and overstream vegetation. Overwintering habitat (during winter months) consists of large deep pools, wetlands and lakes.
Adult / Mature	Migration to spawning sites													Tributary streams, larger mainstems, inlets/outlets of lakes.
	Spawning													Spawn in pool tail-outs with gravel substrates and moderate flows.

Information for this table was collected from Ford *et al.*, 1995, page 42.

	Months for initial development
	Months for juvenile development
	Months for general growth and maturation
	Months for spawning activity

Locations within the Study Area

Rainbow trout were captured throughout the Tochcha Lake planning area. During this survey rainbow trout were found to utilize small (0.78-5 m) to moderately large streams (5-18.41 m), which have moderate flows (0.08-0.30 m/s), gravel substrates, and riffle pool morphology. The high occurrence (~90%) of fry and juveniles (29-149 mm) captured and a low occurrence (~10%) of adults (>150 mm) captured, suggests that rainbow trout adults utilize these moderate size streams for spawning then return to lakes or large systems (5th order or larger) for rearing. The juveniles are left to rear in these moderately sized streams until they are large enough to make a downstream migration to

Illustration by C. Groot from Pollard, W.R., G.F. Hartman, C. Groot, and Phil Edgell. 1997. Field Identification of Coastal Juvenile Salmonids. Harbour Publishing, PO Box 219, Madeira Park, BC, Canada, V0N 2H0.



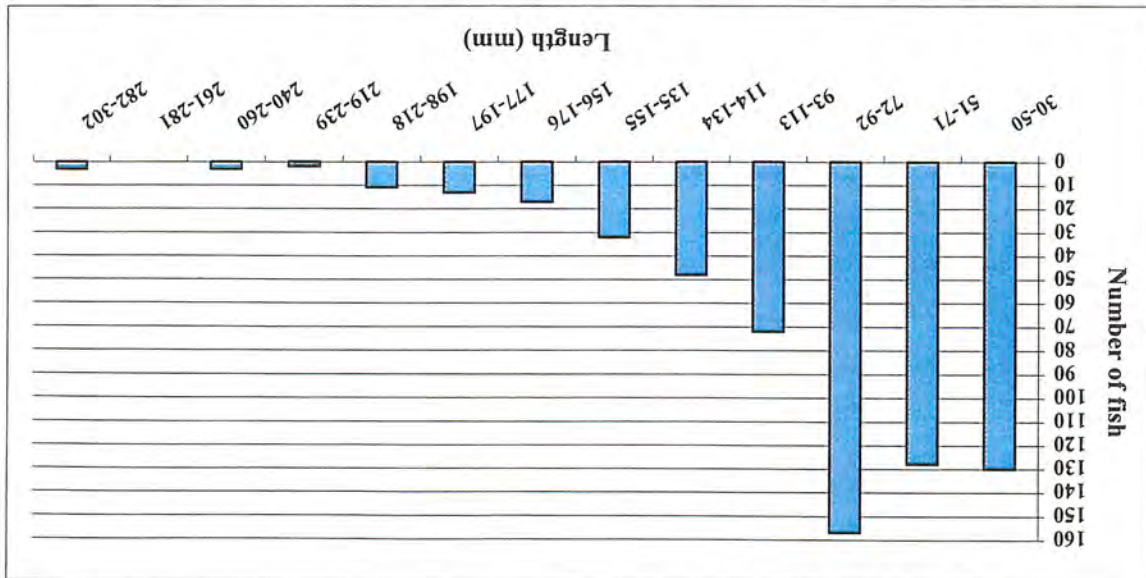
4.3.2 Dolly Varden

The majority (76%) of rainbow trout captured in the study area were in the 0+ (<50 mm) and 1+ (51-109 mm) age range. The high occurrence of juveniles suggests that few adults are found in small to moderately sized streams.

- 0+, range 40-50 mm, mean 44 mm
- 1+, range 70-150 mm, mean 86 mm
- 2+, range 110-181 mm, mean 139 mm
- 3+, range 110-190 mm, mean 159 mm

Triton (1999a, 1999b and 1999c) rainbow trout ageing data for the Tochocha Lake planning area is summarized below:

Figure 2. Length-frequency distribution for rainbow trout captured in the study area (n=616).



a larger stream or lake. Figure 2 provides a length-frequency distribution for rainbow trout captured in the study area.

Life History

In the past, Dolly Varden and bull trout were thought to be same species simply because they have similar life histories and occupy the same habitats. It has been found that Dolly Varden are primarily a coastal species being anadromous over much of their range (moving from salt to fresh water to spawn) and bull trout are primarily an interior species (anadromy is uncertain) (McPhail and Baxter, 1996; Ford *et al.*, 1995).

Dolly Varden are known to occupy a wide spectrum of habitat types, often occupying unproductive habitats where rainbow and cutthroat do not thrive. Resident Dolly Varden are often found above physical barriers and within step-pool cascade habitat.

Dolly Varden may have 4 different life histories:

- Resident: The stream resident that spends its entire life within small headwater streams, often above physical barriers.
- Fluvial: The large river type, which spends its adult life within large rivers and spawns in smaller tributaries. The large river offspring rear in these smaller tributaries until they grow large enough to compete within the large river habitat.
- Adfluvial: The lake type, which spends its adult life in a lake habitat and uses the tributary streams for rearing and spawning.
- Anadromous: Move from fresh water to salt water (spend 2 to 3 years in the ocean) then migrate back to their natal freshwater stream to spawn.

The resident and fluvial life history forms of Dolly Varden are common in the Morice River planning area due to the size of the fish captured and the location where they were captured.

Dolly Varden reach sexual maturity in 3-6 years and spawn in streams with cobble/gravel substrates and moderate flows. Spawning takes place in the fall from September to November (usually October) at water temperatures near 8.0°C (Scott and Crossman, 1973).

The fry hatch in the spring and reside (3-4 years) in their natal stream until reaching a size large enough to move downstream into larger bodies of water. Anadromous Dolly Varden may only rear in freshwater for 2 years before they migrate to the ocean. Migration occurs during May to June and Dolly Varden may spend 2 to 3 years at sea.

The diet of juveniles generally consists of insects, snails, leeches, salmon eggs and once mature they can prey on juvenile salmon (Scott and Crossman, 1973). Life stage, activity, timing and specific habitat requirements for Dolly Varden is presented in Table 4.

Table 4. Dolly Varden Life Stages and Requirements.

Stage	Activity	J	F	M	A	M	J	J	A	S	O	N	D	Habitat Requirements
Egg / Fry	incubation of the eggs (16 weeks)													Small gravel substrate with minimal fines, typically in riffle areas.
	hatching of the eggs													Remain in gravel substrate until yolk sac is absorbed.
	emergence of the fry from the gravel after yolk sac is absorbed (~60 to 70 days)													Fry often found in low velocity side channels and back-channels with undercut banks and quiet shallow areas.
Juvenile / Immature	young rear in natal stream (a couple months to 4 years)													Rearing habitat consists of well oxygenated water with large woody debris, undercut banks, instream and overstream vegetation for cover. Overwintering habitat consists of large deep pools, wetlands and lakes.
	Anadromous form migrates to ocean and remains there for 2 to 3 years													Migrate out to the ocean in late May to early June
	Growth and maturation of resident fish													Migrate to and from rearing and overwintering habitats, migrate in and out of rivers, lakes and tributaries.
Adult / Mature	Migration to spawning sites													Move from the ocean and/or rivers and migrate to natal streams.
	Spawning													Spawn in cobble/gravel substrates with moderate flows.

	Months for initial development
	Months for juvenile development
	Months for general growth and maturation
	Months for spawning activity

Information for this table was collected from Scott and Crossman, 1973.

Locations within the Study Area

Dolly Varden captured within the study area were found in two 3rd order streams (ILP 1347 and ILP 1520) both flowing directly into Babine Lake. Dolly Varden within stream ILP 1347 were captured up to Reach 4 as a 2 m falls in the middle of Reach 4 was identified as a barrier to upstream fish migration. No resident Dolly Varden population was captured upstream of the barrier with 3 fish sampling sites conducted. Dolly Varden captured within ILP 1520 were captured only 200 m upstream from Babine Lake. A

length-frequency distribution graph was not provided for Dolly Varden as only 10 fish were captured.

Ageing data was not collected for Dolly Varden captured in the study area. Ageing data collected from adjacent watersheds within the region is presented below (Triton 2000, 2001a, 2001b and 2002).

Triton (2000, 2001a, 2001b and 2002) Dolly Varden ageing data for the region is summarized below:

- 1+, range 110-120 mm, mean 116 mm
- 2+, range 80-150 mm, mean 111 mm
- 3+, range 115-180 mm, mean 144 mm
- 4+, range 139-200 mm, mean 169 mm
- 5+, range 157-177 mm, mean 167 mm

All Dolly Varden captured within the study area were found to be >110 mm. Based on ageing data previously conducted in adjacent watersheds, we can conclude that all of the Dolly Varden captured within the study area were juveniles (1+) or adults (>3+).

4.3.3 Coho Salmon



Illustration by C. Groot from Pollard, W.R., G.F. Hartman, C. Groot, and Phil Edgell. 1997. Field Identification of Coastal Juvenile Salmonids. Harbour Publishing, PO Box 219, Madeira Park, BC, Canada, V0N 2H0.

Life History

Coho salmon captured within the Tochcha Lake planning area are anadromous (moving from salt to fresh water to spawn). Most coho salmon spawn at age 3 or 4, but in the north this increases to 4 to 5 year old fish (Scott and Crossman, 1973). Some jacks (early maturing male that is coincidentally small) return to their natal stream to spawn only after a short period of time in the ocean. Coho spawn in swift water with shallow gravelly areas of river tributaries usually from October to November (Scott and Crossman, 1973).

The eggs remain in the gravel over the winter and after hatching in the spring, the alevins may remain in the gravel for an additional 2-3 weeks until their yolk sac is absorbed

(Scott and Crossman, 1973). Emergent fry will spend between 1 and 2 years in natal streams and once smolting begins they will migrate downstream to the ocean where they reside for a subsequent 1 to 3 years.

The diet for young coho salmon in fresh water generally consists of insects (aquatic and terrestrial), invertebrates, sockeye fry and other small fish, and once in the ocean, they prey on chum and pink fry, herring, sand lance and other fishes (Scott and Crossman, 1973). Adult coho salmon feed on wide variety of fishes and invertebrates during the ocean phase of their life cycle.

Life stage, activity, timing and specific habitat requirements for anadromous coho salmon are presented in Table 5.

Table 5. Coho Salmon Life Stages and Requirements.

Stage	Activity	J	F	M	A	M	J	J	A	S	O	N	D	Habitat Requirements
Egg / Fry	incubation of the eggs (~35 to 50 days)													Shallow gravelly areas with minimal fines, near ground water upwellings.
	hatching of the eggs (depends on when the nest was made)													Remain in gravel substrate until yolk sac is absorbed.
	emergence of the fry from the gravel after yolk sac is absorbed (can occur from early March to late July, Scott and Crossman, 1973).													Fry often found in low velocity side channels, back-channels, ponds and lakes.
Juvenile / Immature	young rear in natal stream (usually 1 or 2 years before migrating to the ocean).													Rearing habitat consists of side-channels, back-channels, ponds, lakes, as well as areas with small and large woody debris for cover and undercut banks. Overwintering habitat consists of deeper waters (pools, ponds, wetlands, lakes).
	Smolting													Outmigration of coho smolts to the ocean (late April to June, Scott and Crossman, 1973).
	Growth and maturation within the ocean.													Coho will spend from 1 to 4 years in the ocean.
Adult / Mature	Migration to spawning sites													Move from the ocean back to natal freshwater streams.
	Spawning													Spawn in swift water of shallow gravelly areas. Die after spawning.

Information for this table was collected from Scott and Crossman, 1973.

	Months for initial development
	Months for juvenile development
	Months for general growth and maturation
	Months for spawning activity

Locations within the Study Area

Coho salmon were captured in a 2nd order large (2.77 m), low gradient (2%) stream (ILP 1224) ~80 m upstream of Morrison Lake. The coho salmon were using this stream for rearing and refuge. Two adipose clipped coho were captured at this location and they

were likely released from Fort Babine Fish Hatchery (Figure 3). A length-frequency distribution graph was not provided for coho salmon, as only 10 fish were captured and they were all between 60-70 mm in length.



Figure 3. Photo of two adipose clipped coho salmon (60-70 mm).

Ageing data was not collected for coho salmon captured within the study area. Based on the life history of coho salmon we can conclude that all the coho captured within the study area were <2+ in age.

4.3.4 Kokanee Salmon



Kokanee salmon are a resident form of sockeye salmon that spend their entire life within freshwater. Kokanee generally mature in 2-4 years and tend to spawn in streams (inlets or outlets of lakes) or along gravelly shallow areas of lakes during September to October (Scott and Crossman, 1973). Fry emerge in the spring and migrate up or downstream to lake habitat where they rear until mature.

Locations within the Study Area

Spawning kokanee were observed in two large (7.6-14.9 m) 5th order streams (ILP 1801 and ILP 1495) within the Tochcha Lake planning area (Triton, 1998). Over 200 adult

kokanee were counted. These spawning kokanee were observed on August 29th and September 2nd, 1997 (Triton, 1998).

Kokanee observed in ILP 1495 Reach 16 (Hautête Creek) were between upstream Nakinilerak Lake (ILP 1495 Reach 19) and downstream "unnamed" lake (ILP 1495 Reach 15). FISS identified kokanee in the downstream "unnamed" lake (ILP 1495 Reach 15) (BC Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 1995). Kokanee observed in ILP 1801 Reach 4 were located just downstream of Tochcha Lake (ILP 1801 Reach 5). The kokanee observed by Triton (1998) are most likely lake residents using the larger tributaries (5th order) to their lakes as spawning streams.

A length-frequency distribution for Kokanee was not provided as these fish were spawning at the time they were visually observed and no lengths were recorded (Triton, 1998).

4.3.5 Mountain Whitefish

Mountain whitefish are usually found in large rivers, streams and shallow portions of lakes (Ford *et al.*, 1995). Mountain whitefish reach sexual maturity in 3-4 years and are late fall to early winter spawners. Spawning takes place over gravel or cobble substrates and no nest is built. The maximum age for mountain whitefish is reported at 17 or 18 years (Scott and Crossman, 1973).

Locations within the Study Area

Mountain whitefish were captured in only one large (13.63 m), low (2%) gradient 5th order stream. FISS identified mountain whitefish in various lakes located throughout the Tochcha Lake planning area. A length-frequency distribution graph for mountain whitefish is not provided as only 1 fish was captured.

4.3.6 Northern Pikeminnow

Northern pikeminnow are mainly a lake species but are often found in the slower moving water of streams and sloughs. Sexual maturity is reached in approximately 6 years and spawning takes place in the shallows on gravelly lakeshore substrates and in stream habitats adjacent to lakes (May to July). Northern pikeminnow are a long lived species with a life expectancy of 15-20 years (Scott and Crossman, 1973).

Locations within the Study Area

Northern pikeminnow were captured in two large (7.6-14.9 m channel) 5th order streams (ILP 1801 and ILP 1495) within the Tochcha Lake planning area adjacent to lake or wetland habitat (Triton, 1998). FISS information identified northern pikeminnow

presence within 10 lakes (Tochcha Lake, Natowite Lake, Nakilinerak Lake, Big Loon Lake, Friday Lake, Hautête Lake and three “unnamed” lakes; ILP 6440 Reach 12, ILP 1495 Reach 15 and ILP 6439 Reach 13) and within 1 stream (ILP 1150 Reach 1) in the Tochcha Lake planning area (BC Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 1995). A length-frequency distribution graph for northern pikeminnow is not provided as only 2 juvenile and 2 adult fish were captured.

4.3.7 Peamouth Chub

The peamouth chub can be found in lake, wetland and stream type habitats. Peamouth chub usually spawn in the shallow lakeshore waters in May to June (Scott and Crossman, 1973). No nest is built and the eggs are released to adhere to gravel, vegetation or other suitable substrates. After the young hatch they can be found in large groups (schools) along lakeshores.

Locations within the Study Area

Peamouth chub were captured in only one small (1.98 m), low (1%) gradient stream which was a 2nd order tributary to an “unnamed” lake (ILP 1450 Reach 11). FISS identified peamouth chub in various lakes located throughout the Tochcha Lake planning area. The peamouth chub captured ranged in size from 130-185 mm. A length-frequency distribution graph for peamouth chub is not provided as only 5 adult fish were captured.

4.3.8 Prickly Sculpin

Prickly sculpin is known to inhabit the quiet, slower flowing portions of stream and the shoreline areas of lakes. Streams containing boulder/cobble and flat rock substrates seem to be the preferred habitat for spawning. The eggs are attached in an adhesive mass to the underside of a boulder or flat rock. Spawning takes place in the spring from mid March to mid July (Scott and Crossman, 1973).

Locations within the Study Area

Prickly sculpin were captured in three moderate (2-9.93 m), low (2-3%) gradient streams (ILP 2354, ILP 2406 and ILP 1742) adjacent to lake or wetland habitat (Triton, 1998 and 1999a). FISS information identified prickly sculpin present within various lakes throughout the Tochcha Lake planning area. A length-frequency distribution graph for prickly sculpin is provided in Figure 4.

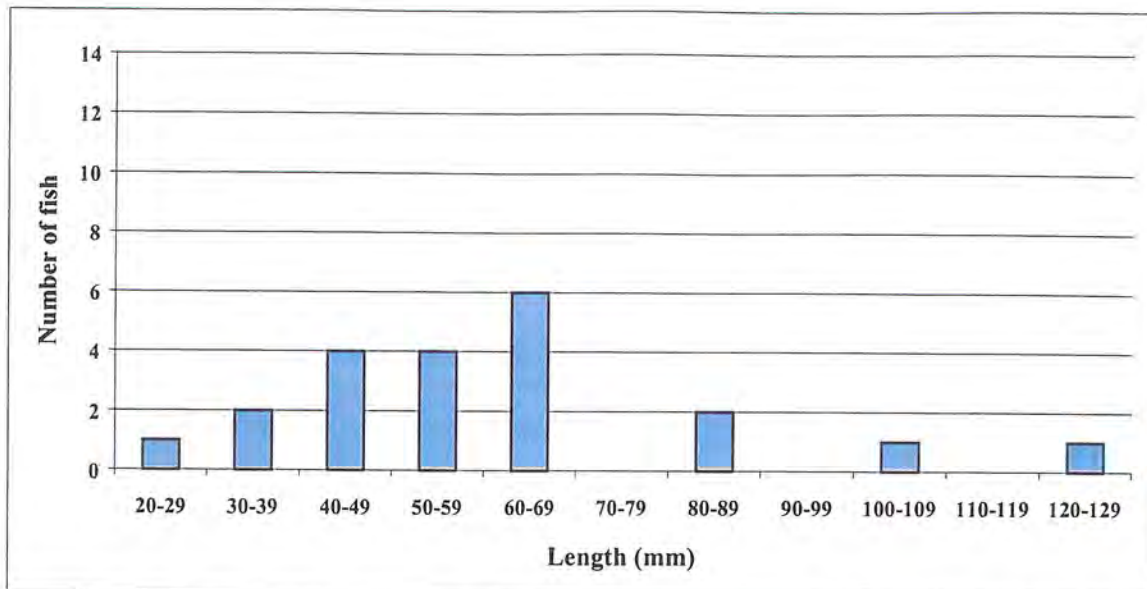


Figure 4. Length frequency distribution for prickly sculpin captured in the study area (n=21).

4.3.9 Redside Shiner

Redside shiner can tolerate a wide range of temperatures and trophic conditions and are generally known inhabit lakes, small ponds, and moderately fast streams. Redside shiner live up to 7 years and reach sexual maturity in approximately 3 years. Spawning takes place in streams or lakes in the early summer (May to early August). No nest is built and the eggs are released to adhere to gravel, vegetation or other suitable substrates. The eggs hatch in 1-2 weeks and the fry emerge from the gravel 1-2 weeks later (Scott & Crossman 1985).

Locations within the Study Area

Redside shiner were captured at 7 different locations throughout the study area from 1st to 5th order streams adjacent to lake or wetland habitat. FISS information identified redside shiners present within 6 lakes (Tochcha Lake, Natowite Lake, Nakilinerak Lake, East Hautête Lake, Big Loon Lake and Friday Lake) within the study area (BC Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 1995). A length frequency distribution graph for redside shiner captured within the study area is presented in Figure 5.

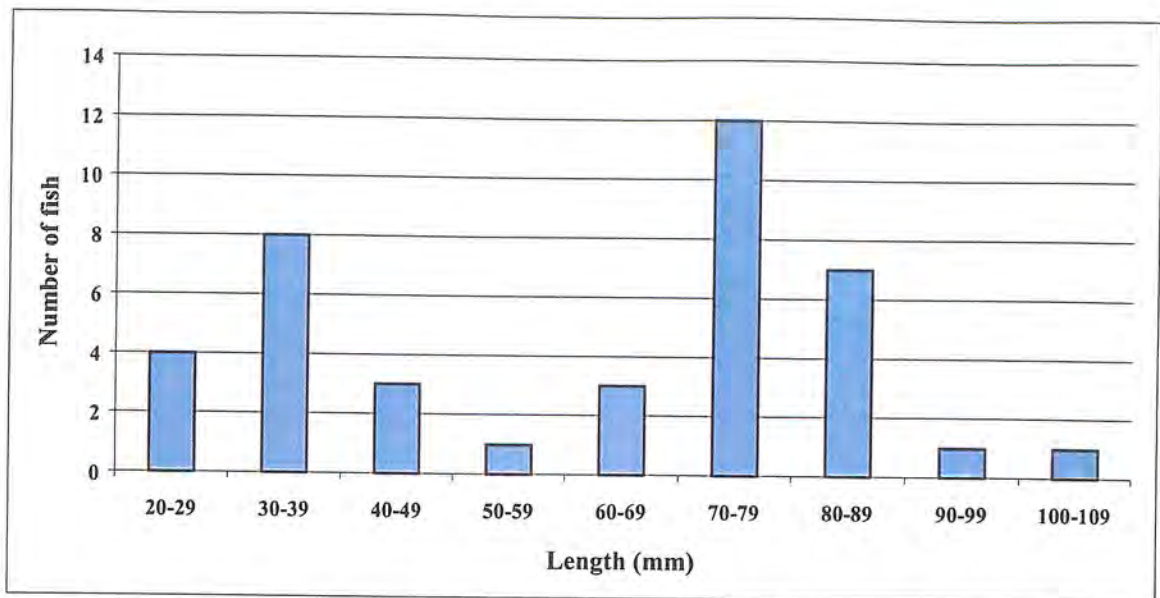


Figure 5. Length frequency distribution for redeye shiner captured in the study area (n=40).

4.3.10 Slimy Sculpin

Slimy sculpin is known to inhabit cool streams, shoreline areas of lakes and sometimes the deeper areas within a lake (Scott and Crossman, 1973). Streams containing boulder/cobble and flat rock substrates seem to be the preferred habitat for spawning. The eggs are attached in an adhesive mass to the underside of a boulder or flat rock. Spawning takes place in the spring usually during early May (Scott and Crossman, 1973).

Locations within the Study Area

Slimy sculpin were captured in three moderate (2-12.7 m), low (1-2%) gradient streams (ILP 1450 Reach 12, ILP 1495 Reach 1 and ILP 1495 Reach 16) adjacent to lake or wetland habitat (Triton, 1998 and 1999a). FISS had no information for slimy sculpin within the Tochcha Lake planning area. A length frequency distribution graph for slimy sculpin is not provided as only 6 fish were captured.

4.3.11 White Sucker

White sucker were generally characterized as inhabiting shallow warm lakes and some slower stream habitats. White sucker reach sexual maturity between 5 and 8 years and tend to spawn in slow shallow water with a gravel substrates during the spring (early May to June). Adults do not create redds and deposit their eggs freely to adhere to the gravel substrates or to drift downstream to suitable substrates in slower water. The eggs hatch in

about 2 weeks with the fry emerging from the gravel in another 1-2 weeks. White sucker have been known to live for up to 17 years (Scott & Crossman 1985).

Locations within the Study Area

White sucker were captured in only one large (6 m), low (2%) gradient stream that flows directly into Babine Lake (Wright Bay) (Triton, 1999). FISS had no information for white sucker within the Tochcha Lake planning area.

General sucker species were also captured in 4th and 5th order streams near lake or wetland habitat within the Tochcha Lake planning area. These streams were large (2.9-13.6 m), low gradient (2%) streams near lake or wetland habitat. FISS identified other species of suckers in various lakes throughout the Tochcha Lake planning area. A length frequency distribution graph for white sucker and general sucker was not provided as only 10 white sucker and 7 general sucker species were captured.

4.3.12 In-Stream Work Windows

In-stream work windows are periods of time when there is a lower risk from work activities to aquatic resources, fish and their habitats (The Fisheries Committee, June 1999a). Work windows for fish species are produced by the Ministry of Water Land and Air Protection and the Department of Fisheries and Oceans to protect fish during the more sensitive stages of their life history (egg, alevins and spawning). The following table outlines the work windows for the species captured and identified within the study area.

Table 6. In-stream work windows for species captured within the Tochcha Lake planning area (Morice Forest District Work Windows).

Species	J	F	M	A	M	J	J	A	S	O	N	D	Dates
Chinook													June 15 to July 31
Coho													July 1 to August 31
Pink													May 15 to August 15
Sockeye													June 15 to July 15
Kokanee													June 15 to July 15
Steelhead													September 1 to December 31
Rainbow Trout													September 1 to January 31
Cutthroat Trout													September 1 to December 31
Dolly Varden													June 15 to August 31
White Fish													June 1 to September 15

Information for Table came from The Fisheries Committee, 1999, page 12.

4.4 Habitat and Fish Distribution

Fish were captured in 1st to 5th order streams and fish distribution was generally associated with perennial fish habitat. Perennial habitat includes the presence of available overwintering, spawning, and rearing habitat. Instream overwintering habitat was identified as containing residual pool depths greater than 0.5 m. Other overwintering habitat included wetlands and lakes with depths greater than 0.5 m.

Spawning habitat was characterized by the presence of suitable spawning substrates, perennial flows, and adequate water velocity. The quality of spawning habitat was based on a field observation and judgment on how close the observed habitat met the following parameters:

- Low or poor quality spawning habitat was characterized by a lack of significant accumulations of spawning substrates, turbulent flows, low average water velocity (<1% gradient), or high average water velocity (>1 m/s).
- Medium or Moderate quality spawning habitat was characterized by occasional accumulations of spawning substrates (<10% of total habitat area) but limited by one or several of the following parameters: turbulent flows, high proportion of fines, low average water velocity (<1% gradient), or high average water velocity (>1 m/s).
- High quality spawning habitat was characterized by abundant accumulations of suitable spawning substrates (>10% of total habitat area) perennial flows, and moderate gradient (1 to 5% gradient).

Rearing habitat was characterized as habitat with adequate water (seasonal) to sustain growth. The quality of rearing habitat was based on a field observation and judgment on how close the observed habitat met the following parameters:

- Low or poor quality rearing habitat was characterized by a lack of channel development and limited by ephemeral flows, shallow average water depths (<10 cm), lack of significant pools (>10 cm), and a predominance of fine or organic substrates.
- Medium or moderate quality rearing habitat was characterized by the presence of perennial flows and limited by one or several of the following parameters: low gradient (<2%), high gradient (>10%), lack of cover, lack of significant pools (>20 cm), lack of coarse substrates, or large average substrate size (boulders).
- High quality rearing habitat was characterized by perennial flows, abundant cover, moderate gradient (1-5%), frequent riffles and pools.

Fish were captured in ten 1st order streams. Most of the first order streams had an average channel width of 1.6 m (ranged from 0.8-2.1 m) and/or contained a headwater wetland or lake. Habitat quality within 1st order reaches was generally poor with two sites having a smaller average (<1.6 m) channel widths and ephemeral flows. Field

observations indicated that the small channel widths and ephemeral nature of these streams likely limit or prevent their ability to sustain fish populations, particularly throughout the year. It is unlikely that fish use these reaches, due to the short duration of water flows and lack of suitable fish habitat, unless they flow into a major system (i.e. 3rd to 5th order) or contain pockets of perennial fish habitat.

Fisheries values within the project area are largely associated with the limited occurrence of spawning and rearing habitats. The prevalence of shallow stream habitat and low overall habitat complexity, appear to be the primary limiting factors for spawning and rearing habitats. The general lack of deep pool habitats and perennial flow in tributary streams limits the occurrence of suitable rearing and overwintering habitats for resident trout. Figure 6 shows the relationship between fish capture locations and gradient vs. channel width.

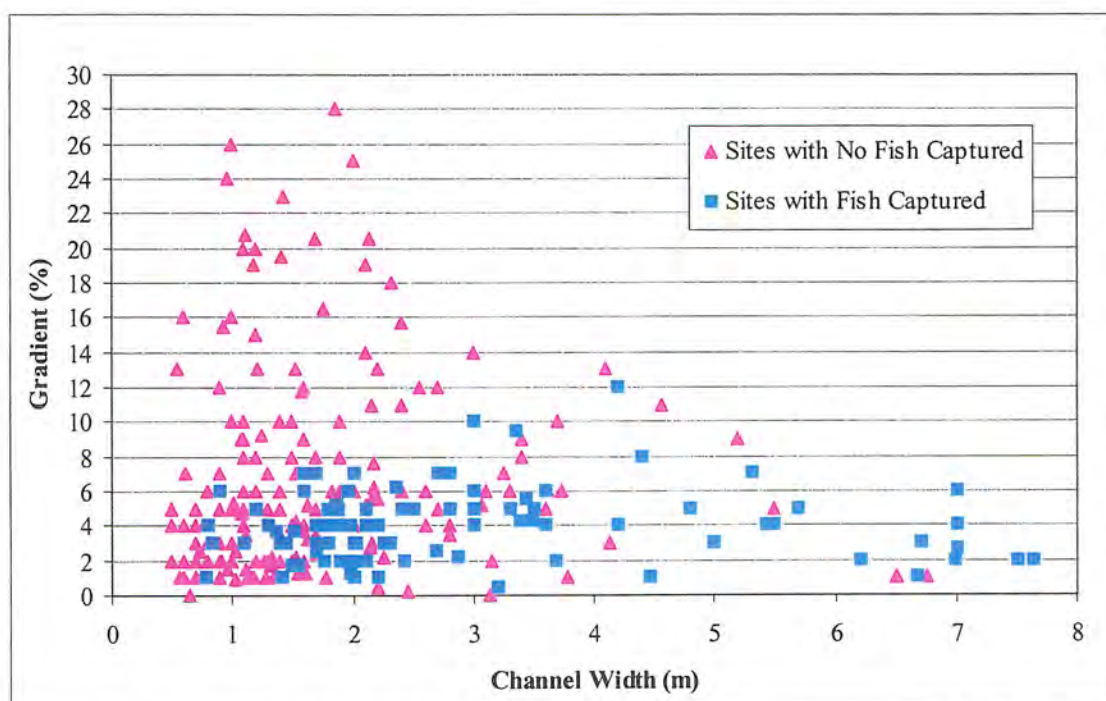


Figure 6. Gradient vs width relationship for sampled streams in the study area (n=298).

No fish were captured in streams with an average channel width of less than 0.8 m wide or with an average gradient of greater than 12%. A moderate percentage (14%) of Non Visible Channels (NVCs) are found within the study area (current and historical data) and it appears that channel widths must be at least 54 cm or greater to develop a continuous channel bed at lower gradients. Fish were not found in streams <0.8 m average channel width during the late summer early fall period in spite of considerable sampling effort. These results are generally consistent with other data found throughout the region where fish are absent (smaller channel width, high gradient streams).

4.4.1 Barriers to Fish Distribution

Permanent barriers prevent all fish species in all age classes from gaining access to the portion of stream above the barrier under all flows and stage. Falls and cascades were the dominant types of permanent barriers to upstream fish migration in the study area. Temporary barriers such as culverts and beaver dams may prevent species from gaining access to the portion of stream above the barrier but they are not permanent features with the drainage as they can change from year to year. The following permanent barriers were noted within the study area:

- Cascade (1 m x 0.5 m) in Reach 1 of “unnamed” stream (ILP 2251). The cascade marks the “end of fish use” in this 3rd order drainage.
- Cascade (16 m x 22 m) in Reach 2 of “unnamed” stream (ILP 1231). The cascade marks the “end of fish use” in this 3rd order drainage.
- 30 m falls in Reach 2 of “unnamed” stream (ILP 1737). The falls mark the “end of fish use” in this 3rd order drainage.
- 3.2 m falls in Reach 5 of “unnamed” stream (ILP 2290). The falls mark the “end of fish use” in this 3rd order drainage.
- 6 m falls in Reach 4 of “unnamed” stream (ILP 2174). The falls mark the “end of fish use” in this 3rd order drainage.
- 2 m falls in Reach 4 of “unnamed” stream (ILP 1347). The falls mark the “end of fish use” in this large 4th order drainage.
- 6 m falls in Reach 4 of “unnamed” stream (ILP 1520). The falls mark the “end of fish use” in this 3rd order drainage.
- 3 m falls in Reach 9 of “unnamed” stream (ILP 1406). The falls mark the “end of fish use” in this 3rd order drainage.
- 5 m falls in Reach 2 of “unnamed” stream (ILP 1892) (Personnel communication, John Thibeau, 2002). The falls mark the “end of fish use” in this 3rd order drainage.
- 2.4 m falls in Reach 2 of “unnamed” stream (ILP 2052). The falls mark the “end of fish use” in this 3rd order drainage.
- 10 m falls in Reach 1 of “unnamed” stream (ILP 1332). The falls mark the “end of fish use” in this 1st order drainage and no resident fish population was present in a lake upstream.
- 15 m falls in Reach 2 of “unnamed” stream (ILP 1863). The falls mark the “end of fish use” in this 3rd order drainage.

Other barriers to fish migration are presented in Table 7 along with other features affecting fish habitat in the study area.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
A11	1440	1	FSB			Historical Feature. Sub surface flows.
A11	1440	1	CV	0.5	7	Historical Feature. Culvert does not impede fish passage.
A12	1441	3	CV	2.5	20	Historical Feature. Excellent culvert structure provides access at all flows.
A14	1447	1	CV	0.8	20	Historical Feature. Culvert does not impede fish passage.
A19	1754	2	BD	1.2	20	Historical Feature. Beaver dam creates pond.
A114	1739	2	CV	1	20	Historical Feature. Culvert does not impede fish passage.
A115	1732	1	F			Historical Feature. Falls are a barrier to upstream fish migration.
A116	1737	3	CV	1.2	20	Historical Feature. Culvert does not impede fish passage.
A117	1737	2	F	30	20	Historical Feature. Falls are a barrier to upstream fish migration.
A117	1737	2	CV	1.8	25	Historical Feature. Culvert does not impede fish passage.
A118	1800	1	CV	1.2	20	Historical Feature. Culvert does not impede fish passage.
A119	1279	3	FSB			Historical Feature. Sub surface flows.
A121	1283	2	CV	0.4	15	Historical Feature. Culvert does not impede fish passage.
A123	1289	2	CV	0.6	12	Historical Feature. Culvert does not impede fish passage.
A126	1794	1	CV	0.6	15	Historical Feature. Culvert does not impede fish passage.
A126	1794	2	FSB			Historical Feature. Sub surface flows.
A127	1795	1	FSB			Historical Feature. Sub surface flows.
A129	1747	1	FSB			Historical Feature. Sub surface flows.
A130	1743	2	CV	1	20	Historical Feature. Culvert does not impede fish passage.
A195	1114	1	CV	0.6	10	Historical Feature. Culvert does not impede fish passage.
A196	1112	5	CV	0.6	10	Historical Feature. Culvert does not impede fish passage.
A199	2066	2	BD	1	5	Historical Feature. Beaver dam.
A1102	2290	5	F	3.2	1	Historical Feature. Falls located 30 m upstream from the confluence with ILP 1968 are a barrier to upstream fish migration.
A1108	2032	1	F	2		Historical Feature. Falls are a barrier to fish passage.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
A1108	2032	1	CV	1.4	10	Historical Feature. Oval culvert does not impede fish passage.
A1109	2029	1	CV	1.4	8	Historical Feature. Culvert does not impede fish passage.
B125	2164	1	CV	1	25	Historical Feature. Culvert.
B139	2406	1	BD	1	5	Historical Feature. Beaver dam.
B152	1537	7	BD	1.2	15	Historical Feature. Beaver dam.
B152	1537	6	BD	1.2	15	Historical Feature. Beaver dam.
B170	1537	4	BR	1	12	Wooden bridge crosses stream at downstream portion of reach.
B172	1710	2	CV	0.5	10	Historical Feature. Culvert.
B173	1520	2	CV	0.4	15	Historical Feature. Culvert.
B174	1524	2	CV	1.6	9	Historical Feature. Wooden box culvert 4 m x 10 m.
B175	1524	3	CV	0.4	8	Historical Feature. Culvert does not impede fish passage.
B187	1335	3	CV	1	12	Historical Feature. Wooden box culvert - poor condition, sediment introduction.
B188	1335	2	F	2.1	0.5	Historical Feature. Falls are a barrier to upstream fish migration.
B190	1340	2	CV	0.4	8	Historical Feature. Culvert.
B1502	2189	1	CV	1.5		Historical Feature. Culvert.
B1504	2185	4	BD	1.2		Historical Feature. Beaver dam.
B1505	2174	3	CV	2		Historical Feature. Downstream side of culvert is perched 1.0 m.
B1507	2178	1	C	12	20	Historical Feature. Bedrock chute is a barrier to upstream fish migration.
B1508	2151	7	BR	1.5		Historical Feature. Bridge.
B1510	1883	2	CV	0.6		Historical Feature. 3 x 600 mm culverts.
B1511	1885	2	CV	1		Historical Feature. Culvert.
B1512	1888	3	CV	0.4	12	Historical Feature. Culvert.
B1519	2210	1	BR	2.1		Historical Feature. Bridge.
B1520	2350	10	C	2		Historical Feature. Bedrock chute.
B1524	2151	10	BD	0.8		Historical Feature. Beaver dam.
B1530	1892	2	CV	2		Historical Feature. Culvert is perched 0.6 m and is a partial barrier to upstream fish migration.
B1535	2350	5	CV	1.2		Historical Feature. Culvert.
B1536	2278	2	CV	0.6		Historical Feature. Culvert.
B1543	1361	2	BR	1.9	2	Historical Feature. Collapsed bridge.
B1567	2151	1	BD	1.2		Historical Feature. Beaver dam.
B1571	1905	5	CV	1		Historical Feature. Culvert.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
B1612	1883	1	CV	0.6	8	Historical Feature. Culvert is perched 1.0 m and is a barrier to upstream fish migration.
B1612	1883	1	BR	1.4	2	Historical Feature. Washed out road crossing is a barrier to fish migration.
B1614	1885	1	C	0.58	2	Historical Feature. Bedrock chute is a barrier to upstream fish migration.
B1615	1888	3	F	20	30	Historical Feature. Falls are a barrier to upstream fish migration.
B1616	1866	3	CV	1.5	18	Historical Feature. 1.5 m x 4 m concrete box culvert.
B1618	1866	4	C	30	80	Historical Feature. Cascades are a barrier to upstream fish migration.
B1619	1537	5	F	1.5	0.5	Historical Feature. Falls are a barrier to upstream fish migration.
B1620	1537	8	BD	1.2	15	Historical Feature. Beaver dam.
B1702	2174	4	F	6	1	Historical Feature. Falls are a barrier to upstream fish migration.
B1704	1347	3	CV	2	15	Historical Feature. Box culvert provides good fish access.
B1705	1347	4	F	2	0.4	Historical Feature. Falls are a barrier to upstream fish migration.
B1710	1520	4	F	6	1	Historical Feature. Falls are a barrier to upstream fish migration.
B1712	1349	4	BD	2	30	Historical Feature. Beaver dam is a temporary barrier and limits upstream fish migration.
C11007	1470	11	BR			Historical Feature. Bridge.
C11012	1486	1	BD			Historical Feature. Beaver dam.
C11016	1775	1	BD			Historical Feature. Beaver dam.
C11019	1771	3	BD			Historical Feature. Beaver dam.
C11022	1742	8	BD			Historical Feature. Beaver dam.
C11024	1809	1	CV			Historical Feature. Culvert.
C11034	1939	1	CV			Historical Feature. Culvert.
C11035	1742	10	BD			Historical Feature. Beaver dam.
C11041	1801	12	BD			Historical Feature. Beaver dam.
C11042	2290	4	CV			Historical Feature. Culvert.
C11044	1455	1	CV			Historical Feature. Culvert.
C11047	1465	1	CV			Historical Feature. Culvert.
C11051	1933	1	CV			Historical Feature. Culvert.
C12007	1394	2	BD			Historical Feature. Beaver dam.
C12007	1394	2	BD			Historical Feature. Beaver dam.
C12008	1313	1	BD			Historical Feature. Beaver dam.
C12011	1400	1	CV			Historical Feature. Culvert.
C12013	1495	4	BD			Historical Feature. Beaver dam.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
C12016	1585	1	CV	0.7		Historical Feature. Culvert.
C12017	1594	2	BD			Historical Feature. Beaver dam.
C12024	1764	2	F		1	Historical Feature. Falls.
C12116	1737	4	F			Historical Feature. Falls.
C12119	1276	8	BD			Historical Feature. Beaver dam.
C13045	1800	1	F		1	Historical Feature. Falls.
C13046	1737	1	BD			Historical Feature. Beaver dam.
C13047	1732	1	F		1	Historical Feature. Falls.
E159	1676	3	CV	1	15	Historical Feature. Rocks (from road construction) at downstream end of culvert may block upstream fish passage at low flows.
E167	1618	4	CV	0.45	10	Historical Feature. Flattened culvert needs to be replaced. Water flows over the road.
E181	1642	7	C	2	1	Historical Feature. Cascade is barrier to upstream fish migration.
E1601	1676	2	BD	1.8	20	Historical Feature. Beaver dam is a (non permanent) partial barrier to fish migration.
E1601	1676	1	BR	3	14	Historical Feature. Bridge crossing, not a barrier for fish.
E1602	1676	2	C	1.6	1	Historical Feature. Cascade is a barrier to upstream fish migration.
E1609	1618	4	CV	0.6	8	Historical Feature. Culvert.
E1620	1637	1	CV	0.5	12	Historical Feature. Culvert which rejoins diverted stream to its original stream bed.
F1528	2299	2	CV	0.6		Historical Feature. Downstream side of culvert perched 0.5 m.
F1547	1406	9	BR	1.9		Historical Feature. Bridge.
F1548	1416	3	BR	1.7		Historical Feature. Collapsed bridge.
F1548	1416	3	X	1		Historical Feature. Debris jam.
F1610	412	1	CV	1	12	Historical Feature. Twin culverts.
F1622	1406	9	F	3	1	Historical Feature. Falls are a barrier to upstream fish migration.
F1627	2304	1	CV	0.8	10	Historical Feature. Culvert. Not a barrier to fish migration.
P.C.-00 - Houston MOF	1892	2	F	5		Falls are a barrier to upstream fish migration.
SKR-01-NOBA-45	1530	1	C	0.7	1.5	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
2	2359	3	BR	3	10	Bridge.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
3	2359	5	BR	2	8	Temporary bridge over culvert. Bridge with fill underneath is a barrier to fish. Old culvert and logs beneath bridge block upstream fish migration.
7	2358	2	CV	1.2	16	Perched culvert 0.2 m ~6% grade, full barrier to fish.
8	2251	2	CV	1.5	16	Culvert perched 10 cm, partial barrier to juveniles.
8	2251	2	CV	1.2	20	Culvert perched ~1.4 m, full barrier to all fish species.
8	2251	1	C	1	0.5	Cascade is barrier to upstream fish migration.
8	2251	1	C	1.2	1.5	Cascade, not a barrier to upstream fish migration.
8	2251	1	C	1.4	1	Cascade, not a barrier to upstream fish migration.
11	1942	1	CV	2.1	24	Arch culvert - embedded material eroded by footings. Not a barrier to upstream fish migration.
13	1944	1	CV	1.4	18	Oval culvert perched 15 cm is a partial barrier to upstream fish migration. It is a full barrier to upstream fish migration in low flow conditions.
13	1944	2	CV	1	25	Wooden box culvert in poor repair.
15	1948	1	CV	1	25	Partially collapsed wooden box culvert.
19	2009	2	F	3	1	Falls are a barrier to upstream fish migration.
19	2009	1	CV	2	20	3 m wide arch culvert.
20	2253	2	C	50	60	Cascade / gradient section blocks upstream fish migration.
20	2253	2	CV	1.4	24	Culvert in poor repair.
21	2009	3	CV	2	26	Culvert perched.
26	1975	1	CV	1	20	Wooden box culvert.
27	1979	2	CV	0.9	25	Eroded and perched culvert.
28	1989	3	CV	1	24	Perched culvert.
29	1995	2	CV	1.4	26	Well placed culvert
30	1993	1	CV	0.6	24	Twin culverts, poor shape.
31	1990	1	CV	0.9	24	Partial barrier.
32	1450	11	CV	0.9	16	Well placed culvert
34	1394	6	CV	1.4	24	Partial barrier at low flows.
35	1394	4	CV	1.8	24	Culvert. Not a barrier to fish migration.
36	1119	3	CV	1.2	16	Culvert - potential velocity barrier.
37	1123	1	BR	1	10	Bridge.

Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
38	1429	2	CV	0.6	20	Culvert, partial barrier to fish migration.
39	1404	5	CV	0.8	16	Culvert. Not a barrier to fish migration.
65	2127	5	C	2	2	Cascade is a barrier to upstream fish migration.
66	2052	2	F	2.4	1	Falls are a barrier to upstream fish migration. One of several falls at location. Rainbow trout captured downstream of falls.
74	1769	1	F	1.5	1	Falls are barrier to upstream fish migration.
74	1769	1	CV	1.6	16	Culvert. Not a barrier to fish migration.
356	1332	1	F	10	5	Falls are a barrier to upstream fish migration. Top of Falls 63%.
358	1231	2	C	16	22	Cascade bedrock (37%) is a barrier to upstream fish migration.
359	1232	1	F	2.5	0	Bedrock Falls are a barrier to upstream fish migration.
361	1204	1	BD	1.5		Beaver dam at Lake outlet. Not a barrier to fish migration.
363	1398	4	CV	1.6	20	Perched 25 cm at 5% gradient.
367	1432	5	CV	0.8	23	Two perched culverts, 1.0 m barrier.
371	1863	2	F	15	1	Falls are a barrier to upstream fish migration.
372	1877	2	CV	1.4	25	Two culverts perched 0.5 m at 6% slope. Full barrier at low and moderate flows. Left culvert has collapsed.
373	1594	5	CV	1	15	Culvert partial barrier at low flows, 3% slope.
374	1690	3	CV	0.6	15	Culvert passable under all flows.
375	1803	6	CV	0.6	12	Culvert plugged by beavers.
576	1808	3	CV	0.8	10	Culvert slightly perched ~5 cm. Low priority.
578	1792	1	CV	2	20	CV outlet - good structure at outlet, minor erosion problems at inlet.
578	1792	1	CV	1.2	10	Culvert.
580	1763	1	CV	2	20	Culvert good at both ends.
627	1155	6	BD	1	30	Series of beaver dams at confluence with tributary ILP 1158.
642	1750	8	F	1.5		Falls are a barrier to upstream fish migration.

BD = Beaver Dam

C = Cascade

F = Falls

X = debris jam

BR = Bridge

CV = Culvert

FSB = Subsurface Flow

4.5 Significant Features and Fisheries Observations

4.5.1 Fish and Fish Habitat

Triton crews observed spawning kokanee in two large 5th order tributaries during sampling conducted within the Tochcha Lake planning area (Triton, 1998). The spawning kokanee were observed on August 29, 1997 in Reach 16 of Hautête Creek (ILP 1495) and on September 9, 1997 in Reach 4 of Gloyazikut Creek (ILP 1801) (Triton, 1998). These creeks should be identified during resource planning as containing important spawning habitat for salmonids as well as resident trout. Measures should be taken to maintain the integrity of spawning habitat contained within this stream.

Sport fishing opportunities exist within the study area as described in the Resource Information section of this report (Section 2.0).

4.5.2 Habitat Protection Concerns

4.5.2.1 Fisheries Sensitive Zones

No fisheries sensitive zones were identified in the study area.

4.5.2.2 Fish above 20% Gradients

No fish were identified above 20% gradient.

4.5.2.3 Restoration and Rehabilitation Opportunities

A preliminary assessment of road crossing structures within surveyed reaches was conducted as an added value component to the 1:20,000 RFFHI completed within the Tochcha Lake planning area.

The objectives of road crossing assessments were as follows:

- Evaluate fish distribution upstream and downstream at each crossing,
- Evaluate to what degree each crossing blocks fish passage (either a partial or full barrier crossing),
- Identify the quality of available fish habitat for at least 100 m at each crossing,
- Identify the length of inferred and confirmed fish habitat upstream of each crossing,
- Identify maintenance issues associated with stream crossings,
- Prioritize each crossing for rehabilitation to facilitate fish access,
- Provide a preliminary prescription for rehabilitation at each crossing.

A low, medium, high or "no impact" priority rating was assigned to each of the crossing features based on the criteria below. (Please note that this evaluation is preliminary and intended to be used as a guide only).

Low

- Typically less than 2 km of inferred fish habitat upstream of the culvert, usually associated with 1st or 2nd order watersheds,
- Associated with partial barrier culverts that are barriers to fish only at low flows,
- Dry/Intermittent stream flows,
- Provide limited rearing and spawning and no overwintering habitat,
- Fish use is inferred,
- Minor maintenance issues (i.e. damaged inlet or outlet with only a minimal effect on hydrological flows).

Moderate

- Typically more than 2 km of inferred and less than 1 km of confirmed fish habitat upstream of the crossing,
- Associated with partial barrier culverts. These culverts typically block juvenile fish under most flows,
- Provide good rearing and poor spawning habitat. Overwintering habitat is present,
- Fish use is confirmed (usually associated with S4 streams).

High

- Typically more than 4 km of inferred and more than 1 km of confirmed fish habitat upstream of the crossing,
- Associated with full barrier culverts that are barriers to fish at all flows,
- Provide good rearing and spawning habitat. Overwintering habitat is present,
- Fish confirmed (usually associated with S3 streams),
- Major maintenance issue resulting in sediment input directly into fish bearing stream or a diversion of a streamflows directly affecting fish habitat downstream.

No Impact

- Crossings that were not barriers to fish or did not require maintenance.

A total of 34 road crossings were featured during this assessment. Twenty-one (21) culverts (2 high, 7 moderate and 13 low) were identified as barriers or partial barriers to upstream fish migration and/or were identified as requiring maintenance. In most cases, a culvert outlet was perched above the outlet pool creating a barrier at low flows. Culvert replacement or outflow pool modification can be used to restore fish access at all flow regimes where road access is required. Crossing deactivation and culvert removal is an option where road access is no longer required. Outflow pools can be backflooded with a water control structure. Backflooding will improve fish access through increasing the water levels and allowing for a greater pool depth when jumping the obstacle. Twenty-four crossings were identified as not requiring maintenance and were not barriers to fish migration.

Table 8 identifies crossings within the study area in order of priority and describes fish habitat, fish species captured within the stream and a description of the problems associated with the crossing. Preliminary recommendations for rehabilitation are also provide in the table.

Table 8. Crossings within the study area and recommendations for maintenance.

Priority	Site	ILP	Reach	Map Number	Species	Stream Class	CV Specs.		Description of Problem	Barrier to fish	Potential Habitat Upstream	Habitat / Stream Channel / Fish Comments	Recommendations
							Dia (m)	Length (m)					
H	367	1432	5.0	093M.020	RB	S3	0.8	23	Two perched CVs, 1.0 m barrier.	full	5.4 km (inferred)	Good rearing, good spawning and poor overwintering habitat observed within site.	Replace and downset.
H	372	1877	2.0	093L.100	RB	S3	1.4	25	Two CVs are perched 0.5 m and at 6% slope. The left CV has collapsed.	full	6.1 km (1.0 km confirmed / 5.1 km inferred)	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout were captured upstream.	Replace and downset.
M	3	2359	5.0	093K.071	NFC	S4*	na	na	Temporary bridge over CV. Bridge with fill underneath is a barrier to fish. Old CV and logs beneath bridge block upstream fish migration.	full	0.4 km (inferred) with lake.	Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace structure.
M	7	2358	2.0	093K.071	NFC (RB)	S3	1.2	16	CV is perched 0.2 m and at ~6% grade.	partial	0.8 km (inferred)	Moderate rearing, poor spawning and potential overwintering habitat.	Confirm fish use. Replace and downset CV.
M	28	1989	3.0	093K.091	RB	S3	1	24	CV is perched ~ 0.3 m with shallow water depths.	partial	6.2 km (inferred)	Moderate rearing, poor spawning and poor overwintering habitat observed within site.	Replace and downset or backwater with weirs.
M	31	1990	1.0	093K.091	RB	S3	0.9	24	CV is perched 0.15 m at low flows.	partial	5 km (2.6 km confirmed / 2.4 km inferred)	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace and downset or backwater with weirs.
M	36	1119	3.0	093M.029	RB	S3	1.2	16	CV is a possible velocity barrier.	partial	8.7 km (1.5 km confirmed / 7.2 km inferred)	Moderate rearing, moderate spawning and no overwintering habitat observed within site.	Replace and downset.
M	38	1429	2.0	093M.020	RB	S4	0.6	20	CV is a barrier at low water flows.	partial	1.1 km (inferred)	Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace and downset or backwater with weirs.
M	363	1398	4.0	093M.020	RB	S3	1.6	20	CV is perched 25 cm at 5% gradient.	partial	6.3 km (1.6 km confirmed / 4.7 km inferred)	Good rearing, good spawning and poor overwintering habitat observed within site.	Replace and downset or backwater with weirs.

Table 8. Crossings within the study area and recommendations for maintenance.

Priority	Site	ILP	Reach	Map Number	Species	Stream Class	CV Specs.		Description of Problem	Barrier to fish	Potential Habitat Upstream	Habitat / Stream Channel / Fish Comments	Recommendations
							Dia (m)	Length (m)					
L	11	1942	2.0	093K.091	NFC	S3*	2.1	24	Arch CV - embedded material eroded by footings -passes fish.	no	na	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Channel fans out below road crossing and becomes dry with small pools every 20 m.	Armour CV footings.
L	13	1944	2.0	093K.091	NFC	S4*/S6	1.4	18	CV is perched 15 cm.	partial	0.1 km (inferred)	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site.	Confirm fish use. Replace and downset or backwater with weirs.
L	13	1944	2.1	093K.092	NFC	S4*/S7	1	25	Wooden box CV in poor repair.	no	na	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site.	Replace.
L	15	1948	1.0	093K.091	RB	S3	1	25	Partially collapsed wooden box CV.	no	na	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace.
L	20	2253	2.0	093K.081	NFC	S3*/S6	1.4	24	CV in poor repair.	no fish	na	Cascade section (50 m x 60 m) blocks upstream fish migration. Below cascade section inferred fish bearing. Poor rearing, no spawning and no overwintering habitat observed within site.	Replace.
L	27	1979	2.0	093K.091	NS	S3*	0.9	25	CV is perched ~ 0.3 m at low flows.	partial	7.5 km (inferred)	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	Confirm fish use. Replace and downset or backwater with weirs.
L	30	1993	1.0	093K.091	NFC	S4*	0.6	24	Two CV in poor condition.	no	na	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace and downset.
L	34	1394	6.0	093M.030	NFC	S3*	1.4	24	CV is perched 0.1 m at low flows.	partial	4.4 km (inferred)	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration.	Confirm fish use. Replace and downset or backwater with weirs.

Table 8. Crossings within the study area and recommendations for maintenance.

Priority	Site	ILP	Reach	Map Number	Species	Stream Class	CV Specs.		Description of Problem	Barrier to fish	Potential Habitat Upstream	Habitat / Stream Channel / Fish Comments	Recommendations
							Dia (m)	Length (m)					
L	373	1594	5.0	093M.010	RB	S3	1	15	CV is perched 0.1 m at low flows.	partial	4.8 km (2.0 km confirmed / 2.8 km inferred)	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout captured.	Replace and downset.
L	375	1803	6.0	093M.010	NFC	S3*	0.6	12	CV plugged by beavers.	no	na	Good rearing, no spawning and poor overwintering habitat observed within site. Lake upstream and no barriers to fish migration were observed.	Clean CV to maintain flows.
L	576	1808	3.0	093N.001	NFC	S4*	0.8	10	CV slightly perched ~5 cm.	partial	7.4 km (inferred)	Low rearing, low spawning and no overwintering habitat observed within site. No barriers observed in downstream wetland / pond.	Confirm fish use. Replace and downset or backwater with weirs.
L	578	1792	1.0	093N.001	NFC	S6*	2	20	CV outlet - good structure at outlet, minor erosion problems at inlet.	no fish	na	High gradient (23% for 50 m and 28% for 30 m) downstream of road crossing.	Armour CV inlet.
NI	8	2251	2.0	093K.081	NFC	S6	1.5	16	CV perched 10 cm.	no fish	na	Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration.	None.
NI	8	2251	2.0	093K.081	NFC	S6	1.2	20	CV perched ~1.4 m.	no fish	na	Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration.	None.
NI	19	2009	2.0	093K.081	NFC	S3*/S6	2	20	3 m wide arch CV Reach 1.	no fish	na	Falls (3 m) within this reach are a barrier to upstream fish migration. Moderate rearing, poor spawning and no overwintering habitat observed within site.	None.
NI	21	2009	3.0	093K.081	NFC	S6	2	26	CV perched.	no fish	na	Falls (3 m) downstream in Reach 2 are a barrier to upstream fish migration. Moderate rearing, poor spawning and no overwintering habitat observed within site.	None.
NI	26	1975	1.0	093K.091	NS	S4*	1	20	None. Wooden box CV.	no	na	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site.	None.
NI	29	1995	2.0	093K.091	NFC	S3*	1.4	26	None. CV is well placed.	no	na	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration.	None.

Table 8. Crossings within the study area and recommendations for maintenance.

Priority	Site	ILP	Reach	Map Number	Species	Stream Class	CV Specs.		Description of Problem	Barrier to fish	Potential Habitat Upstream	Habitat / Stream Channel / Fish Comments	Recommendations
							Dia (m)	Length (m)					
NI	32	1450	11.0	093M.020	RB, PCC	S3	0.9	16	None. CV is well placed.	no	na	Moderate rearing, poor spawning and no overwintering habitat observed within site.	None.
NI	35	1394	4.0	093M.030	NFC	S3*	1.8	24	None. CV is well placed.	no	na	Moderate rearing, poor spawning and no overwintering habitat observed within site. Low wetland may limit upstream fish migration.	None.
NI	37	1123	2.0	093M.029	NFC	S3*	na	na	Bridge.	no	na	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	None.
NI	39	1404	5.0	093M.020	NFC	S4*	0.8	16	None. Well placed CV.	no	na	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Inferred fish bearing.	None.
NI	74	1769	1.0	093N.001	NFC	S3*/S6	1.6	16	None. Well placed CV.	no	na	Poor rearing, poor spawning and no overwintering habitat observed within site. Falls (1.5 m) in the top of this reach are a barrier to upstream fish migration.	None.
NI	374	1690	3.0	093M.010	NFC	S4*	0.6	15	None. Not a barrier to fish.	no	na	Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to fish migration were observed.	None.
NI	578	1792	1.0	093N.001	NFC	S6*	1.2	10	None.	no fish	na	High gradient (23% for 50 m and 28% for 30 m) downstream of road crossing. Non-fish bearing at the road crossing.	None.

PCC = peamouth chub
 RB = rainbow trout
 NFC = no fish captured
 NVC = no visible channel

H = high
 M = moderate
 L = low
 NI = no impact

* = inferred stream class
 na = not applicable

4.5.2.4 Unstable Slopes

No unstable slopes or landslides were identified within the study area.

4.6 Fish Bearing Status

4.6.1 Fish Bearing Reaches

Fish species were captured in 106 of the 255 reaches classified as fish bearing (current and historical data) within the Tochcha Lake planning area (Table 9). For sampling during the 2002 field season, 26 of 92 reaches were classified as fish bearing. Seventy-four (74) reaches in the fish bearing classification table (current and historical data) were classified as fish bearing by default.

The fish bearing status of streams may be directly supported by sampling data or indirectly inferred based on fish captures in associated reaches, or habitat quality and the occurrence or lack of barriers to fish passage. For example, if the habitats within a given reach are suitable for rearing and/or spawning but no fish were captured and no barriers were observed, the reach would be classed as fish bearing. If the habitats were inadequate to provide suitable rearing habitat, or where barriers prevent fish from accessing and utilizing the reach, it would be classified as non-fish bearing.

Inferred fish bearing status was given to reaches not sampled with the following criteria:

- The average stream gradient was less than 20% (through map interpretation) and access to fish bearing water is present.
- Stream sections below a headwater lake.

4.6.2 Additional Sampling Recommendations

Nine (9) reaches were recommended for additional sampling (Table 10). Additional sampling will clarify fish presence/absence and establish if any barriers exist in downstream reaches. No sport fish or regionally significant species were captured in reaches recommended for additional sampling and these reaches are considered fish bearing until further sampling is conducted. Reaches identified for additional sampling are included in Table 9 (fish bearing).

The timing of additional sampling efforts is critical to ensuring optimal conditions and maximizing the potential for fish to occur. In particular, additional sampling should be conducted in the spring immediately following peak runoff, which usually occurs in the early part of May. Reaches classified as fish bearing and selected for additional sampling could also be deferred by accepting this default classification, however the reaches selected for additional sampling would contribute valuable information to aid in determining fish presence and distribution for future stream classification work.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
A12	1441	3	1.7	4	RB	S3	n	Historical Site. Fair spawning and rearing habitat. Culvert structure provides access at all flows. Rainbow trout captured.
A14	1447	1	1.9	4	RB	S3	n	Historical Site. Moderate rearing and fair spawning. Culvert well placed for fish passage. Rainbow trout captured.
A17	1752	6	4.2	4	RB	S3	n	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
A18	1759	1	1.2	6	NFC*	S4/S6	n	Historical Site. Lower 400 m of this stream classified S4 based on access.
A110	1484	1	2.0	2	RB	S3	n	Historical Site. Rainbow trout captured.
A112	2002	1	1.1	4	NFC*	S4/S6	n	Historical Site. Lower 100 m classified S4 based on access.
A120	1283	1	0.9	6	RB	S4/S6	n	Historical Site. Lower 30 m classified S4 based on access.
A122	1295	1	0.6	6	NS	S4/S6	n	Historical Site. Lower 30 m classified S4 based on access. A gradient barrier (>20%) 30 m into reach prevents upstream fish access. After 180 m stream becomes a seepage (NVC). Stream is S4 downstream of block. S6 next to block and NVC within block.
A123	1289	2	0.5	8	NS	S4/S6	n	Historical Site. Inferred fish bearing in lower portion downstream of road crossing based on access.
A124	1289	1	0.9	2	NFC*	S4	n	Historical Site. Possible fish access, no barriers observed.
A130	1743	2	1.6	6	RB	S3	n	Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
A192	1117	1	1.0	3	NFC*	S4	n	Historical Site. No barriers observed from downstream fish bearing water. Poor spawning habitat and limited rearing. Fish bearing based on access.
A193	1116	1	0.7	2	NFC*	S4	n	Historical Site. Fish bearing stream based on access. Poor spawning and poor rearing habitat.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
A196	1112	4	0.8	13	NS	S4/S6	n	Historical Site. Gradient barrier (>20%) 150 m downstream of road crossing. Section downstream of barrier S4 based on access. Poor spawning and rearing habitat.
A199	2066	2	1.9	2	RB	S3	n	Historical Site. Rainbow trout captured.
A1100	2043	2	1.1	10	NFC	S4	n	Historical Site. S4 stream based on access. This reach flows into a fish bearing stream.
A1102	2290	5	3.0	10	RB	S3/S5	n	Historical Site. Falls (3.2 m) at the bottom of this Reach are a barrier to upstream fish migration. Rainbow trout captured downstream of the falls. No fish captured upstream of the falls.
A1105	1742	15	1.6	9	NFC	S3	n	Historical Site. Inferred fish bearing (S3).
A1107	2033	1	1.0	10	NFC	S4/S6	n	Historical Site. Subsurface flows and no connection to fish bearing water (discontinuous throughout). The remainder of stream below the road crossing is S4 based on potential access. No fish captured.
A1109	2029	1	1.2	5	NFC	S4	n	Historical Site. S4 stream based on access. This reach flows directly into a fish bearing stream.
B125	2164	1	1.0	20	NS	S4*/S6	n	Historical Site. Lower 30 m of reach is accessible to fish. Gradient (>20%) throughout the remainder of the reach prevents upstream fish migration.
B134	2369	1	2.0	1	RSC	S3	n	Historical Site. No spawning habitat. Poor rearing habitat. Pools present. Redside shiner captured.
B135	2354	1	0.2	2	RB, RSC, WSU, CAS	S2	n	Historical Site. Good spawning and rearing habitat. Rainbow trout, redside shiner, white sucker and prickly sculpin captured.
B137	2354	15	1.0	15	NS	S4/S6	n	Historical Site. Dry channel. Lower 50 m of reach offers some seasonal habitat and is S4 based on access.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B139	2406	1	2.3	3	CAS	S3	n	Historical Site. Good rearing habitat: good cover and pools. Poor spawning habitat: no gravel present. Prickly sculpin captured.
B170	1537	4	3.6	6	RB	S3	n	Historical Site. Excellent rearing habitat. Good flows, cover and pools. Fair spawning habitat. Rainbow trout captured.
B171	1541	2	0.9	2	NS	S4*	n	Historical Site. Poor rearing and poor spawning habitat. S4 based on access.
B173	1520	2	3.4	9	NFC	S3*	n	Historical Site. Good rearing habitat. Poor spawning habitat. No barriers to fish migration were observed. Fish stream based on access. Dolly Varden captured in Reach 1 of this stream.
B174	1524	2	2.4	5	RB	S3	n	Historical Site. Good spawning habitat. Rainbow trout captured.
B175	1524	3	1.6	7	RB	S3	n	Historical Site. Excellent rearing habitat: LWD present and abundant cover. Poor spawning habitat. Rainbow trout captured.
B188	1335	2	1.9	8	NFC	S3*/S6	n	Historical Site. Good rearing and spawning habitat. Falls (2.1 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Inferred fish bearing downstream of falls.
B1505	2174	3	6.7	3	RB	S2	n	Historical Site. Excellent rearing habitat. Fish captured easily downstream of culvert. Upstream of culvert low fish densities as culvert is a partial barrier. Rehabilitation opportunity. Rainbow trout captured.
B1508	2151	7	4.0	4	RB	S3	n	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B1515	2377	2	2.5	4	NS	S3*	n	Historical Site. Rearing habitat fair during winter flows. Spawning habitat fair to poor. Fish stream based on access.
B1516	2354	4	5.7	5	RB	S2	n	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1517	2354	5	5.5	4	RB	S2	n	Historical Site. Good rearing habitat. Rainbow trout captured.
B1519	2210	1	2.2	4	RB	S3	n	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
B1524	2151	10	1.2	5	RB	S4	n	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1530	1892	2	2.8	4	NFC	S3	n	Historical Site. Good habitat quality during higher water flows. A perched culvert in the upper portion of Reach 1 is a partial barrier to fish migration. No permanent barriers to fish migration were observed. This reach can be classified as fish bearing based on access.
B1535	2350	5	2.0	7	RB	S3	n	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1540	1349	3	2.1	5	RB	S3	n	Historical Site. Poor habitat quality. Fine sediment covers cobble within the stream bed. Reach has been logged to the stream bank. Rainbow trout captured.
B1543	1361	2	3.3	5	RB	S3	n	Good rearing and spawning habitat. Rainbow trout captured.
B1544	1361	3	1.8	5	RB	S3	n	Historical Site. Reach has been logged to the stream banks. Moderate fish habitat. Rainbow trout captured.
B1550	1529	1	0.9	10	NS	S4*	n	Historical Site. Fish access to reach is possible. Inferred fish bearing based on access. Second pass sampling conducted by SKR Consultants Ltd. classified stream as S4.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B1564	1349	6	1.9	6	NFC	S3*	n	Good rearing habitat. A beaver dam in Reach 4 is a temporary barrier and limits upstream fish migration. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during higher flows or when the beaver dam is breached.
B1566	2166	1	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Not a stream.
B1567	2151	1	0.8	4	RB	S4	n	Historical Site. Fish access from lake is possible. Poor habitat quality. Rainbow trout captured.
B1568	2140	1	2.0	5	NS	S3*	n	Historical Site. Ephemeral stream. Pools were not deep enough to shock. S3 stream based on access.
B1576	1242	1	3.5	5	RB	S3	n	Historical Site. Excellent rearing and spawning habitat. Rainbow trout captured.
B1580	1349	8	1.1	9	NFC	S4*	n	Historical Site. Moderate rearing habitat and good spawning habitat. A beaver dam in Reach 4 is a temporary barrier and limits upstream fish migration. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during higher flows. S4 stream based on access.
B1585	2213	2	1.0	5	NS	S4*	n	Historical Site. Additional sampling in Reach 1 indicate that fish can access this reach therefore this reach is fish bearing based on access. Rainbow trout captured downstream in Reach 1 of this stream.
B1602	1242	6	1.4	3	RB	S4	n	Historical Site. Moderate rearing habitat and poor spawning habitat. Fines are dominant substrate. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B1612	1883	1	2.6	4	NFC	S3*/S6	n	Historical Site. Subsurface flows, sediment wedges and a braided channel near Babine Lake limit fish access to this reach. An old road crossing 250 m below the mainline prevents upstream migration of any fish species. This stream can be classified as fish bearing based on access to the general crossing 250 m below the mainline.
B1613	1885	1	1.8	4	NFC	S3/S6	n	Historical Site. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) is a barrier to upstream migration. No fish were captured in second pass sampling at 2 locations above this barrier. This stream can be classified as fish bearing below the bedrock chute based on access and non fish bearing above the chute. No fish captured.
B1616	1866	3	2.8	5	RB	S3	n	Historical Site. Excellent spawning habitat, poor overwintering habitat, and fair rearing habitat. Rainbow trout captured.
B1618	1866	4	2.7	12	NFC*	S3/S6	n	Historical Site. No overwintering or spawning habitat. Poor rearing habitat. A 30% gradient section 80 m long immediately above Reach 4 is a barrier to upstream fish migration. Second pass sampling above this section and lack of adequate habitat indicate that the portion of stream above this high gradient section is non fish bearing. The portion of this stream below the high gradient is fish bearing based on access.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B1619	1537	5	2.5	5	RB	S3/S6	n	Historical Site. Good rearing and fair spawning habitat. Overwintering habitat present. Falls (1.5 m) prevent fish migration upstream. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.
B1701	2174	3	7.0	4	RB	S2	n	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
B1702	2174	4	7.0	6	RB	S2/S5	n	Historical Site. Good spawning, rearing and overwintering habitat. Falls (6 m) are a barrier to upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.
B1703	1892	1	3.7	10	NFC	S3*	n	Historical Site. Good spawning habitat, limited rearing habitat, overwintering habitat present. A perched culvert in the upper portion of the reach is a partial barrier to fish migration. No permanent barriers to fish migration were observed. This reach can be classified as fish bearing based on access.
B1704	1347	3	3.0	6	DV	S3	n	Historical Site. Good spawning habitat, poor rearing habitat, and no overwintering habitat. Dolly Varden captured.
B1705	1347	4	4.2	12	DV	S3/S5	n	Historical Site. Falls (2 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Dolly Varden captured downstream of falls.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
B1709	1520	1	1.5	8	NFC	S3	n	Historical Site. No overwintering habitat. Limited spawning and rearing habitat. Channel has been disturbed by prior logging activities. Fish stream based on access. Dolly Varden captured within this reach during 2002 sampling (site 369).
B1710	1520	4	3.4	8	NFC	S3*/S5	n	Historical Site. Good rearing, spawning and overwintering habitat. Falls (6 m) prevent upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. The portion of stream below the falls is fish bearing based on access. No fish captured.
B1712	1349	4	2.1	4	RB	S3	n	Limited spawning and overwintering habitat. Rearing habitat is good. No fish were caught above a beaver dam which indicates that it is a temporary barrier to upstream fish migration. Therefore the portion of stream above the beaver dam can be classified as fish bearing based on access until a permanent barrier is located or until stream habitat deteriorates to a point where it will no longer sustain fish.
B1713	1349	6	2.0	4	NFC	S3*	n	Historical Site. Adequate rearing habitat, limited spawning habitat and no overwintering habitat. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during high flows.
B1719	2213	1	2.7	7	RB	S3	n	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
C10172	1394	6	1.3	4	NFC	S4	n	Historical Site. Channel complexity indicates habitat capabilities. Potential fish access.
C11001	1495	1	4.5	1	RB	S3	n	Historical Site. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
C11006	1181	1	1.3	1	NFC	S4	n	Historical Site. Poor habitat conditions. Rainbow trout captured upstream in ILP 1182 Reach 1 (site T02-ST2).
C11007	1450	12	2.1	2	CC	S3	n	Historical Site. Channel receives little water as culvert diverts flow along ditchline at upstream end. Sculpin (general) captured.
C11008	1453	3	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Habitat available. Potential Fisheries Sensitive Zone.
C11012	1486	1	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Wetland with heavy beaver activity. Potential Fisheries Sensitive Zone.
C11014	1495	1	12.7	1	RB, RSC, CC, SU	S2	n	Historical Site. Rainbow trout, red sided shiner, sculpin (general) and sucker (general) captured.
C11015	1775	2	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11016	1775	1	4.1	3	NFC	S3	n	Historical Site. Moderate rating for habitat quality. Fish bearing based on potential access.
C11018	1778	1	2.1	2	RB	S3	n	Historical Site. Rainbow trout captured.
C11019	1771	3	0.6	1	NFC	S4	n	Historical Site. Limited habitat potential. Fish bearing based on access.
C11020	1771	1	2.0	2	RB, RSC	S3	n	Historical Site. Rainbow trout and red sided shiner captured.
C11021	1742	3	7.5	2	RB, CAS	S2	n	Historical Site. Rainbow and northern pikeminnow captured and kokanee observed.
C11022	1742	8	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11024	1810	1	1.1	9	NFC	S4	n	Historical Site. No habitat potential. Fish bearing based on access.
C11025	1801	4	15.0	3	RB, KO, NSC	S2	n	Historical Site. Rainbow and northern pikeminnow captured and kokanee observed.
C11026	2114	1	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
C11027	1801	15	10.9	1	RB	S2	n	Historical Site. Rainbow trout captured.
C11028	2075	1	NS	NS	RB	NVC	n	Historical Site. No Visible Channel. Rainbow trout captured.
C11029	2104	2	2.1	2	RB, RSC	S3	n	Historical Site. Rainbow trout and redbside shiner captured.
C11035	1742	10	7.0	2	RB	S2	n	Historical Site. Rainbow trout captured.
C11036	2004	1	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11037	2005	3	0.6	7	NS	S4	n	Historical Site. No habitat potential upstream of site. Potential fish access.
C11038	2073	1	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Fisheries sensitive zone as stream approaches ILP 1801.
C11041	1801	13	18.4	0	RB	S2	n	Historical Site. Rainbow trout captured.
C11042	2290	4	2.3	3	RB	S3	n	Historical Site. Rainbow trout captured.
C11043	1276	3	5.4	4	RB	S2	n	Historical Site. Rainbow trout captured.
C11044	1455	1	3.7	2	RB	S3	n	Historical Site. Rainbow trout captured.
C11047	1465	1	1.1	1	NFC	S4	n	Historical Site. Limited habitat. potential fish access.
C11051	1933	1	2.1	4	RB	S2	n	Historical Site. Rainbow trout captured.
C11090	1485	1	2.0	4	RB	S3	n	Historical Site. Rainbow trout captured.
C12002	1495	27	4.5	1	RB	S3	n	Historical Site. Rainbow trout captured.
C12004	1495	16	7.6	2	RB, RSC, CC, SU, NSC, KO	S2	n	Historical Site. Rainbow trout, red sided shiner, prickly sculpin, sucker (general), northern pike minnow and kokanee captured.
C12005	1123	1	3.3	7	NFC	S3	n	Historical Site. Fish bearing based on access and no barriers observed.
C12007	1394	2	3.8	1	NFC	S3	n	Historical Site. Limited habitat available. Potential fish access.
C12008	1313	1	NS	NS	NS	NVC	n	Historical Site. Dewatered. Poor substrate limits habitat capabilities. Potential Fisheries Sensitive Zone.
C12009	1398	5	3.7	6	NFC	S3	n	Historical Site. Some habitat potential. Fish bearing based on access.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
C12010	1398	3	4.6	11	NFC	S3	n	Historical Site. Limited habitat potential. Rainbow trout captured upstream in Reach 4 (site 363).
C12013	1495	4	13.6	2	RB, RSC, SU MW	S2	n	Historical Site. Rainbow trout, red sided shiner, sucker (general) and mountain whitefish captured.
C12015	1452	2	0.8	1	RB	S4	n	Historical Site. Rainbow trout captured.
C12016	1585	1	1.9	28	NFC	S3	n	Historical Site. Limited habitat available. Potential fish access.
C12017	1594	2	2.2	1	RB	S3	n	Historical Site. Rainbow trout captured.
C12022	1743	3	2.3	7	NS	S4*	n	Historical Site. Poor fish habitat. Rainbow trout captured downstream in Reach 2.
C12023	1744	1	1.5	3	RB	S4	n	Historical Site. Rainbow trout captured.
C12024	1764	2	1.2	13	NFC	S4	n	Historical Site. Limited habitat and high gradient (13%).
C12030	1742	1	9.9	2	RB, CAS	S2	n	Historical Site. Rainbow trout and prickly sculpin captured.
C12031	1500	1	2.4	2	RB	S3	n	Historical Site. Rainbow trout captured.
C12032	1801	16	6.7	1	RB	S2	n	Historical Site. Rainbow trout captured.
C12033	2052	1	2.0	3	RB	S3	n	Historical Site. Rainbow trout captured.
C12034	2127	2	5.3	7	RB	S2	n	Historical Site. Rainbow trout captured.
C12035	1948	2	3.4	11	NS	S3	n	Historical Site. Poor habitat quality rating. Rainbow trout captured downstream in Reach 1 (site 15). Inferred fish bearing.
C12036	1949	1	0.7	25	NS	S4	n	Historical Site. Channel becomes undefined in sections. Rainbow trout captured downstream in mainstem ILP 1948 Reach 1 (site 15). Inferred fish bearing.
C12041	2250	2	2.4	6	NFC	S3	n	Historical Site. Poor habitat quality rating. Inferred fish bearing.
C12042	2248	1	1.6	5	NS	S3	n	Historical Site. Possibly some spawning potential at stream mouth. Inferred fish bearing.
C12043	2247	1	1.0	10	NS	S3	n	Historical Site. Ephemeral channel. Fish bearing based on access.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
C12044	2308	3	1.1	6	NFC	S3	n	Historical Site. Good habitat potential. Potential fish access.
C12046	1455	1	3.7	2	RB	S3	n	Historical Site. Rainbow trout captured.
C12049	1803	12	NS	NS	NS	NVC	n	Historical Site. Wetland - No Visible Channel. Potential Fisheries Sensitive Zone.
C12050	1914	1	1.0	0	NS	S4*	n	Historical Site. Dewatered. Spring run-off channel. Inferred fish bearing.
C12051	2291	1	2.2	3	NFC	S3*	n	Historical Site. Poor habitat quality rating. Inferred fish bearing.
C12052	2308	4	3.2	2	NFC	S3	n	Historical Site. Limited habitat potential. Potential fish access.
C12113	2256	2	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C12114	2316	1	0.8	3	RB	S4	n	Historical Site. Rainbow trout captured.
C12115	1987	1	1.1	3	NS	S4	n	Historical Site. Dewatered. Limited habitat availability. Inferred fish bearing based on potential access.
C12117	1278	1	1.3	2	NFC	S4	n	Historical Site. Poor habitat quality. Rainbow trout captured in downstream mainstem ILP 1276.
C12119	1276	8	NS	NS	NS	NVC	n	Historical Site. Beaver dams potentially limit upstream migration. Inferred fish bearing.
C12120	1276	7	1.7	3	RB	S3	n	Historical Site. Rainbow trout captured.
C13046	1737	1	0.3	5	NS	S4	n	Historical Site. Dewatered. Fish may use lower 10 m. Inferred fish bearing based on access.
C13047	1732	1	0.5	29	NS	S4	n	Historical Site. Fish may use lower 50 m at lake. Inferred fish bearing based on access.
E153	1666	2	NS	NS	NS	NVC*	n	Historical Site. No Visible Channel. Dry wetland. Potential Fisheries Sensitive Zone.
E155	1686	1	1.1	3	RB	S4	n	Historical Site. Excellent rearing habitat and moderate spawning habitat. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
E156	1686	2	0.7	5	NS	S4	n	Historical Site. Poor rearing and limited spawning habitat. Fish bearing based on access.
E163	1611	5	5.0	3	RB	S3	n	Historical Site. Excellent spawning and rearing habitat for rainbow trout. Rainbow trout captured.
E167	1618	4	1.2	5	NFC	S4*/S6	n	Historical Site. Poor fish habitat. Second pass sampling and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured. Inferred fish bearing downstream.
E168	1625	2	1.0	5	NFC	S4*	n	Historical Site. Poor to fair rearing habitat. Poor spawning habitat - lack of substrate. Fish bearing based on access.
E181	1642	7	1.8	4	RB	S3/S6	n	Historical Site. Cascade (2 m x 1 m) within this reach is a barrier to upstream fish migration. No fish captured upstream of barrier. Fish stream below barrier.
E1557	1642	2	3.0	5	RB	S3	n	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
E1601	1676	1	1.3	4	RB	S4	n	Historical Site. Poor spawning habitat, poor rearing habitat, and no overwintering habitat. Rainbow trout captured.
E1605	1632	1	1.0	3	NFC	S4/S6	n	Historical Site. Non fish bearing based on second pass sampling. The lower portion of this stream offers fair spawning and poor rearing habitat. Fish bearing based on access in lower portion of reach. No fish captured.
E1608	1618	2	1.9	4	RB	S3	n	Historical Site. Good spawning, fair rearing and poor overwintering habitat. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
E1609	1618	4	1.3	4	NFC	S4*/S6	n	Historical Site. The lower 200 m of this can be classified as fish bearing based on access. Second pass sampling in two separate seasons and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured.
F1301	2304	4	0.7	5	NFC	S4*	n	Historical Site. Moderate rearing habitat and poor spawning habitat. No barriers to upstream fish migration were observed. Fish stream based on access.
F1302	2298	5	4.4	8	RB	S3	n	Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
F1527	2298	2	4.8	5	RB	S3	n	Historical Site. Rainbow trout captured.
F1529	2304	5	1.7	5	NFC	S3*	n	Historical Site. Moderate rearing and spawning potential. No barriers to upstream fish migration were observed. Fish stream based on access.
F1545	1412	5	1.1	5	NFC	S4*	n	Historical Site. Subsurface flows between isolated pools. Fish access possible during higher flows. Inferred fish bearing.
F1547	1406	9	1.3	5	NFC	S4/S6	n	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1548	1416	3	2.8	7	RB	S3	n	Historical Site. Rainbow trout captured.
F1565	1412	3	1.5	4	NFC	S3	n	Historical Site. Fish were captured upstream in Reach 4. Fish stream based on seasonal use.
F1610	1412	1	1.8	3	RB	S3	n	Historical Site. Poor rearing, good spawning and no overwintering habitat. Rainbow trout captured.
F1611	1406	5	3.0	4	RB	S3	n	Historical Site. Moderate spawning, rearing, and overwintering habitat. Rainbow trout captured.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
F1622	1406	9	2.0	3	RB	S3/S6	n	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1627	2304	1	2.6	6	NFC	S3*	n	Historical Site. Excellent rearing habitat. Fair rearing habitat. Overwintering habitat present. No barriers to upstream fish migration were observed. Fish stream based on access.
F1715	1412	4	1.7	7	RB	S3	n	Historical Site. Fair spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
T02-ST2	1183	1	3.2	1	RB	S3	n	Historical Site. Perennial stream. Rainbow trout captured.
T02-ST3	1181	2	NS	NS	NS	WNVC	n	Historical Site. Wetland - No Visible Channel. Non channelized wetland in upper 300 m of this reach. No potential for access exists through the wetland. Lower 350 m of reach has potential fish access (potential Fisheries Sensitive Zone).
1	2366	2	1.3	1	NS	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Downstream Big Loon Lake is fish bearing. Inferred fish bearing.
2	2359	3	1.0	1	NFC	S4*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
3	2359	5	1.2	1	NFC	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Bridge and fill underneath is a barrier to upstream fish migration. An old culvert and logs beneath bridge block upstream fish migration as well. Inferred fish bearing as obstructions are not permanent.
4	2373	3	2.1	21	NFC	S3*/S6	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Sections of high gradient (20% over 100 m) block upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
5	2370	5	2.5	12	NFC	S3*/S6	n	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. High gradient (20%) ~200 m upstream of site blocks upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
7	2358	2	2.3	6	NFC, RB	S3	n	Moderate rearing, poor spawning and potential overwintering habitat observed within site. No fish captured but rainbow trout were visually observed.
11	1942	2	2.2	6	NFC	S3*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Channel fans out below road crossing and becomes dry with small pools every 20 m. Inferred fish bearing.
12	1944	1	NS	NS	NFC	NS	n	Fish only sampling site.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
13	1944	2	1.1	21	NFC	S4*/S6	n	Dry/Intermittent. High gradient (24%) ~300 m downstream of upper road crossing prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
14	1945	1	1.4	20	NFC	S4*/S6	n	Dry/Intermittent. High gradient (24%) ~100 m upstream of the confluence with ILP 1944 prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
15	1948	1	1.9	5	RB	S3	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
16	1948	3	1.7	21	NFC	S3*/S6	n	Dry/Intermittent. High gradient (20.5% over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient. No fish captured.
17	1950	1	1.5	20	NS	S3*/S6	n	Dry/Intermittent. High gradient break (20%+ over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
18	2009	1	NS	NS	RB	NS	n	Fish only sampling site.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
19	2009	2	2.1	6	NFC	S3*/S6	n	Falls (3 m) within this reach are a barrier to upstream fish migration. Inferred fish bearing downstream of falls. Moderate rearing, poor spawning and no overwintering habitat observed within site. Four (4) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
20	2253	2	2.4	16	NFC	S3*/S6	n	Cascade section (50 m x 60 m) blocks upstream fish migration. Below cascade section inferred fish bearing. Poor rearing, no spawning and no overwintering habitat observed within site. No fish captured upstream of cascade.
22	2251	1	NS	NS	RB	NS	n	Fish only sampling site.
23	2308	3	2.8	4	NFC	S3*	y	Moderate rearing, moderate spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were located. Inferred fish bearing.
24	1966	1	1.0	3	NFC	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
25	1966	2	1.4	23	NFC	S4*/S6	n	Dry/Intermittent. High gradient (23% over 100 m) blocks upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Lower 100 m of reach is inferred fish bearing. No fish captured.
26	1975	1	1.5	3	NS	S4*	n	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
27	1979	2	1.8	4	NS	S3*	y	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
28	1989	3	1.8	2	RB	S3	n	Moderate rearing, poor spawning and poor overwintering habitat observed within site. Rainbow trout captured.
29	1995	2	1.5	2	NFC	S3*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
30	1993	1	1.0	2	NFC	S4*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
31	1990	1	1.5	2	RB	S3	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
32	1450	11	2.0	1	RB, PCC	S3	n	Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout and peamouth chub captured.
33	1290	1	1.4	1	NFC	S4*	n	Moderate rearing, moderate spawning and no overwintering habitat observed within site. Beaver activity downstream may prevent fish access to this reach. Inferred fish bearing.
34	1394	6	1.6	2	NFC	S3*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
35	1394	4	1.6	1	NFC	S3*	y	Moderate rearing, poor spawning and no overwintering habitat observed within site. Lower wetland may limit upstream fish migration. Inferred fish bearing.
36	1119	3	1.7	3	RB	S3	n	Moderate rearing, moderate spawning and no overwintering habitat observed within site. Rainbow trout captured.
37	1123	1	1.7	5	NFC	S3*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
38	1429	2	1.4	1	RB	S4	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
39	1404	5	1.1	2	NFC	S4*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Inferred fish bearing.
53	1141	3	1.7	4	NFC	S3*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Beaver activity downstream may limit access to this reach. Inferred fish bearing.
54	1182	3	0.9	6	NFC	S4*	n	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Inferred fish bearing based on potential access.
55	1181	3	1.3	1	NFC	S4*	n	Poor rearing, poor spawning and no overwintering observed within site. Stream is not mapped correctly and flows into beaver pond ILP 1186. Beaver activity may temporarily restrict fish access. Inferred fish bearing based on potential access.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
57	1296	3	1.5	4	RB	S3	n	Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
58	1173	6	1.5	4	NFC	S3*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Poor connection to downstream wetland could limit fish access to this reach. Inferred fish bearing.
59	1018	1	1.3	2	NFC	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
60	1015	1	1.4	3	NFC	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
61	1091	1	1.8	1	NFC	S3*	n	Moderate rearing, no spawning and overwintering (present) habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
62	1022	8	1.6	1	NFC	S3*	y	Moderate rearing, poor spawning and overwintering (present) habitat observed within site. Extensive beaver activity may limit fish access to this Reach. Inferred fish bearing.
63	1030	2	1.4	2	NFC	S4*	n	Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
67	2052	2	NS	NS	RB	NS	n	Fish only sampling site.
70	1785	1	1.3	2	NFC	S4*	n	Poor rearing, poor spawning and no overwintering habitat observed within site. Disturbances on mainstem may limit fish access to this reach. Inferred fish bearing.

Table 9. Summary of fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (y or n)	Comments
639	2075	3	NS	NS	NFC	NS	n	Fish only sampling site.
640	2075	2	NS	NS	NFC	NS	n	Fish only sampling site.
641	1742	13	2.3	3	NFC	S3	n	Moderate rearing and moderate spawning habitat observed within site. Overwintering habitat present. No barriers to fish migration were observed. Fish bearing based on access.
643	2114	3	1.5	7	NFC	S3*	n	Moderate rearing, moderate spawning and questionable overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
645	1752	4	2.2	8	NFC	S3*	y	Low spawning and no overwintering habitat was observed within site. Access looks possible from downstream lake. Inferred fish bearing.
927	1149	1	0.7	2	NS	S4*	n	Dry/Intermittent. No fish habitat observed, ephemeral stream. No barriers to fish migration were observed. Inferred fish bearing.

CO = coho

CAS = prickly sculpin

CC = slimy sculpin

DV = Dolly Varden

KO = kokanee

LKC = lake chub

MW = mountain whitefish

NSC = Northern pikeminnow

PCC = peamouth chub

RB = rainbow trout

RSC = redbside shiner

WSC = white sucker

NFC = No Fish Captured

NVC = No Visible Channel

WNVC = Wetland No Visible Channel

NS = Not Sampled

* = Indicates inferred fish bearing

Table 10. Additional sampling recommendations within the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments	Additional Sampling Recommendations
23	2308	3	093K.082	2.8	4	NFC	S3*	Moderate rearing, moderate spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were located. Inferred fish bearing.	Additional sampling downstream of lower road crossing (deactivated) will confirm the fish bearing status of this reach. Barriers to fish migration may be present downstream.
27	1979	2	093K.091	1.8	4	NS	S3*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.	Additional sampling downstream of this site during higher flow periods will confirm the fish bearing status of this reach.
35	1394	4	093M.030	1.6	1	NFC	S3*	Moderate rearing, poor spawning and no overwintering habitat observed within site. Downstream wetland may limit upstream fish migration. Inferred fish bearing.	Additional sampling (second pass) upstream of wetland /beaver dams will confirm the fish bearing status of this reach. The downstream wetland should be minnow trapped.
62	1022	8	093M.039	1.6	1	NFC	S3*	Moderate rearing, poor spawning and overwintering (present) habitat observed within site. Extensive beaver activity may limit fish access to this Reach. Inferred fish bearing.	Additional sampling downstream of this site will confirm the fish bearing status in this reach. Two additional sites (61 and 624) located upstream and on a tributary upstream were also NFC. Barriers to fish migration may be present downstream.

Table 10. Additional sampling recommendations within the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments	Additional Sampling Recommendations
71	1784	1	093N.001	2.2	6	NFC	S3*	Moderate rearing and poor spawning. Overwintering habitat present. Inferred fish bearing based on access.	Additional sampling downstream of this site will confirm the fish bearing status of this reach. Site 70 located on a tributary near Site 71 also resulted in NFC. Barriers to fish migration may be present downstream.
375	1803	6	093M.010	2.2	1	NFC	S3*	Good rearing, no spawning and poor overwintering habitat observed within site. Lake upstream and no barriers to fish migration were observed. Inferred fish bearing.	Additional sampling downstream of this site and in the lake upstream will confirm the fish bearing status of this reach. Site 376 located upstream also resulted in NFC. The channel downstream of the site on ILP 1169 is identified as NVC and may be a barrier to fish migration.
578	1792	1	093N.001	0.9	16	NFC	S6*	High gradient (23% for 50 m and 28% for 30 m) downstream of road crossing. Rainbow trout captured downstream within reach (site 579). Inferred non fish bearing. Suggest that lake in Reach 2 of this stream be minnow trapped to confirm fish presence/absence.	Additional sampling in upstream lake (Reach 2 of this stream) will confirm the inferred non fish bearing status of this reach.

Table 10. Additional sampling recommendations within the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments	Additional Sampling Recommendations
631	1155	8	093M.039	2.3	18	NFC	S3*	Moderate rearing, low spawning and potential overwintering habitat observed within site. Two cascades (1.5 m x 1.5m and 0.9 m x 2 m) were observed within site and are not considered barriers to upstream fish migration. Inferred fish bearing.	Additional sampling downstream of this site will confirm the fish bearing status of this reach. Barriers to fish migration may be present downstream.
645	1752	4	093N.002	2.2	8	NFC	S3*	Low spawning and no overwintering habitat was observed within site. Access looks possible from downstream lake. Inferred fish bearing.	Additional sampling downstream of this site and in lake will confirm the fish bearing status of this reach. Barriers to fish migration may be present downstream.

NFC = No Fish Captured NS = Not Sampled * = Indicates inferred fish bearing

4.6.3 Non-Fish Bearing Status

Non-fish bearing status was assigned to 259 of the 486 sample sites (current and historical) within the study area (Table 11). For sampling during the 2002 field season, 41 of 119 sites were classified as non-fish bearing. A non-fish bearing classification has been assigned to all sampled reaches within the non-fish bearing table. Non-fish bearing classifications are associated with reaches that lack suitable habitat to sustain salmonids and/or other regionally significant species or are inaccessible to fish. Non-fish bearing status was assigned to reaches where:

- The drainage feature was labeled a non-visible channel containing no potential fish habitat;
- The stream was deemed inaccessible from fish bearing waters and did not have perennial fish habitat;
- Gradient prevented upstream fish migration and the stream did not have perennial fish habitat upstream;
- Permanent barriers (cascades, falls, etc.) prevented upstream fish migration and the stream did not have perennial fish habitat upstream;
- No fish habitat was present;
- The stream gradient is $>30\%$ (through map interpretation) in the lower section of stream (i.e. reach 1) and all reaches upstream of that reach are $>20\%$;
- The stream gradient is $>30\%$ (through map interpretation); Gradients were calculated during the pre field planning phases.
- The stream lacked a continuous definable channel bed as per the *Forest Practices Code Fish Stream Identification Guidebook*, (BC Forest Practices Code, 1998).

Inferred non-fish bearing status was given to reaches with the following criteria:

- The average stream gradient assigned was greater than 20% (through map interpretation) with no headwater lake present;
- Reaches above a stream section with an average gradient greater than or equal to 20% (through map interpretation) with no headwater lake present.

Often the non-fish bearing status of stream reaches with average gradients less than 20% is supported by evidence concerning the accessibility to potential fish bearing water. For example, obvious permanent barriers such as falls, cascades and high gradient sections are measured and adequate sampling is conducted above the potential barrier to confirm that the portion of stream above the barrier is non-fish bearing. Many of the headwater reaches and smaller streams reaches draw from such a small watershed area that they lack sufficient discharge volume required to develop significant channels and habitat complexity. These reaches are often ephemeral, containing shallow water depths, subsurface flows, lack of significant pools and have a predominance of organic and fine substrates.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
A11	1440	1	0.5	3	S6	9/11/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No access through reach (subsurface flows and discontinuous sections), no perennial fish habitat present.
A13	1448	1	NS	NS	NVC	9/11/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A15	1589	1	NS	NS	NVC	9/12/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A16	1590	1	0.5	4	S6	9/12/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Vegetated seepage. No fish habitat.
A18	1759	1	1.2	6	S4/S6	9/12/98	150	129	70	L	C	8.2	NA	NA	Historical Site. Lower 400 m of this stream classified S4 based on access. Upstream of 400 m mark, habitat becomes subsurface flow and discontinuous. No fish captured.
A19	1754	2	1.3	2	S6	9/13/98	140	238	70	L	C	9	MT	over night set	Historical Site. Sections of subsurface flow and discontinuous channel. Overnight minnow traps were set and site was electroshocked. Sampling upstream of discontinuity resulted in no fish captured.
A111	1466	1	NS	NS	NVC	9/13/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A112	2002	1	1.1	4	S4/S6	9/13/98	150	211	80	L	C	8	NA	NA	Historical Site. Lower 100 m classified S4 based on access. Upstream of 400 m mark channel becomes discontinuous. No fish captured.
A113	2004	1	NS	NS	NVC	9/14/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A114	1739	2	1.1	20	S6	9/14/98	150	104	70	L	C	6.5	NA	NA	Historical Site. Gradient barrier downstream (21%) prevents fish from accessing this reach. No fish captured.
A115	1732	1	2.2	13	S6	9/14/98	100	217	80	M	C	7.5	NA	NA	Historical Site. Falls and gradient (29%) downstream of cutblock prevent fish access. No fish caught upstream of falls (second season sampling).
A116	1737	4	1.3	4	S6	9/14/98	150	321	80	M	C	7	NA	NA	Historical Site. Falls (30 m) in Reach 2 are a barrier to upstream migration. No fish were captured upstream of falls (second season sampling).
A117	1737	2	3.1	6	S6	9/14/98	120	363	90	M	C	7	NA	NA	Historical Site. Falls (30 m) in Reach 2 are a barrier to upstream migration. No fish were captured upstream of falls (second season sampling).
A118	1800	1	0.8	3	S6	9/14/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat and no access to this reach (subsurface flow and no flowing water). Discontinuous channel.
A119	1279	3	0.6	2	S6	9/15/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Discontinuous channel (100 m). No surface or subsurface connections between depressions. No fish habitat.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
A120	1283	1	0.9	6	S4/S6	9/15/98	400	467	85	L	C	9	NA	NA	Historical Site. Gradient barrier (25%) 100 m upstream from confluence. No fish caught above barrier. Excellent spawning and rearing habitat in lower 100 m of reach. Fish captured downstream of barrier. S4 downstream of barrier, S6 upstream.
A121	1283	2	0.7	8	S6	9/15/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Gradient barrier (25%) in Reach 1 prevents fish access to this reach.
A122	1295	1	0.6	6	S4/S6	9/15/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Lower 30 m classified S4 based on access. A gradient barrier (>20%) 30 m into reach prevents upstream fish access. After 180 m stream becomes a seepage (NVC). Stream is S4 downstream of block, S6 next to block and NVC within block.
A123	1289	2	0.5	8	S4/S6	9/15/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Stream upstream of road is non fish bearing. Poor rearing and no spawning habitat downstream of road. No fish caught in downstream site. S4 downstream of road crossing based on access. Follow up sampling determined reach is S6 upstream of road crossing based on habitat and increasing gradients.
A126	1794	2	0.4	5	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A127	1795	1	0.4	6	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A128	1746	1	NS	NS	NVC	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A129	1747	1	0.5	7	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No connection to fish bearing waters and no perennial fish habitat.
A131	1459	1	0.6	2	S6	9/13/98	NA	NA	110	L	C	7.6	MT	over night set	Historical Site. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling.
A132	1460	1	0.7	1	S6	9/13/98	NA	NA	110	L	C	7.6	MT	over night set	Historical Site. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling. No fish habitat.
A133	1455	4	6.5	1	S6	9/13/98	NA	NA	90	M	C	8.2	MT	over night set	Historical Site. Should be classed as a wetland with no fish present. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
A194	1113	1	NS	NS	NVC	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A195	1114	1	0.8	6	S6	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. High gradient (30%) at lake is a barrier to upstream fish migration. 300 m upstream of road crossing gradient increases close to 20%. No perennial fish habitat present.
A196	1112	4	0.8	13	S4/S6	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Gradient barrier (>20%) 150 m downstream of road crossing. Section downstream of barrier S4 based on access. Poor spawning and rearing habitat.
A197	1504	1	0.8	14	S6	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (30 m) downstream on mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
A198	1505	1	0.4	15	S6	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (30 m) downstream on mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
A1101	1969	1	1.0	6	S6	9/28/98	250	154	97	L	C	7	NA	NA	Historical Site. Falls (3.2 m) downstream on mainstem ILP 2290 Reach 5 block fish access. No fish caught upstream of falls.
A1102	2290	5	3.0	10	S3/S5	9/28/98	350	249	103	L	C	6.5	NA	NA	Historical Site. Falls (3.2 m) at the bottom of this Reach are a barrier to upstream fish migration. Rainbow trout captured downstream of the falls. No fish captured upstream of the falls.
A1103	1968	1	0.7	31	S6	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Gradient barrier (31%) at the confluence with ILP 2290 blocks fish access. No perennial habitat.
A1104	2290	1	NS	NS	NVC	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
A1106	2032	1	0.9	7	S6	9/28/98	100	236	92	L	C	5.6	NA	NA	Historical Site. High gradient (21%) within reach. No fish captured.
A1107	2033	1	1.0	10	S4/S6	9/28/98	200	199	87	L	C	6	NA	NA	Historical Site. Subsurface flows and no connection to fish bearing water (discontinuous throughout). The portion of stream above the road crossing is S6. The remainder of stream below the road crossing is S4 based on potential access. No fish captured.
A1108	2034	1	1.5	10	S6	9/28/98	180	201	86	M	C	6.2	NA	NA	Historical Site. High gradient section (25%) downstream of road is a barrier to upstream migration. Falls (2 m) within this reach are also a barrier to fish passage. No fish captured upstream of barriers.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
A1110	2052	4	1.1	5	S6	9/28/98	100	83	108	NA	C	6.3	NA	NA	Historical Site. No fish habitat. Falls (2.4 m) downstream in Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
B125	2164	1	1.0	20	S4*/S6	9/17/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Lower 30 m of reach is accessible to fish. Gradient (>20%) throughout the remainder of the reach prevents upstream fish migration.
B136	2355	1	0.5	3	S6	9/17/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Channel has no connectivity to downstream fish-bearing waters.
B137	2354	15	1.0	15	S4/S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor habitat. Dry channel. Lower 50 m of reach offers some seasonal habitat and is S4 based on access. Above this point a 10 m section of stream with >20% gradient is a barrier to upstream fish migration.
B138	2354	17	0.7	21	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Average gradient is 21% over 100 m, limiting fish access to this reach.
B140	2400	1	NS	NS	NVC	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B141	2377	5	1.4	34	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicate that this stream is non fish bearing.
B142	2415	1	0.9	31	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (2 m) downstream are a barrier to upstream fish migration. Second pass sampling above falls indicates the portion of stream above the barrier is non fish bearing. No fish captured.
B143	2373	6	NS	NS	NS	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B144	2229	1	0.8	17	S6	9/19/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B145	2225	3	0.7	5	S6	9/19/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor spawning and rearing habitat. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B149	2223	1	1.4	16	S6	9/19/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. High gradient. Poor habitat. Second pass sampling (downstream ILP 2353 Reach 3) confirms non fish bearing status.
B150	2253	3	2.1	19	S6	9/19/98	150	277	152	L	C	9.1	NA	NA	Historical Site. Poor spawning and good rearing habitat. Falls (1.5 m) in Reach 5 prevent upstream fish migration. Second pass sampling above the falls resulted in no fish captured and confirms non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1201	2369	3	NS	NS	NVC	9/20/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B151	1537	8	2.7	5	S6	9/20/98	280	232	75	L	C	6.5	NA	NA	Historical Site. Fair rearing and poor spawning. Falls (1.5 m) in Reach 5 prevent upstream fish migration. Second pass sampling above the falls resulted in no fish captured and confirms non fish bearing status.
B152	1537	7	26.0	1	S6 (wetland)	9/20/98	285	328	85	H	C	7	NA	NA	Historical Site. Poor spawning and good rearing habitat. Falls (1.5 m) in Reach 5 prevent upstream fish migration. Second pass sampling above the falls resulted in no fish captured and confirms non fish bearing status.
B157	1866	8	0.8	2	S6	9/20/98	120	298	78	L	C	7.1	NA	NA	Historical Site. Subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section resulted in no fish captured and confirms non fish bearing status.
B158	1866	6	1.0	5	S6	9/20/98	140	150	81	L	C	7.2	NA	NA	Historical Site. Subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section resulted in no fish captured and confirms non fish bearing status.
B161	1719	2	NS	NS	NVC	9/20/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B172	1710	2	1.1	6	S6	9/24/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor spawning and rearing habitat. Channel disturbed by previous logging. No connection to fish bearing waters. A falls (1.5 m) downstream on mainstem ILP 1863 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
B176	2265	3	1.6	4	S6	9/24/98	250	250	71	L	C	6.5	NA	NA	Historical Site. Poor rearing and spawning habitat. Falls (6 m) on ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B177	1537	10	1.6	4	S6	9/25/98	100	120	224	L	C	5.6	NA	NA	Historical Site. Good rearing habitat. Poor to fair spawning habitat. Falls (1.5 m) in Reach 5 prevents upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B178	1566	2	0.7	30	S6	9/25/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. High gradient (30% average over 100 m) prevents upstream fish migration.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B179	1520	5	1.2	8	S6	9/25/98	150	234	124	L	C	6.4	NA	NA	Historical Site. Good rearing potential. Falls (6 m) in Reach 4 prevent upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured upstream of falls.
B184	1560	1	1.1	8	S6	9/25/98	100	151	206	L	C	6	NA	NA	Historical Site. Poor spawning habitat. Fair to poor rearing habitat. Falls (1.5 m) in downstream ILP 1537 Reach 5 prevent fish migration upstream. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B185	1331	1	NS	NS	NVC	9/25/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B186	1333	1	NS	NS	NVC	9/25/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B187	1335	3	1.6	20	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor rearing and spawning habitat. Falls (2.1 m) in Reach 2 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.
B188	1335	2	1.9	8	S3*S6	9/26/98	200	233	73	L	C	5.3	NA	NA	Historical Site. Good rearing and spawning habitat. Falls (2.1 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Inferred fish bearing downstream of falls.
B189	1336	2	1.0	20	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. High gradient (20% over 100 m) prevents upstream fish migration.
B190	1340	3	0.9	14	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Ephemeral Stream. Gradients of >20% within reach.
B191	1343	2	0.6	6	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Subsurface flows. Upper portion of reach has gradients approaching 30%.
B1501	2174	8	5.2	9	S5	9/15/98	400	310	30	M	C	5	NA	NA	Historical Site. Good rearing habitat. Falls (6 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1502	2189	1	0.6	16	S6	9/15/98	100	68	40	L	C	6	NA	NA	Historical Site. Falls (6 m) on ILP 2174 (reach 4) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1503	2174	6	5.5	5	S5	9/15/98	250	276	30	M	C	6	NA	NA	Historical Site. Falls (6 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. No fish captured.
B1504	2185	4	0.7	4	S6	9/15/98	100	200	60	L	C	8	NA	NA	Historical Site. Falls (6 m) on ILP 2174 (Reach 4) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1506	2178	2	0.5	5	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Ephemeral stream. Cascades (12 x 20 m) in Reach 1 are a barrier to upstream fish migration. No fish captured upstream of the cascades.
B1507	2178	1	1.0	5	S6	9/16/98	150	650	130	L	L	9	NA	NA	Historical Site. Cascade (12 m x 20 m) prevents upstream fish migration. No fish captured upstream of cascade.
B1509	1903	2	1.0	7	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor habitat quality. Falls (6 m) on ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.
B1510	1883	2	1.9	6	S6	9/16/98	250	353	90	L	C	8	NA	NA	Historical Site. Second pass sampling in Reach 1 confirms non fish bearing status. No fish captured.
B1511	1885	2	2.0	7	S6	9/16/98	200	200	80	L	C	7	NA	NA	Historical Site. Excellent spawning and rearing. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) located in Reach 1 is a barrier to upstream migration. Second pass sampling at 2 locations above this barrier indicates that this stream is non fish bearing above the chute. No fish captured.
B1512	1888	3	1.0	11	S6	9/16/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor fish habitat. Falls (20 m) in the lower portion of this reach prevents upstream fish migration. Second pass sampling within this reach and lack of adequate habitat indicate this is a non fish bearing reach.
B1513	2375	4	0.8	3	S6	7/3/99	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor habitat due to ephemeral nature. Second pass sampling confirms non fish bearing status.
B1514	2379	2	2.7	5	S6	9/17/98	100	75	80	L	C	8	NA	NA	Historical Site. Second pass sampling confirms non fish bearing status of this stream. No fish captured.
B1518	2214	1	2.8	5	S6	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poor fish habitat. Ephemeral stream. No connectivity to Babine lake. Second pass sampling confirms non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1520	2350	10	0.9	34	S6	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Gradient (34%) is a barrier to fish passage.
B1521	2216	1	1.0	5	S6	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling and gradient (20%) in downstream ILP 2350 Reach 9 indicate this reach is non fish bearing.
B1522	2215	3	NS	NS	NVC	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1523	2350	14	0.4	5	S6	9/19/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat. Downstream gradient of 34% in Reach 10 prevent fish access. No fish captured upstream of high gradient section.
B1525	2174	14	1.4	5	S6	9/19/98	200	261	20	M	C	5	NA	NA	Historical Site. Moderate spawning and rearing. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling confirms non fish bearing status upstream of falls. No fish captured.
B1526	2265	1	1.8	5	S6	9/19/98	200	240	20	M	C	7	NA	NA	Historical Site. Falls (6 m) in ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1531	2167	2	NS	NS	NVC	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1532	1895	1	1.7	8	S6	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Good rearing and spawning habitat. Falls (5 m) in downstream ILP 1892 Reach 2 are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
B1533	1892	7	0.9	6	S6	9/21/98	150	72	30	M	C	7	NA	NA	Historical Site. Moderate rearing habitat. A falls (5 m) in downstream ILP 1892 Reach 2 are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
B1534	1900	1	1.0	16	S6	9/21/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1536	2278	2	0.6	8	S6	9/18/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling and inadequate habitat parameters indicate that this stream is non fish bearing.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1537	2174	12	2.1	5	S6	9/22/98	200	275	40	M	C	7	NA	NA	Historical Site. Moderate spawning and rearing habitat. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream above the falls is non fish bearing. No fish captured.
B1538	1376	2	NS	NS	NVC	9/22/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1539	1373	1	0.5	19	S6	9/22/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling confirms this stream is non fish bearing.
B1541	1359	2	0.6	9	S6	9/23/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicate that this stream is non fish bearing.
B1542	1347	4	2.5	5	S6	9/23/98	250	97	40	L	C	8	NA	NA	Historical Site. Falls (2 m) downstream are a barrier to upstream fish migration. Second pass sampling above falls indicates the portion of stream above the barrier is non fish bearing. No fish captured.
B1546	1492	3	0.8	21	S6	9/23/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Gradient (21% over 100 m) prevents upstream fish migration.
B1549	1532	1	NS	NS	NVC	9/23/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1551	1530	1	1.2	5	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Classified S6 by SKR-01.
B1552	1875	2	1.1	14	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is a barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status.
B1553	1875	1	3.1	10	S5	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is a barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status.
B1554	1877	8	NS	NS	NVC	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1559	1358	1	NS	NS	NVC	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1560	1347	5	3.6	5	S5	9/26/98	400	406	50	L	C	5	NA	NA	Historical Site. Good rearing habitat. Falls (2 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicates the portion of stream upstream of the barrier is non fish bearing. No fish captured.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1561	1347	8	0.7	3	S6	9/26/98	100	131	80	M	C	6	NA	NA	Historical Site. Falls (2 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicates the portion of stream upstream of the barrier is non fish bearing. No fish captured.
B1562	1245	9	1.5	4	S6	9/26/98	100	166	100	H	L	6	NA	NA	Historical Site. Poor spawning habitat and moderate rearing habitat. Second pass sampling indicate this reach is non fish bearing. No fish captured.
B1563	1326	4	0.4	18	S6	9/26/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Downstream gradient (>20%) in Reach 3 prevents fish access to this reach.
B1569	2356	3	NS	NS	NVC	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1570	1901	3	0.7	4	S6	9/27/98	150	245	40	M	C	11	NA	NA	Historical Site. Moderate habitat quality. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of barrier resulted in no fish captured and confirms non fish bearing status.
B1571	1905	5	0.5	5	S6	9/27/98	200	194	60	L	M	7	NA	NA	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream upstream of the falls is non fish bearing. No fish captured.
B1572	1905	2	1.0	5	S6	9/27/98	150	346	40	L	C	10	NA	NA	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream above the falls is non fish bearing. No fish captured.
B1573	1907	3	NS	NS	NVC	9/27/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1574	1901	1	3.0	14	S6	9/27/98	400	306	60	L	C	8	NA	NA	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream upstream of the falls is non fish bearing. No fish captured.
B1575	1248	5	NS	NS	NVC	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1577	1335	5	NS	NS	NVC	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
B1578	1332	7	0.4	16	S6	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (10 m) downstream are a barrier to upstream fish migration. Channel widths combined with gradient and lack of perennial habitat (ephemeral) confirm non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1579	1349	9	0.4	13	S6	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat, ephemeral. Gradient (>20%) and lack of perennial habitat confirm non fish bearing status.
B1581	1521	7	0.9	6	S6	9/28/98	100	218	80	M	C	6	NA	NA	Historical Site. An average gradient of 25% in Reach 5 prevents access to this reach. Second pass sampling confirms non fish bearing status upstream of gradient section. No fish captured.
B1582	1574	1	0.5	4	S6	9/28/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (6 m) in downstream ILP 1520 Reach 4 prevent upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.
B1583	2174	14	1.4	6	S6	9/28/98	200	418	60	L	C	6	NA	NA	Historical Site. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.
B1601	2350	11	NS	NS	NS	7/4/99	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Stream goes sub-surface.
B1612	1883	1	1.4	4	S3/S6	7/1/99	1000	1060	40	M	C	8	NA	NA	Historical Site. Subsurface flows, sediment wedges and a braided channel near Babine Lake limit fish access to this reach. An old road crossing 250 m below the mainline prevents upstream migration of any fish species. This stream can be classified as fish bearing based on access to the general crossing 250 m below the mainline. Above that point this stream can be classified as non fish bearing based on second pass sampling. No fish captured.
B1613	1885	1	1.8	4	S3/S6	7/1/99	400	1051	40	M	C	8	NA	NA	Historical Site. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) is a barrier to upstream migration. No fish were captured in second pass sampling at 2 locations above this barrier. This stream can be classified as fish bearing below the bedrock chute based on access and non fish bearing above the chute. No fish captured.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1614	1885	2	1.6	12	S6	9/16/98	200	238	50	M	L	8	NA	NA	Historical Site. No spawning habitat, no overwintering habitat, poor rearing habitat. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) located in Reach 1 is a barrier to upstream fish migration. Second pass sampling at 2 locations above this barrier indicates that this stream is non fish bearing above the chute. This stream can be classified as fish bearing below the bedrock chute based on access. No fish captured.
B1615	1883	3	0.9	12	S6	7/1/99	250	435	50	M	C	8	NA	NA	Historical Site. No overwintering habitat, no spawning habitat, and poor rearing habitat. A 20 m falls in the lower portion of this reach prevents upstream access. Second pass sampling within this reach confirms non fish bearing status. No fish captured.
B1617	1860	5	2.0	6	S6	7/2/99	1000	683	60	M	C	8	NA	NA	Historical Site. No spawning or overwintering habitat. Poor rearing habitat. Sections of subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section confirms non fish bearing status. No fish captured.
B1618	1866	4	2.7	12	S3/S6	7/2/99	680	362	60	M	C	7	NA	NA	Historical Site. No overwintering or spawning habitat. Poor rearing habitat. A 30% gradient section 80 m long immediately above Reach 4 is a barrier to upstream fish migration. Second pass sampling above this section and lack of adequate habitat indicate that the portion of stream above this high gradient section is non fish bearing. The portion of this stream below the high gradient is fish bearing based on access. No fish captured.
B1619	1537	5	2.5	5	S3/S6	7/2/99	130	216	60	NS	C	8	NA	NA	Historical Site. Good rearing and fair spawning habitat. Overwintering habitat present. Falls (1.5 m) prevent fish migration upstream. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.
B1620	1537	6	2.0	4	S6	7/4/99	250	341	60	M	C	8	NA	NA	Historical Site. Good rearing and fair spawning habitat. Overwintering habitat present. Falls (1.5 m) in Reach 5 prevent fish migration upstream. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1621	1335	2	1.6	7	S3*/S6	9/26/98	300	538	60	M	C	6	NA	NA	Historical Site. Fair spawning habitat, moderate rearing habitat, and overwintering habitat present. Falls (2.1 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.
B1623	2375	3	1.0	2	S6	7/3/99	200	241	40	M	C	7	NA	NA	Historical Site. No spawning habitat, no overwintering habitat, and poor rearing habitat, ephemeral. Second pass sampling confirms non fish bearing status. No fish captured.
B1624	2379	1	1.4	5	S6	7/3/99	200	207	50	M	C	7	NA	NA	Historical Site. No rearing or overwintering habitat. Poor spawning habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1626	2350	9	1.2	20	S6	7/4/99	200	301	60	M	C	7	NA	NA	Historical Site. No spawning, rearing or overwintering habitat. Second pass sampling and gradient (>20‰ over 100 m) confirm non fish bearing status. No fish captured.
B1702	2174	4	7.0	6	S2/S5	6/29/99	800	853	80	H	L	8	NA	NA	Historical Site. Good spawning, rearing and overwintering habitat. Falls (6 m) are a barrier to upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.
B1705	1347	4	4.2	12	S3/S5	9/23/98	800	911	90	H	C	8	NA	NA	Historical Site. Falls (2 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Dolly Varden captured downstream of falls.
B1706	1369	3	0.8	3	S6	7/1/99	300	430	120	H	C	8	NA	NA	Historical Site. No spawning, rearing, or overwintering habitat present. Second pass sampling confirms non fish bearing status. No fish captured.
B1707	1359	1	0.5	13	S6	7/1/99	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No spawning, rearing, or overwintering habitat. Second pass sampling confirms non fish bearing status.
B1708	2278	2	0.5	4	S6	7/1/99	300	474	60	H	L	9	NA	NA	Historical Site. Poor spawning and rearing habitat. No overwintering habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1710	1520	4	3.4	8	S3*/S5	7/2/99	1000	1555	80	H	C	9	NA	NA	Historical Site. Good rearing, spawning and overwintering habitat. Falls (6 m) prevent upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. The portion of stream below the falls is fish bearing based on access. No fish captured.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
B1711	1521	5	2.0	25	S6	7/7/99	900	831	120	H	C	6	NA	NA	Historical Site. No overwintering habitat. Limited spawning and rearing habitat. An average gradient of 25% over 100 m prevents upstream fish migration. Second pass sampling upstream of gradient section confirms non fish bearing status. No fish captured.
B1714	1245	9	1.5	2	S6	9/26/98	400	400	70	M	C	8	NA	NA	Historical Site. Discontinuous sections. Second pass sampling confirms non fish bearing status. No fish captured.
B1716	2358	4	4.1	13	S5	7/3/99	800	833	70	M	C	8	NA	NA	Historical Site. Second Pass sampling above high gradient section view from the air with small cascades confirms non fish bearing status. No fish captured.
B1717	2253	3	2.1	14	S6	9/19/98	1200	864	60	H	C	8	NA	NA	Historical Site. Good rearing habitat, limited spawning and potential overwintering habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1718	2214	1	2.4	11	S6	7/3/99	917	1815	70	H	C	8	NA	NA	Historical Site. Subsurface flows and lack of connectivity to Babine lake. Ephemeral stream. Second pass sampling confirms non fish bearing status. No fish captured.
B1-L1	1901	4	NA	NA	NA	9/27/98	NA	NA	NA	NA	NA	NA	GN	over night set	Historical Site. Lake sampling site. Falls (6 m) downstream on ILP 2174 Reach 4 are a barrier to upstream fish migration. No fish captured at this lake confirms non fish bearing status of stream.
B1-L2	2265	6	NA	NA	NA	9/27/98	NA	NA	NA	NA	NA	NA	GN	over night set	Historical Site. Lake sampling site. Falls (6 m) downstream on mainstem ILP 2174 Reach 4 are a barrier to upstream fish migration. No fish captured at this lake confirms non fish bearing status of stream.
C11002	1127	1	0.4	4.5	S6*	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Limited habitat potential. Inferred non fish bearing.
C11003	1305	2	NS	NS	NVC	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11004	1306	1	NS	NS	NVC	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11005	1309	1	NS	NS	NVC	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11010	1489	1	NS	NS	NVC	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11011	2007	1	0.5	13	S6	8/31/97	100	112	20	L	C	8.5	NA	NA	Historical Site. Poor habitat quality rating. Falls (2.4 m) in downstream mainstem ILP 2052 Reach 2 block upstream fish access. No fish captured upstream of falls.
C11013	1455	9	0.9	2	S6	8/31/97	100	229	20	L		14.9	NA	NA	Historical Site. Non fish bearing based on second pass sampling. No fish captured.
C11017	1779	1	NS	NS	NVC	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11030	2332	3	NS	NS	NVC	9/2/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
C11031	2127	6	1.9	10	S6	9/2/97	100	361	50	L	C	8.9	NA	NA	Historical Site. Cascade (2 m x 2 m) downstream (Reach 5) are a barrier to upstream fish migration. No fish captured upstream of cascade confirms non fish bearing status.
C11032	1955	1	1.0	24	S6	9/4/97	100	144	110	M	C	10	NA	NA	Historical Site. High gradient (24% over 100 m). No fish captured.
C11033	1934	1	NS	NS	NVC	9/3/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11034	1939	1	3.7	25	S5	9/3/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. High gradient (25% over 100 m). No discernible channel in areas.
C11039	2055	1	1.0	3	S6	9/3/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (2.4 m) located downstream on mainstem ILP 2052 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls confirms non fish bearing status.
C11040	2042	1	0.4	20	S6	9/3/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. High gradient (>20% over 100 m) blocks upstream access. No perennial habitat upstream of gradient section.
C11045	1507	1	NS	NS	NVC	9/4/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C11046	1459	1	0.6	0	S6	9/4/97	100	450	80	L		9	NA	NA	Historical Site. Non fish bearing based on second pass sampling. No fish captured.
C11053	1910	1	NS	NS	NVC	9/3/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12006	1127	1	0.4	14	S6*	8/30/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Subsurface gully drainage. Inferred non fish bearing.
C12014	1429	2	NS	NS	NVC	8/31/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. No discernible channel above or below culvert.
C12018	1610	1	NS	NS	NVC	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. No discernible channel.
C12019	1603	1	NS	NS	NVC	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. No discernible channel.
C12020	1794	1	0.9	10	S6*	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Dewatered. High gradient (23% for 50 m and 28% for 30 m) downstream in mainstem ILP 1792 Reach 1 likely limits upstream fish migration. Limited fish habitat.
C12021	1748	1	NS	NS	NVC	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. No alluvial channel.
C12025	1735	1	NS	NS	NVC	9/1/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12026	1805	1	NS	NS	NVC	9/2/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12027	1806	1	NS	NS	NVC	9/2/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12028	1804	2	2.4	18	S6	9/2/97	NA	NA	NA	NA	NA	NA	NA	NA	High gradient (25%), no perennial habitat observed.
C12029	1804	1	NS	NS	NVC	9/2/97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Gully run-off.
C12037	2009	6	3.1	0	S5	9/3/97	100	160	30	L	C	10	NA	NA	Historical Site. Falls (3 m) downstream in Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
C12038	1960	1	1.0	3	S6	9.3.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Falls (3 m) downstream on mainstem ILP 2009 Reach 2 are a barrier to upstream fish migration. Intermittent and subsurface flows and no perennial habitat. No fish captured upstream of falls.
C12039	2010	2	1.0	14	S4	9.3.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Poorly defined channel. Inferred fish bearing based on access.
C12040	2251	2	3.6	6	S5	9.3.97	100	270	20	M	C	9	NA	NA	Historical Site. Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
C12045	1390	5	NS	NS	NVC	9.4.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Wetland outlet.
C12048	1700	2	NS	NS	NVC	9.4.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12053	2329	3	NS	NS	NVC	9.4.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel.
C12116	1737	4	1.5	13	S6	9.21.97	100	200	60	L	C	10	NA	NA	Historical Site. Falls (30 m) downstream in Reach 2 is a barrier to upstream fish migration. No fish caught upstream of falls confirms non fish bearing status.
C12118	1284	1	NS	NS	NVC	9.21.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. 32% gradient.
C13045	1800	1	0.7	0	S6	9.4.97	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No perennial habitat, gradient barrier - falls at lake blocks upstream access. Second pass sampling confirms non fish bearing status.
E154	1678	3	0.9	9	S6	9.20.98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Spawning and rearing habitat is poor. A cascade (1.6 m x 1 m) located downstream on mainstem ILP 1676 Reach 2 is a barrier to fish passage. Second pass sampling in Reach 1 confirms non fish bearing status upstream of cascade.
E159	1676	3	1.3	7	S6	9.21.98	150	227	219	M	C	6.9	NA	NA	Historical Site. Cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status. No fish captured upstream of cascade.
E160	1676	5	1.0	1	S6	9.21.98	100	103	215	M	NA	NA	NA	NA	Historical Site. Cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status. No fish captured upstream of cascade.
E162	1681	1	NS	NS	NVC	9.21.98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
E164	1669	3	1.0	26	S6	9/22/98	100	199	114	L	C	6.1	NA	NA	Historical Site. The lower 30 m of this reach provides potential rearing. The remainder of this reach offers no rearing and spawning habitat due to high gradient (26% over 100 m). No fish captured.
E165	1690	5	NS	NS	NVC	9/22/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
E166	1624	1	0.5	7	S6	9/22/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No fish habitat, intermittent flows with sections of subsurface flow. Second pass sampling in ILP 1618 Reach 4 confirms that this reach is non fish bearing.
E167	1618	4	1.2	5	S4* S6	9/22/98	400	109	114	M	C	6.5	NA	NA	Historical Site. Poor fish habitat. Second pass sampling and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured. Inferred fish bearing downstream.
E169	1633	3	1.1	4	S6	9/23/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling confirms non fish bearing status.
E181	1642	7	1.8	4	S3 S6	9/25/98	100	256	109	L	L	5.5	NA	NA	Historical Site. Cascade (2 m x 1 m) within this reach is a barrier to upstream fish migration. No fish captured upstream of barrier. Fish stream below barrier.
E182	1642	8	1.6	6	S6	9/25/98	100	168	109	M	M	5.3	NA	NA	Historical Site. Cascade (2 m x 1 m) downstream in Reach 7 is a barrier to upstream fish migration. No fish captured at this site confirms non fish bearing status.
E183	1611	11	NS	NS	NVC	9/25/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel. Not a stream.
E1556	1643	2	0.6	4	S6	9/25/98	150	203	60	M	C	9	NA	NA	Historical Site. Second pass sampling in the best possible habitat indicates that fish do not use this stream. Cascades and gradients (15%) in Reach 1 prevent fish from accessing this reach. No fish captured upstream of cascade and high gradient section.
E1602	1676	3	1.0	5	S6	9/21/98	450	1272	90	M	C	7.5	NA	NA	Historical Site. A cascade (1.6 m x 1 m) in the downstream portion of Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms fish absence upstream of cascade. No fish captured.
E1603	1676	5	0.6	1	S6	9/21/98	350	515	90	M	NA	NA	NA	NA	Historical Site. A cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status upstream of cascade. No fish captured.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
E1604	1678	1	0.5	2	S6	6-26-99	200	281	80	M	C	8	NA	NA	Historical Site. A cascade (1.6 m x 1 m) located downstream on mainstem ILP 1676 Reach 2 prevents fish access to this reach. Second pass sampling above cascade confirms that this stream is non fish bearing. No fish captured.
E1605	1632	1	1.0	3	S4/S6	6-29-99	300	363	70	M	C	8	NA	NA	Historical Site. Non fish bearing based on second pass sampling. The lower portion of this stream offers fair spawning and poor rearing habitat. Fish bearing based on access in lower portion of reach. No fish captured.
E1606	1633	3	0.9	3	S6	6-30-99	300	243	70	M	C	8	NA	NA	Historical Site. No spawning, rearing or overwintering habitat. Second pass sampling confirms that fish do not utilize this reach. No fish captured.
E1607	1643	1	0.9	5	S6	6-30-99	300	314	70	M	C	6	NA	NA	Historical Site. Poor rearing, no spawning and no overwintering habitat. Small cascades and 15% gradient prevent fish access. Second pass sampling in the best possible habitat above the cascade section indicates that fish do not use this stream. The lower 30 m offers some salmonid habitat. No fish captured.
E1609	1618	4	1.3	4	S4/S6	9-22-98	400	789	60	M	C	9	NA	NA	Historical Site. The lower 200 m of this can be classified as fish bearing based on access. Second pass sampling in two separate seasons and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured.
E1620	1637	1	1.0	3	S6	9-22-98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Stream is classified non fish bearing based on second pass sampling in separate seasons.
F146	2298	13	2.0	6	S6	9-19-98	400	384	62	M	C	5	NA	NA	Historical Site. Second pass sampling in Reach 10 indicates that this reach is non fish bearing. No fish captured.
F147	2298	11	2.7	5	S6	9-19-98	775	297	65	M	C	5	NA	NA	Historical Site. Second pass sampling in Reach 10 indicates that this reach is non fish bearing. No fish captured.
F148	2239	1	1.2	15	S6	9-19-98	50	40	38	L	C	6	NA	NA	Historical Site. Small chutes and cascades prevent fish access. No fish habitat. Second pass sampling in downstream ILP 2298 Reach 10 confirms non fish bearing status. No fish captured.
F180	1406	13	1.6	2	S6	9-25-98	180	NS	106	M	C	5.6	NA	NA	Historical Site. Falls (3 m) downstream in Reach 9 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured upstream of falls.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
F1528	2299	2	0.4	5	S6	9/19/98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. No Visible Channel 100 m below sample site prevents upstream fish access.
F1547	1406	9	1.3	5	S4/S6	9/24/98	250	378	50	M	C	7	NA	NA	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1622	1406	9	2.0	3	S3/S6	7/3/99	400	616	50	M	C	9	NA	NA	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1625	2298	9	3.3	6	S6	7/3/99	400	741	50	M	C	7	NA	NA	Historical Site. Second pass sampling in best possible habitat indicates this is not a fish bearing reach. No fish captured.
F02-S11	1308	2	1.4	1	S6	7/11/02	237	246	NA	L	C	10	NA	NA	Historical Site. Non fish bearing based on second pass sampling conducted during E20K inventory 2002 (site 365).
F02-S12	1181	3	0.9	1	S6	7/11/02	150	180	NA	L	C	10	NA	NA	Historical Site. Ephemeral stream. No connection to downstream fish bearing waters. Approximately 30 m below proposed road crossing the stream flow through a non-channelized wetland for over 200 m.
F02-S13	1181	2	NS	NS	WNVC	7/11/02	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Wetland - No Visible Channel. Non channelized wetland in upper 300 m of this reach. No potential for access exists through the wetland. Lower 350 m of reach has potential fish access (potential Fisheries Sensitive Zone).
4	2373	3	2.1	20.50	S3*/S6	8/27/02	200	306	90	L	C	9	NA	NA	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Sections of high gradient (20% over 100 m) block upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
5	2370	5	2.5	12.00	S3*/S6	8/27/02	300	301	60	L	C	9	NA	NA	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. High gradient (20%) ~200 m upstream of site blocks upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
6	2370	6	NS	NS	NS	8/27/02	150	109	60	NS	C	9	NA	NA	Fish only sampling site.
8	2251	2	2.2	2.25	S6	8/27/02	200	315	80	L	C	10	NA	NA	Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
9	2251	2	NS	NS	NS	8/27/02	200	306	NA	NA	NA	NA	NA	NA	Fish only sampling site.
10	2251	3	NS	NS	NS	8/27/02	100	216	NA	NA	NA	NA	NA	NA	Fish only sampling site.
13	1944	2	1.1	20.75	S4*/S6	8/28/02	100	89	60	L	C	8	NA	NA	Dry/Intermittent. High gradient (24%) ~300 m downstream of upper road crossing prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
14	1945	1	1.4	19.50	S4*/S6	8/28/02	100	103	60	L	C	8	NA	NA	Dry/Intermittent. High gradient (24%) ~100 m upstream of the confluence with ILP 1944 prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
16	1948	3	1.7	20.50	S3*/S6	8/28/02	100	109	60	L	C	8	NA	NA	Dry/Intermittent. High gradient (20.5% over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient. No fish captured.
17	1950	1	1.5	20.25	S3*/S6	8/28/02	NA	NA	NA	NA	NA	NA	NA	NA	Dry/Intermittent. High gradient break (20%+ over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
19	2009	2	2.1	5.50	S3*/S6	8/28/02	400	513	60	L	C	8	NA	NA	Falls (3 m) within this reach are a barrier to upstream fish migration. Inferred fish bearing downstream of falls. Moderate rearing, poor spawning and no overwintering habitat observed within site. Four (4) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
20	2253	2	2.4	15.75	S3*/S6	8/28/02	300	354	50	L	C	8	NA	NA	Cascade section (50 m x 60 m) blocks upstream fish migration. Below cascade section inferred fish bearing. Poor rearing, no spawning and no overwintering habitat observed within site. No fish captured upstream of cascade.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
21	2009	3	1.6	3.75	S6	8/28/02	300	369	60	L	C	8	NA	NA	Falls (3 m) downstream in Reach 2 are a barrier to upstream fish migration. Moderate rearing, poor spawning and no overwintering habitat observed within site. Four (4) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
25	1966	2	1.4	23.00	S4*/S6	8/29/02	100	96	70	L	C	8	NA	NA	Dry/Intermittent. High gradient (23% over 100 m) blocks upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Lower 100 m of reach is inferred fish bearing. No fish captured.
40	1408	3	NS	NS	NVC	8/30/02	NA	NA	NA	NA	NA	NA	NA	NA	No Visible Channel. No potential fish habitat.
56	1181	5	NS	1.25	NVC	9/28/02	NA	NA	NA	NA	NA	NA	NA	NA	No Visible Channel. No potential fish habitat. No access through this Reach.
64	2131	1	1.8	16.50	S6	9/29/02	300	368	40	M	C	6	NA	NA	Cascade (2 m x 2 m) downstream in Reach 5 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of cascade resulted in no fish captured and confirms non fish bearing status.
65	2127	5	2.1	11.00	S6	9/29/02	400	516	40	M	C	5	NA	NA	Cascade (2 m x 2 m) downstream in Reach 5 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of cascade resulted in no fish captured and confirms non fish bearing status.
66	2052	2	2.1	5.25	S6	9/29/02	300	326	60	L	C	6	NA	NA	Falls (2.4 m) downstream of site blocks upstream fish migration. Rainbow trout captured downstream of falls. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
68	2055	1	1.1	4.75	S6	9/29/02	200	261	60	L	C	7	NA	NA	Falls (2.4 m) located downstream on mainstem ILP 2052 Reach 2 are a barrier to upstream fish migration. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
69	2052	3	2.1	2.75	S6	9/29/02	300	376	60	L	C	6	NA	NA	Falls (2.4 m) in Reach 2 are a barrier to upstream fish migration. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
74	1769	1	1.6	5.25	S3*/S6	9/29/02	200	231	70	L	C	7	NA	NA	Poor rearing, poor spawning and no overwintering habitat observed within site. Falls (1.5 m) in the top of this reach are a barrier to upstream fish migration. No fish captured upstream of falls. Inferred fish bearing below falls.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
355	1332	4	1.7	2.38	S6	9/26/02	209	338	40	M	L	7	NA	NA	Falls (10 m) downstream at the top of Reach 1 break are a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
356	1332	2	1.6	3.25	S6	9/26/02	200	236	60	L	C	7	NA	NA	Falls (10 m) at the top of Reach 1 break are a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
359	1232	1	1.3	9.25	S6	9/26/02	220	312	70	NA	L	7	NA	NA	Dry/Intermittent. Falls (2.5 m) located ~60 m downstream of site are a barrier to upstream fish migration. No fish captured upstream of falls.
364	1305	3	NS	NS	NS	10/8/02	NA	NA	NA	NA	NA	NA	MT	over night set	Fish only sampling site. No fish captured in lake confirms non fish bearing status upstream.
365	1308	2	NS	NS	NS	10/8/02	200	135	NA	NA	NA	NA	NA	NA	Fish only sampling site. Second pass sampling at this site confirms non fish bearing status.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb (vis)	Temp (°C)	Type	Method	
366	1441	6	0.5	30.25	S6	10/7/02	NA	NA	NA	NA	NA	NA	NA	NA	Dry/Intermittent. High Gradient (30% over 100 m) is a barrier to upstream fish migration. No fish habitat. No Visible Channel downstream of road.
368	1332	5	NA	NA	NA	10/7/02	NA	NA	NA	NA	NA	NA	MT	over night set	Fish only sampling site.
370	1863	5	NA	NA	NA	10/8/02	NA	NA	NA	NA	NA	NA	MT	over night set	Fish only sampling site. (Lake)
371	1863	2	1.8	6.00	S6	10/7/02	260	312	100	L	C	6	NA	NA	Falls (15 m) in the lower portion of this reach are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the falls and lake sampling resulted in no fish captured and confirms non fish bearing status. Poor rearing, poor spawning and no overwintering habitat observed within site.
380	1231	2	NS	NS	NS	9/26/02	200	250	110	L	C	6	NA	NA	Fish only sampling site.
578	1792	1	0.9	15.50	S6*	9/13/02	120	205	90	L	C	7	NA	NA	High gradient (23% for 50 m and 28% for 30 m) downstream of road crossing. Rainbow trout captured downstream within reach (site 579). Inferred non fish bearing. Suggest that lake in Reach 2 of this stream be minnow trapped to confirm fish presence/absence.
617	1231	3	1.8	3.00	S6	9/26/02	220	510	80	M	C	6	NA	NA	A bedrock cascade (16 m x 22 m) within this Reach is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
618	1231	2	2.2	5.50	S6	9/26/02	200	460	80	M	C	6	NA	NA	A bedrock cascade (16 m x 22 m) within this Reach is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
619	1235	1	0.8	4.00	S6	9/26/02	130	200	80	L	C	6	NA	NA	A bedrock cascade (16 m x 22 m) located downstream on mainstem ILP 1231 Reach 2 is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
625	1135	2	1.2	19.00	S6	9/28/02	180	310	210	M	C	7	NA	NA	High gradient break (20% over 100 m) at cutblock edge and small pitches of >20% within cutblock block upstream fish migration. Stream has been harvested to banks. No Fish captured.
642	1750	8	1.4	10.00	S6	9/29/02	150	460	50	L	C	6	NA	NA	Falls (1.5 m) downstream within this reach are a barrier to upstream fish migration. No fish captured upstream of falls.

Table 11. Summary of non fish bearing reaches within the study area.

Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Electrofishing Specifications						Other Methods		Comments
							Dist (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp. (°C)	Type	Method	
644	1844	1	NS	NS	NS	9/29/02	NA	NA	NA	NA	NA	NA	NA	NA	No Visible Channel. Non classified drainage at bottom of reach. Flooded depressions and ponded areas. No channel observed.

NFC = No Fish Captured
NVC = No Visible Channel

NA = Not Applicable
* = Indicates inferred stream class

NS = Not Sampled

H = High
M = Moderate

L = Low
C = Clear

Insufficient discharge often results in a lack of connectivity between the channelized portion of stream and downstream watercourses. Lack of connectivity can be described as the channelized portion of stream being isolated from downstream watercourses in which no surface connection or subsurface channel exists (joining the two at any time of the year). Evidence of no surface connection includes a lack of surface scour, no alluvial substrates and no evidence of surface ponding or seasonal flooding. These small streams with no connectivity to fish bearing waters were adequately sampled upstream of the loss of connectivity to verify fish presence or absence.

Reaches that have been assigned a non-fish bearing status and are classified as Non Visible Channel (NVC) do not possess potential fish habitat and are not streams due to the fact that they do not possess the criteria necessary to classify them as such. Reaches classified as NVC are largely drainages that are mapped incorrectly and no stream channel exists where the map indicates. They may also be drainages that lack evidence of surface scour, contain no continuous definable channel bed, lack alluvial deposits, and exhibit no evidence of extensive ponding.

5.0 STREAM CLASSIFICATION SUMMARY

Table 12 Provides a summary of stream inventory information collected during the project and Riparian Management Area (RMA) classifications for each reach sampled.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
A11	1440	1	093M.020	0.5	3	NS	S6	Historical Site. No access through reach (subsurface flows and discontinuous sections), no perennial fish habitat present.
A12	1441	3	093M.020	1.7	4	RB	S3	Historical Site. Fair spawning and rearing habitat. Culvert structure provides access at all flows. Rainbow trout captured.
A13	1448	1	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A14	1447	1	093M.020	1.9	4	RB	S3	Historical Site. Moderate rearing and fair spawning. Culvert well placed for fish passage. Rainbow trout captured.
A15	1589	1	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A16	1590	1	093M.010	0.5	4	NS	S6	Historical Site. Vegetated seepage. No fish habitat.
A17	1752	6	093N.001	4.2	4	RB	S3	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
A18	1759	1	093N.001	1.2	6	NFC	S4*/S6	Historical Site. Lower 400 m of this stream classified S4 based on access. Upstream of 400 m mark, habitat becomes subsurface flow and discontinuous. No fish captured.
A19	1754	2	093N.001	1.3	2	NFC	S6	Historical Site. Sections of subsurface flow and discontinuous channel. Overnight minnow traps were set and site was electroshocked. Sampling upstream of discontinuity resulted in no fish captured.
A110	1484	1	093M.020	2.0	2	RB	S3	Historical Site. Rainbow trout captured.
A111	1466	1	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A112	2002	1	093K.091	1.1	4	NFC	S4/S6	Historical Site. Lower 100 m classified S4 based on access. Upstream of 400 m mark channel becomes discontinuous. No fish captured.
A113	2004	1	093K.091	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A114	1739	2	093N.011	1.1	20	NFC	S6	Historical Site. Gradient barrier downstream (21%) prevents fish from accessing this reach. No fish captured.
A115	1732	1	093N.001	2.2	13	NFC	S6	Historical Site. Falls and gradient (29%) downstream of cutblock prevent fish access. No fish caught upstream of falls (second season sampling).
A116	1737	4	093N.001	1.3	4	NFC	S6	Historical Site. Falls (30 m) in Reach 2 are a barrier to upstream migration. No fish were captured upstream of falls (second season sampling).
A117	1737	2	093N.001	3.1	6	NFC	S6	Historical Site. Falls (30 m) in Reach 2 are a barrier to upstream migration. No fish were captured upstream of falls (second season sampling).
A118	1800	1	093N.001	0.8	3	NS	S6	Historical Site. No fish habitat and no access to this reach (subsurface flow and no flowing water). Discontinuous channel.
A119	1279	3	093M.030	0.6	2	NS	S6	Historical Site. Discontinuous channel (100 m). No surface or subsurface connections between depressions. No fish habitat.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
A120	1283	1	093M.030	0.9	6	RB	S4/S6	Historical Site. Gradient barrier (25%) 100 m upstream from confluence. No fish caught above barrier. Excellent spawning and rearing habitat in lower 100 m of reach. Fish captured downstream of barrier. S4 downstream of barrier, S6 upstream.
A121	1283	2	093M.030	0.7	8	NS	S6	Historical Site. Gradient barrier (25%) in Reach 1 prevents fish access to this reach.
A122	1295	1	093M.030	0.6	6	NS	S4/S6	Historical Site. Lower 30 m classified S4 based on access. A gradient barrier (>20%) 30 m into reach prevents upstream fish access. After 180 m stream becomes a seepage (NVC). Stream is S4 downstream of block. S6 next to block and NVC within block.
A123	1289	2	093M.030	0.5	8	NS	S4/S6	Historical Site. Stream upstream of road is non fish bearing. Poor rearing and no spawning habitat downstream of road. No fish caught in downstream site. S4 downstream of road crossing based on access. Follow up sampling determined reach is S6 upstream of road crossing based on habitat and increasing gradients.
A124	1289	1	093M.030	0.9	2	NFC	S4	Historical Site. Possible fish access, no barriers observed.
A126	1794	2	093N.001	0.4	5	NS	S6	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A127	1795	1	093N.001	0.4	6	NS	S6	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A128	1746	1	093N.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A129	1747	1	093N.001	0.5	7	NS	S6	Historical Site. No connection to fish bearing waters and no perennial fish habitat.
A130	1743	2	093N.001	1.6	6	RB	S3	Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
A131	1459	1	093M.020	0.6	2	NFC	S6	Historical Site. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling.
A132	1460	1	093M.020	0.7	1	NFC	S6	Historical Site. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling. No fish habitat.
A133	1455	4	093M.020	6.5	1	NFC	S6	Historical Site. Should be classed as a wetland with no fish present. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling.
A192	1117	1	093M.029	1.0	3	NFC	S4	Historical Site. No barriers observed from downstream fish bearing water. Poor spawning habitat and limited rearing. Fish bearing based on access.
A193	1116	1	093M.029	0.7	2	NFC	S4	Historical Site. Fish bearing stream based on access. Poor spawning and poor rearing habitat.
A194	1113	1	093M.029	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
A195	1114	1	093M.029	0.8	6	NS	S6	Historical Site. High gradient (30%) at lake is a barrier to upstream fish migration. 300 m upstream of road crossing gradient increases close to 20%. No perennial fish habitat present.
A196	1112	4	093M.029	0.8	13	NS	S4/S6	Historical Site. Gradient barrier (>20%) 150 m downstream of road crossing. Section downstream of barrier S4 based on access. Poor spawning and rearing habitat.
A197	1504	1	093N.011	0.8	14	NS	S6	Historical Site. Falls (30 m) downstream on mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
A198	1505	1	093N.011	0.4	15	NS	S6	Historical Site. Falls (30 m) downstream on mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
A199	2066	2	093K.092	1.9	2	RB	S3	Historical Site. Rainbow trout captured.
A1100	2043	2	093K.092	1.1	10	NFC	S4	Historical Site. S4 stream based on access. This reach flows into a fish bearing stream.
A1101	1969	1	093K.091	0.8	6	NFC	S6	Historical Site. Falls (3.2 m) downstream on mainstem ILP 2290 Reach 5 block fish access. No fish caught upstream of falls.
A1102	2290	5	093K.091	3.0	10	RB	S3/S5	Historical Site. Falls (3.2 m) at the bottom of this Reach are a barrier to upstream fish migration. Rainbow trout captured downstream of the falls. No fish captured upstream of the falls.
A1103	1968	1	093K.091	0.7	31	NS	S6	Historical Site. Gradient barrier (31%) at the confluence with ILP 2290 blocks fish access. No perennial habitat.
A1104	2290	1	093K.081	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A1105	1742	15	093K.092	1.6	9	NFC	S3	Historical Site. Inferred fish bearing (S3).
A1106	2032	1	093K.091	0.9	7	NFC	S6	Historical Site. High gradient (21%) within reach. No fish captured.
A1107	2033	1	093K.091	1.0	10	NFC	S4/S6	Historical Site. Subsurface flows and no connection to fish bearing water (discontinuous throughout). The portion of stream above the road crossing is S6. The remainder of stream below the road crossing is S4 based on potential access. No fish captured.
A1108	2034	1	093K.091	1.5	10	NFC	S6	Historical Site. High gradient section (25%) downstream of road is a barrier to upstream migration. Falls (2 m) within this reach are also a barrier to fish passage. No fish captured upstream of barriers.
A1109	2029	1	093K.092	1.2	5	NFC	S4	Historical Site. S4 stream based on access. This reach flows directly into a fish bearing stream.
A1110	2052	4	093K.092	1.1	5	NFC	S6	Historical Site. No fish habitat. Falls (2.4 m) downstream in Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
B125	2164	1	093L.090	1.0	20	NS	S4*/S6	Historical Site. Lower 30 m of reach is accessible to fish. Gradient (>20%) throughout the remainder of the reach prevents upstream fish migration.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B134	2369	1	093K.071	2.0	1	RSC	S3	Historical Site. No spawning habitat. Poor rearing habitat. Pools present. Redside shiner captured.
B135	2354	1	093K.071	6.2	2	RB, RSC, WSU, CAS	S2	Historical Site. Good spawning and rearing habitat. Rainbow trout, redside shiner, white sucker and prickly sculpin captured.
B136	2355	1	093K.071	0.5	3	NS	S6	Historical Site. No fish habitat. Channel has no connectivity to downstream fish-bearing waters.
B137	2354	15	093K.072	1.0	15	NS	S4/S6	Historical Site. Poor habitat. Dry channel. Lower 50 m of reach offers some seasonal habitat and is S4 based on access. Above this point a 10 m section of stream with >20% gradient is a barrier to upstream fish migration.
B138	2354	17	093K.072	0.7	21	NS	S6	Historical Site. No fish habitat. Average gradient is 21% over 100 m, limiting fish access to this reach.
B139	2406	1	093K.072	2.3	3	CAS	S3	Historical Site. Good rearing habitat; good cover and pools. Poor spawning habitat: no gravel present. Prickly sculpin captured.
B140	2400	1	093K.072	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B141	2377	5	093K.072	1.4	34	NS	S6	Historical Site. Poor rearing and spawning habitat. High gradient (34%) prevents upstream fish migration.
B142	2415	1	093K.072	0.9	31	NS	S6	Historical Site. No fish habitat. High gradient (31%) prevents upstream fish migration.
B143	2373	6	093K.072	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B144	2229	1	093K.081	0.8	17	NS	S6	Historical Site. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B145	2225	3	093K.081	0.7	5	NS	S6	Historical Site. Poor spawning and rearing habitat. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B149	2223	1	093K.081	1.4	16	NS	S6	Historical Site. High gradient. Poor habitat. Second pass sampling (downstream ILP 2353 Reach 3) confirms non fish bearing status.
B150	2253	3	093K.081	2.1	19	NFC	S6	Historical Site. Good rearing habitat and fair to poor spawning habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B151	1537	8	093M.010	2.7	5	NFC	S6	Historical Site. Fair rearing and poor spawning. Falls (1.5 m) in Reach 5 prevent upstream fish migration. Second pass sampling above the falls resulted in no fish captured and confirms non fish bearing status.
B152	1537	7	093M.010	26.0	1	NFC	S6 (wetland)	Historical Site. Poor spawning and good rearing habitat. Falls (1.5 m) in Reach 5 prevent upstream fish migration. Second pass sampling above the falls resulted in no fish captured and confirms non fish bearing status.
B157	1866	8	093M.010	0.8	2	NFC	S6	Historical Site. Subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section resulted in no fish captured and confirms non fish bearing status.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B158	1866	6	093M.010	1.0	5	NFC	S6	Historical Site. Subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section resulted in no fish captured and confirms non fish bearing status.
B161	1719	2	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B170	1537	4	093M.010	3.6	6	RB	S3	Historical Site. Excellent rearing habitat. Good flows, cover and pools. Fair spawning habitat. Rainbow trout captured.
B171	1541	2	093M.010	0.9	2	NS	S4*	Historical Site. Poor rearing and poor spawning habitat. S4 based on access.
B172	1710	2	093M.010	1.1	6	NS	S6	Historical Site. Poor spawning and rearing habitat. Channel disturbed by previous logging. No connection to fish bearing waters. A falls (1.5 m) downstream on mainstem ILP 1863 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
B173	1520	2	093M.009	3.4	9	NFC	S3*	Historical Site. Good rearing habitat. Poor spawning habitat. No barriers to fish migration were observed. Fish stream based on access. Dolly Varden captured in Reach 1 of this stream.
B174	1524	7	093M.009	2.4	5	RB	S3	Historical Site. Good spawning habitat. Rainbow trout captured.
B175	1524	3	093M.009	1.6	7	RB	S3	Historical Site. Excellent rearing habitat. LWD present and abundant cover. Poor spawning habitat. Rainbow trout captured.
B176	2265	3	093K.091	1.6	4	NFC	S6	Historical Site. Poor rearing and spawning habitat. Falls (6 m) on ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B177	1537	10	093M.010	1.6	4	NFC	S6	Historical Site. Good rearing habitat. Poor to fair spawning habitat. Falls (1.5 m) in Reach 5 prevents upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B178	1566	2	093M.010	0.7	30	NS	S6	Historical Site. No fish habitat. High gradient (30% average over 100 m) prevents upstream fish migration.
B179	1520	5	093M.010	1.2	8	NFC	S6	Historical Site. Good rearing potential. Falls (6 m) in Reach 4 prevent upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured upstream of falls.
B184	1560	1	093M.010	1.1	8	NFC	S6	Historical Site. Poor spawning habitat. Fair to poor rearing habitat. Falls (1.5 m) in downstream ILP 1537 Reach 5 prevent fish migration upstream. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B185	1331	1	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B186	1333	1	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B187	1335	3	093M.019	1.6	20	NS	S6	Historical Site. Poor rearing and spawning habitat. Falls (2.1 m) in Reach 2 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.
B188	1335	2	093M.019	1.9	8	NFC	S3*/S6	Historical Site. Good rearing and spawning habitat. Falls (2.1 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Inferred fish bearing downstream of falls.
B189	1336	2	093M.019	1.0	20	NS	S6	Historical Site. No fish habitat. High gradient (20% over 100 m) prevents upstream fish migration.
B190	1340	3	093M.019	0.9	14	NS	S6	Historical Site. No fish habitat. Ephemeral Stream. Gradients of >20% within reach.
B191	1343	2	093M.019	0.6	6	NS	S6	Historical Site. No fish habitat. Subsurface flows. Upper portion of reach has gradients approaching 30%.
B1201	2369	3	093K.071	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1501	2174	8	093L.090	5.2	9	NFC	S5	Historical Site. Good rearing habitat. Falls (6 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1502	2189	1	093L.090	0.6	16	NFC	S6	Historical Site. Falls (6 m) on ILP 2174 (reach 4) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1503	2174	6	093L.090	5.5	5	NFC	S5	Historical Site. Falls (6 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. No fish captured.
B1504	2185	4	093L.090	0.7	4	NFC	S6	Historical Site. Falls (6 m) on ILP 2174 (Reach 4) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1505	2174	3	093L.090	6.7	3	RB	S2	Historical Site. Excellent rearing habitat. Fish captured easily downstream of culvert. Upstream of culvert low fish densities as culvert is a partial barrier. Rehabilitation opportunity. Rainbow trout captured.
B1506	2178	2	093L.090	0.5	5	NS	S6	Historical Site. No fish habitat. Ephemeral stream. Cascades (12 x 20 m) in Reach 1 are a barrier to upstream fish migration. No fish captured upstream of the cascades.
B1507	2178	1	093L.090	1.0	5	NFC	S6	Historical Site. Cascade (12 m x 20 m) prevents upstream fish migration. No fish captured upstream of cascade.
B1508	2151	7	093L.090	3.6	4	RB	S3	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1509	1903	2	093L.090	0.6	7	NS	S6	Historical Site. Poor habitat quality. Falls (6 m) on ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.
B1510	1883	2	093L.100	1.9	6	NFC	S6	Historical Site. Second pass sampling in Reach 1 confirms non fish bearing status. No fish captured.
B1511	1885	2	093L.100	2.0	7	NFC	S6	Historical Site. Excellent spawning and rearing. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) located in Reach 1 is a barrier to upstream migration. Second pass sampling at 2 locations above this barrier indicates that this stream is non fish bearing above the chute. No fish captured.
B1512	1888	3	093L.100	1.0	11	NS	S6	Historical Site. Poor fish habitat. Falls (20 m) in the lower portion of this reach prevents upstream fish migration. Second pass sampling within this reach and lack of adequate habitat indicate this is a non fish bearing reach.
B1513	2375	4	093K.071	0.8	3	NS	S6	Historical Site. Poor habitat due to ephemeral nature. Second pass sampling confirms non fish bearing status.
B1514	2379	2	093K.071	2.7	5	NFC	S6	Historical Site. Second pass sampling confirms non fish bearing status of this stream. No fish captured.
B1515	2377	2	093K.071	2.5	4	NS	S3*	Historical Site. Rearing habitat fair during winter flows. Spawning habitat fair to poor. Fish stream based on access.
B1516	2354	4	093K.071	5.7	5	RB	S2	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1517	2354	5	093K.071	5.5	4	RB	S2	Historical Site. Good rearing habitat. Rainbow trout captured.
B1518	2214	1	093K.081	2.8	5	NS	S6	Historical Site. Poor fish habitat. Ephemeral stream. No connectivity to Babine lake. Second pass sampling confirms non fish bearing status.
B1519	2210	1	093K.081	2.2	4	RB	S3	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
B1520	2350	10	093K.081	0.9	34	NS	S6	Historical Site. Gradient (34%) is a barrier to fish passage.
B1521	2216	1	093K.081	1.0	5	NS	S6	Historical Site. Second pass sampling and gradient (20%) in downstream ILP 2350 Reach 9 indicate this reach is non fish bearing.
B1522	2215	3	093K.081	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1523	2350	14	093K.081	0.4	5	NS	S6	Historical Site. No fish habitat. Downstream gradient of 34% in Reach 10 prevent fish access. No fish captured upstream of high gradient section.
B1524	2151	10	093K.081	1.2	5	RB	S4	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1525	2174	14	093K.091	1.4	5	NFC	S6	Historical Site. Moderate spawning and rearing. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling confirms non fish bearing status upstream of falls. No fish captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1526	2265	1	093K.091	1.8	5	NFC	S6	Historical Site. Falls (6 m) in ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1530	1892	2	093L.100	2.8	4	NFC	S3	Historical Site. Good habitat quality during higher water flows. A perched culvert in the upper portion of Reach 1 is a partial barrier to fish migration. No permanent barriers to fish migration were observed. This reach can be classified as fish bearing based on access.
B1531	2167	2	093L.090	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1532	1895	1	093L.100	1.7	8	NFC	S6	Historical Site. Good rearing and spawning habitat. Falls (5 m) in downstream ILP 1892 Reach 2 are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
B1533	1892	7	093L.100	0.9	6	NFC	S6	Historical Site. Moderate rearing habitat. A falls (5 m) in downstream ILP 1892 Reach 2 are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
B1534	1900	1	093L.100	1.0	16	NFC	S6	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Sampling upstream of falls resulted in no fish captured and confirms non fish bearing status.
B1535	2350	5	093K.081	2.0	7	RB	S3	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1536	2278	2	093K.081	0.6	8	NS	S6	Historical Site. Second pass sampling and inadequate habitat parameters indicate that this stream is non fish bearing.
B1537	2174	12	093K.081	2.1	5	NFC	S6	Historical Site. Moderate spawning and rearing habitat. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream above the falls is non fish bearing. No fish captured.
B1538	1376	2	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1539	1373	1	093M.019	0.5	19	NS	S6	Historical Site. Second pass sampling confirms this stream is non fish bearing.
B1540	1349	3	093M.019	2.1	5	RB	S3	Historical Site. Poor habitat quality. Fine sediment covers cobble within the stream bed. Reach has been logged to the stream bank. Rainbow trout captured.
B1541	1359	2	093M.019	0.6	9	NS	S6	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicate that this stream is non fish bearing.
B1542	1347	4	093M.019	2.5	5	NFC	S6	Historical Site. Falls (2 m) downstream are a barrier to upstream fish migration. Second pass sampling above falls indicates the portion of stream above the barrier is non fish bearing. No fish captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1543	1361	2	093M.019	3.3	5	RB	S3	Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
B1544	1361	3	093M.019	1.8	5	RB	S3	Historical Site. Reach has been logged to the stream banks. Moderate fish habitat. Rainbow trout captured.
B1546	1492	3	093M.020	0.8	21	NS	S6	Historical Site. Gradient (21% over 100 m) prevents upstream fish migration.
B1549	1532	1	093M.009	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1550	1529	1	093M.009	0.9	10	NS	S4*	Historical Site. Fish access to reach is possible. Inferred fish bearing based on access. Second pass sampling conducted by SKR Consultants Ltd. classified stream as S4.
B1551	1530	1	093M.009	1.2	5	NS	S4	Historical Site. Classified S6 by SKR -01.
B1552	1875	2	093M.010	1.1	14	NS	S6	Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is a barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status.
B1553	1875	1	093M.010	3.1	10	NS	S5	Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is a barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status.
B1554	1877	8	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1559	1358	1	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1560	1347	5	093M.019	3.6	5	NFC	S5	Historical Site. Good rearing habitat. Falls (2 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicates the portion of stream upstream of the barrier is non fish bearing. No fish captured.
B1561	1347	8	093M.019	0.7	3	NFC	S6	Historical Site. Falls (2 m) in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicates the portion of stream upstream of the barrier is non fish bearing. No fish captured.
B1562	1245	9	093M.019	1.5	4	NFC	S6	Historical Site. Poor spawning habitat and moderate rearing habitat. Second pass sampling indicate this reach is non fish bearing. No fish captured.
B1563	1326	4	093M.019	0.4	18	NS	S6	Historical Site. Downstream gradient (>20%) in Reach 3 prevents fish access to this reach.
B1564	1349	6	093M.020	1.9	6	NFC	S3*	Historical Site. Good rearing habitat. A beaver dam in Reach 4 is a temporary barrier and limits upstream fish migration. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during higher flows.
B1566	2166	1	093L.090	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1567	2151	1	093L.090	0.8	4	RB	S4	Historical Site. Fish access from lake is possible. Poor habitat quality. Rainbow trout captured.
B1568	2140	1	093L.090	2.0	5	NS	S3*	Historical Site. Ephemeral stream. Pools were not deep enough to shock. S3 stream based on access.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1569	2356	3	093K.071	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1570	1901	3	093L.100	0.7	4	NFC	S6	Historical Site. Moderate habitat quality. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of barrier resulted in no fish captured and confirms non fish bearing status.
B1571	1905	5	093L.100	0.5	5	NFC	S6	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream upstream of the falls is non fish bearing. No fish captured.
B1572	1905	2	093L.100	1.0	5	NFC	S6	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream above the falls is non fish bearing. No fish captured.
B1573	1907	3	093L.100	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1574	1901	1	093L.100	3.0	14	NFC	S6	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls indicate that the portion of stream upstream of the falls is non fish bearing. No fish captured.
B1575	1248	5	093M.029	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1576	1242	1	093M.029	3.5	5	RB	S3	Historical Site. Excellent rearing and spawning habitat. Rainbow trout captured.
B1577	1335	5	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
B1578	1332	7	093M.029	0.4	16	NS	S6	Historical Site. Falls (10 m) downstream are a barrier to upstream fish migration. Channel widths combined with gradient and lack of perennial habitat (ephemeral) confirm non fish bearing status.
B1579	1349	9	093M.020	0.4	13	NS	S6	Historical Site. No fish habitat, ephemeral, Gradient (>20%) and lack of perennial habitat confirm non fish bearing status.
B1580	1349	8	093M.020	1.1	9	NFC	S4*	Historical Site. Moderate rearing habitat and good spawning habitat. A beaver dam in Reach 4 is a temporary barrier and limits upstream fish migration. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during higher flows. S4 stream based on access.
B1581	1521	7	093M.020	0.9	6	NFC	S6	Historical Site. An average gradient of 25% in Reach 5 prevents access to this reach. Second pass sampling confirms non fish bearing status upstream of gradient section. No fish captured.
B1582	1574	1	093M.010	0.5	4	NS	S6	Historical Site. Falls (6 m) in downstream ILP 1520 Reach 4 prevent upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1583	2174	14	093K.091	1.4	6	NFC	S6	Historical Site. Falls (6 m) downstream in Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.
B1585	2213	2	093K.081	0.9	5	NS	S4*	Historical Site. Additional sampling in Reach 1 indicate that fish can access this reach therefore this reach is fish bearing based on access. Rainbow trout captured downstream in Reach 1 of this stream.
B1601	2350	11	093K.081	NS	NS	NS	NVC	Historical Site. No Visible Channel. Stream goes sub-surface.
B1602	1242	6	093M.019	1.4	3	RB	S4	Historical Site. Moderate rearing habitat and poor spawning habitat. Fines are dominant substrate. Rainbow trout captured.
B1612	1883	1	093L.100	2.6	4	NFC	S3*/S6	Historical Site. Subsurface flows, sediment wedges and a braided channel near Babine Lake limit fish access to this reach. An old road crossing 250 m below the mainline prevents upstream migration of any fish species. This stream can be classified as fish bearing based on access to the general crossing 250 m below the mainline. Above that point this stream can be classified as non fish bearing based on second pass sampling. No fish captured.
B1613	1885	1	093L.100	1.8	4	NFC	S3 S6	Historical Site. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) is a barrier to upstream migration. No fish were captured in second pass sampling at 2 locations above this barrier. This stream can be classified as fish bearing below the bedrock chute based on access and non fish bearing above the chute. No fish captured.
B1614	1885	2	093L.100	1.6	12	NFC	S6	Historical Site. No spawning habitat, no overwintering habitat, poor rearing habitat. A bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) located in Reach 1 is a barrier to upstream fish migration. Second pass sampling at 2 locations above this barrier indicates that this stream is non fish bearing above the chute. This stream can be classified as fish bearing below the bedrock chute based on access. No fish captured.
B1615	1888	3	093L.100	0.9	12	NFC	S6	Historical Site. No overwintering habitat, no spawning habitat, and poor rearing habitat. A 20 m falls in the lower portion of this reach prevents upstream access. Second pass sampling within this reach confirms non fish bearing status. No fish captured.
B1616	1866	3	093L.100	2.8	5	RB	S3	Historical Site. Excellent spawning habitat, poor overwintering habitat, and fair rearing habitat. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1617	1866	5	093M.010	2.0	6	NFC	S6	Historical Site. No spawning or overwintering habitat. Poor rearing habitat. Sections of subsurface flows. A 30% gradient section 80 m long immediately below Reach 5 is a barrier to upstream fish migration. Second pass sampling above this section confirms non fish bearing status. No fish captured.
B1618	1866	4	093L.100	2.7	12	NFC	S3/S6	Historical Site. No overwintering or spawning habitat. Poor rearing habitat. A 30% gradient section 80 m long immediately above Reach 4 is a barrier to upstream fish migration. Second pass sampling above this section and lack of adequate habitat indicate that the portion of stream above this high gradient section is non fish bearing. The portion of this stream below the high gradient is fish bearing based on access. No fish captured.
B1619	1537	5	093M.010	2.5	5	RB	S3/S6	Historical Site. Good rearing and fair spawning habitat. Overwintering habitat present. Falls (1.5 m) prevent fish migration upstream. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.
B1620	1537	6	093M.010	2.0	4	NFC	S6	Historical Site. Good rearing and fair spawning habitat. Overwintering habitat present. Falls (1.5 m) in Reach 5 prevent fish migration upstream. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.
B1621	1335	2	093M.019	1.6	7	NFC	S3*/S6	Historical Site. Fair spawning habitat, moderate rearing habitat, and overwintering habitat present. Falls (2.1 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured.
B1623	2375	3	093K.071	1.0	2	NFC	S6	Historical Site. No spawning habitat, no overwintering habitat, and poor rearing habitat, ephemeral. Second pass sampling confirms non fish bearing status. No fish captured.
B1624	2379	1	093K.071	1.4	5	NFC	S6	Historical Site. No rearing or overwintering habitat. Poor spawning habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1626	2350	9	093K.081	1.2	20	NFC	S6	Historical Site. No spawning, rearing or overwintering habitat. Second pass sampling and gradient (>20% over 100 m) confirm non fish bearing status. No fish captured.
B1701	2174	3	093L.090	7.0	4	RB	S2	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
B1702	2174	4	093L.090	7.0	6	RB	S2/S5	Historical Site. Good spawning, rearing and overwintering habitat. Falls (6 m) are a barrier to upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. Rainbow trout captured downstream of falls.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1703	1892	1	093L.100	3.7	10	NFC	S3*	Historical Site. Good spawning habitat, limited rearing habitat, overwintering habitat present. A perched culvert in the upper portion of the reach is a partial barrier to fish migration. No permanent barriers to fish migration were observed. This reach can be classified as fish bearing based on access.
B1704	1347	3	093M.019	3.0	6	DV	S3	Historical Site. Good spawning habitat, poor rearing habitat, and no overwintering habitat. Dolly Varden captured.
B1705	1347	4	093M.019	4.2	12	DV	S3/S5	Historical Site. Falls (2 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Dolly Varden captured downstream of falls.
B1706	1369	3	093M.019	0.8	3	NFC	S6	Historical Site. No spawning, rearing, or overwintering habitat present. Second pass sampling confirms non fish bearing status. No fish captured.
B1707	1359	1	093M.019	0.5	13	NS	S6	Historical Site. No spawning, rearing, or overwintering habitat. Second pass sampling confirms non fish bearing status.
B1708	2278	2	093K.081	0.5	4	NFC	S6	Historical Site. Poor spawning and rearing habitat. No overwintering habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1709	1520	1	093M.009	1.5	8	NFC*	S3	Historical Site. No overwintering habitat. Limited spawning and rearing habitat. Channel has been disturbed by prior logging activities. Fish stream based on access. Dolly Varden captured within this reach during 2002 sampling (site 369).
B1710	1520	4	093M.010	3.4	8	NFC*	S3*/S5	Historical Site. Good rearing, spawning and overwintering habitat. Falls (6 m) prevent upstream fish migration. Second pass sampling upstream of the falls confirms non fish bearing status. The portion of stream below the falls is fish bearing based on access. No fish captured.
B1711	1521	5	093M.019	2.0	25	NFC*	S6	Historical Site. No overwintering habitat. Limited spawning and rearing habitat. An average gradient of 25% over 100 m prevents upstream fish migration. Second pass sampling upstream of gradient section confirms non fish bearing status. No fish captured.
B1712	1349	4	093M.020	2.1	4	RB	S3	Historical Site. Limited spawning and overwintering habitat. Rearing habitat is good. Rainbow trout captured.
B1713	1349	6	093M.020	2.0	4	NFC*	S3*	Historical Site. Adequate rearing habitat, limited spawning habitat and no overwintering habitat. No permanent barriers were identified between this reach and fish bearing waters. Fish access is possible during high flows.
B1714	1245	9	093M.019	1.5	2	NFC*	S6	Historical Site. Discontinuous sections. Second pass sampling confirms non fish bearing status. No fish captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
B1716	2358	4	093K.081	4.1	13	NFC	S5	Historical Site. Second Pass sampling above high gradient section view from the air with small cascades confirms non fish bearing status. No fish captured.
B1717	2253	3	093K.081	2.1	14	NFC	S6	Historical Site. Good rearing habitat, limited spawning and potential overwintering habitat. Second pass sampling confirms non fish bearing status. No fish captured.
B1718	2214	1	093K.081	2.4	11	NFC	S6	Historical Site. Subsurface flows and lack of connectivity to Babine lake. Ephemeral stream. Second pass sampling confirms non fish bearing status. No fish captured.
B1719	2213	1	093K.081	2.7	7	RB	S3	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
B1-L1	1901	4	093L.100	NA	NA	NFC	NA	Historical Site. Lake sampling site. Falls (6 m) downstream on ILP 2174 Reach 4 are a barrier to upstream fish migration. No fish captured at this lake confirms non fish bearing status of stream.
B1-L2	2265	6	093K.091	NA	NA	NFC	NA	Historical Site. Lake sampling site. Falls (6 m) downstream on mainstem ILP 2174 Reach 4 are a barrier to upstream fish migration. No fish captured at this lake confirms non fish bearing status of stream.
C110172	1394	6	093M.030	1.3	4	NFC	S4	Historical Site. Channel complexity indicates habitat capabilities. Potential fish access.
C11001	1495	1	093M.020	4.5	1	RB	S3	Historical Site. Rainbow trout captured.
C11002	1127	1	093M.029	0.4	5	NS	S6*	Historical Site. Limited habitat potential. Inferred non fish bearing.
C11003	1305	2	093M.030	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11004	1306	1	093M.030	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11005	1309	1	093M.030	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11006	1181	1	093M.029	1.3	1	NFC	S4	Historical Site. Poor habitat conditions. Rainbow trout captured upstream in ILP 1182 Reach 1 (site T02-ST2).
C11007	1450	12	093M.020	2.1	2	CC	S3	Historical Site. Channel receives little water as culvert diverts flow along ditchline at upstream end. Sculpin (general) captured.
C11008	1453	3	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Habitat available. Potential Fisheries Sensitive Zone.
C11010	1489	1	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11011	2007	1	093K.091	0.5	13	NFC*	S6	Historical Site. Poor habitat quality rating. Falls (2.4 m) in downstream mainstem ILP 2052 Reach 2 block upstream fish access. No fish captured upstream of falls.
C11012	1486	1	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Wetland with heavy beaver activity. Potential Fisheries Sensitive Zone.
C11013	1455	9	093N.011	0.9	2	NFC	S6	Historical Site. Non fish bearing based on second pass sampling. No fish captured.
C11014	1495	1	093M.020	12.7	1	RB, RSC, CC, SU	S2	Historical Site. Rainbow trout, red sided shiner, sculpin (general) and sucker (general) captured.
C11015	1775	2	093N.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11016	1775	1	093N.001	4.1	3	NFC	S3	Historical Site. Moderate rating for habitat quality. Fish bearing based on potential access.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
C11017	1779	1	093N.001	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11018	1778	1	093N.001	2.1	2	RB	S3	Historical Site. Rainbow trout captured.
C11019	1771	3	093N.001	0.6	1	NFC	S4	Historical Site. Limited habitat potential. Fish bearing based on access.
C11020	1771	1	093N.001	2.0	2	RB, RSC	S3	Historical Site. Rainbow trout and red sided shiner captured.
C11021	1742	3	093N.001	7.5	2	RB, CAS	S2	Historical Site. Rainbow trout and prickly sculpin captured.
C11022	1742	8	093N.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11024	1810	1	093N.001	1.1	9	NFC	S4	Historical Site. No habitat potential. Fish bearing based on access.
C11025	1801	4	093N.001	15.0	3	RB, NSC, KO	S2	Historical Site. Rainbow and northern pikeminnow captured and kokanee observed.
C11026	2114	1	093K.092	NS	NS	NS	NVC	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11027	1801	15	093K.092	10.9	1	RB	S2	Historical Site. Rainbow trout captured.
C11028	2075	1	093K.092	NS	NS	RB	NVC	Historical Site. No Visible Channel. Rainbow trout captured.
C11029	2104	2	093K.092	2.1	2	RB, RSC	S3	Historical Site. Rainbow trout and reddsider shiner captured.
C11030	2332	3	093K.092	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11031	2127	6	093K.092	1.9	10	NFC	S6	Historical Site. Cascade (2 m x 2 m) downstream (Reach 5) are a barrier to upstream fish migration. No fish captured upstream of cascade confirms non fish bearing status.
C11032	1955	1	093K.091	1.0	24	NFC	S6	Historical Site. High gradient (24% over 100 m). No fish captured.
C11033	1954	1	093K.091	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11034	1939	1	093K.091	3.7	25	NS	S5	Historical Site. High gradient (25% over 100 m). No discernible channel in areas.
C11035	1742	10	093K.091	7.0	2	RB	S2	Historical Site. Rainbow trout captured.
C11036	2004	1	093K.091	NS	NS	NS	NVC	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11037	2005	3	093K.091	0.6	7	NS	S4	Historical Site. No habitat potential upstream of site. Potential fish access.
C11038	2073	1	093K.092	NS	NS	NS	NVC	Historical Site. No Visible Channel. Fisheries sensitive zone as stream approaches ILP 1801.
C11039	2055	1	093K.092	1.0	3	NS	S6	Historical Site. Falls (2.4 m) located downstream on mainstem ILP 2052 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls confirms non fish bearing status.
C11040	2042	1	093K.092	0.4	20	NS	S6	Historical Site. High gradient (>20% over 100 m) blocks upstream access. No perennial habitat upstream of gradient section.
C11041	1801	13	093K.092	18.4	0	RB	S2	Historical Site. Rainbow trout captured.
C11042	2290	4	093K.082	2.3	3	RB	S3	Historical Site. Rainbow trout captured.
C11043	1276	3	093M.030	5.4	4	RB	S2	Historical Site. Rainbow trout captured.
C11044	1455	1	093M.020	3.7	2	RB	S3	Historical Site. Rainbow trout captured.
C11045	1507	1	093N.011	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11046	1459	1	093M.020	0.6	0	NFC	S6	Historical Site. Non fish bearing based on second pass sampling. No fish captured.
C11047	1465	1	093M.020	1.1	1	NFC	S4	Historical Site. Limited habitat. potential fish access.
C11051	1933	1	093K.091	2.1	4	RB	S2	Historical Site. Rainbow trout captured.
C11053	1910	1	093L.100	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11090	1485	1	093M.020	2.0	4	RB	S3	Historical Site. Rainbow trout captured.
C12002	1495	27	093M.039	4.5	1	RB	S3	Historical Site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
C12003	1150	3	093M.029	6.8	1	NFC	S2	Historical Site. Limited habitat available. S2 based on Triton 1998 sampling.
C12004	1495	16	093M.029	7.6	2	RB, RSC, CC, SI, NSC, KO	S2	Historical Site. Rainbow trout, red sided shiner, prickly sculpin, sucker (general), northern pike minnow and kokanee captured.
C12005	1123	1	093M.029	3.3	-	NFC	S3	Historical Site. Fish bearing based on access and no barriers observed.
C12006	1127	1	093M.029	0.4	1.4	NS	S6*	Historical Site. Subsurface gully drainage. Inferred non fish bearing.
C12007	1394	2	093M.030	3.8	1	NFC	S3	Historical Site. Limited habitat available. Potential fish access.
C12008	1313	1	093M.030	NS	NS	NS	NVC	Historical Site. Dewatered. Poor substrate limits habitat capabilities. Potential Fisheries Sensitive Zone.
C12009	1398	5	093M.020	3.7	6	NFC	S3	Historical Site. Some habitat potential. Fish bearing based on access.
C12010	1398	3	093M.020	4.6	11	NFC	S3	Historical Site. Limited habitat potential. Rainbow trout captured upstream in Reach 4 (site 363).
C12011	1400	1	093M.020	7.0	3	RB	S2	Historical Site. Rainbow trout captured.
C12013	1495	4	093M.020	13.6	2	RB, RSC, SI, MW	S2	Historical Site. Rainbow trout, red sided shiner, sucker (general) and mountain whitefish captured.
C12014	1429	2	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. No discernible channel above or below culvert.
C12015	1452	2	093M.020	0.8	1	RB	S4	Historical Site. Rainbow trout captured.
C12016	1585	1	093M.010	1.9	28	NFC	S3	Historical Site. Limited habitat available. Potential fish access.
C12017	1594	2	093M.010	2.2	1	RB	S3	Historical Site. Rainbow trout captured.
C12018	1610	1	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. No discernible channel.
C12019	1603	1	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. No discernible channel.
C12020	1794	1	093M.001	0.9	10	NS	S6*	Historical Site. Dewatered. High gradient (23% for 50 m and 28% for 30 m) downstream in mainstem ILP 1792 Reach 1 likely limits upstream fish migration. Limited fish habitat.
C12021	1748	1	093M.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. No alluvial channel.
C12022	1743	3	093M.001	2.3	7	NS	S4*	Historical Site. Poor fish habitat. Rainbow trout captured downstream in Reach 2.
C12023	1744	1	093M.001	1.5	3	RB	S4	Historical Site. Rainbow trout captured.
C12024	1764	2	093M.001	1.2	13	NFC	S4	Historical Site. Limited habitat and high gradient (13%).
C12025	1735	1	093M.001	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C12026	1805	1	093M.001	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C12027	1806	1	093M.001	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C12028	1804	2	093M.001	2.4	18	NS	S6	High gradient (25%), no perennial habitat observed.
C12029	1804	1	093M.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. Gully run-off.
C12030	1742	1	093M.001	0.9	2	RB, CAS	S2	Historical Site. Rainbow trout and prickly sculpin captured.
C12031	1500	1	093M.011	2.4	2	RB	S3	Historical Site. Rainbow trout captured.
C12032	1801	16	093K.092	6.7	1	RB	S2	Historical Site. Rainbow trout captured.
C12033	2052	1	093K.092	2.0	3	RB	S3	Historical Site. Rainbow trout captured.
C12034	2127	2	093K.092	5.3	-	RB	S2	Historical Site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
C12035	1948	2	093K.091	3.4	11	NS	S3	Historical Site. Poor habitat quality rating. Rainbow trout captured downstream in Reach 1 (site 15). Inferred fish bearing.
C12036	1949	1	093K.091	0.7	25	NS	S4	Historical Site. Channel becomes undefined in sections. Rainbow trout captured downstream in mainstem ILP 1948 Reach 1 (site 15). Inferred fish bearing.
C12037	2009	6	093K.091	3.1	0	NFC	S5	Historical Site. Falls (3 m) downstream in Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
C12038	1960	1	093K.091	1.0	3	NS	S6	Historical Site. Falls (3 m) downstream on mainstem ILP 2009 Reach 2 are a barrier to upstream fish migration. Intermittent and subsurface flows and no perennial habitat. No fish captured upstream of falls.
C12039	2010	1	093K.081	1.0	14	NS	S4	Historical Site. Poorly defined channel. Inferred fish bearing based on access.
C12040	2251	2	093K.081	3.6	6	NFC	S5	Historical Site. Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
C12041	2250	2	093K.081	2.4	6	NFC	S3	Historical Site. Poor habitat quality rating. Inferred fish bearing.
C12042	2248	1	093K.081	1.6	5	NS	S3	Historical Site. Possibly some spawning potential at stream mouth. Inferred fish bearing.
C12043	2247	1	093K.081	1.0	10	NS	S3	Historical Site. Ephemeral channel. Fish bearing based on access.
C12044	2308	3	093K.082	1.1	6	NFC	S3	Historical Site. Good habitat potential. Potential fish access.
C12045	1390	5	093M.019	NS	NS	NS	NVC	Historical Site. No Visible Channel. Wetland outlet.
C12046	1455	1	093M.020	3.7	2	RB	S3	Historical Site. Rainbow trout captured.
C12048	1700	2	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C12049	1803	12	093M.010	NS	NS	NS	NVC	Historical Site. Wetland - No Visible Channel. Potential Fisheries Sensitive Zone.
C12050	1914	1	093L.100	1.0	0	NS	S4*	Historical Site. Dewatered. Spring run-off channel. Inferred fish bearing.
C12051	2291	1	093K.082	2.2	3	NFC	S3*	Historical Site. Poor habitat quality rating. Inferred fish bearing.
C12052	2308	4	093K.082	3.2	2	NFC	S3	Historical Site. Limited habitat potential. Potential fish access.
C12053	2329	3	093K.082	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C12113	2256	2	093K.081	NS	NS	NS	NVC	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C12114	2316	1	093K.082	0.8	3	RB	S4	Historical Site. Rainbow trout captured.
C12115	1987	1	093K.091	1.1	3	NS	S4	Historical Site. Dewatered. Limited habitat availability. Inferred fish bearing based on potential access.
C12116	1737	4	093N.001	1.5	13	NFC	S6	Historical Site. Falls (30 m) downstream in Reach 2 is a barrier to upstream fish migration. No fish caught upstream of falls confirms non fish bearing status.
C12117	1278	1	093M.030	1.3	2	NFC	S4	Historical Site. Poor habitat quality. Rainbow trout captured in downstream mainstem ILP 1276.
C12118	1284	1	093M.030	NS	NS	NS	NVC	Historical Site. No Visible Channel, 32% gradient.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
C12119	1276	8	093M.030	NS	NS	NS	NVC	Historical Site. Beaver dams potentially limit upstream migration. Inferred fish bearing.
C12120	1276	7	093M.030	1.7	3	RB	S3	Historical Site. Rainbow trout captured.
C13045	1800	1	093N.001	0.7	0	NS	S6	Historical Site. No perennial habitat, gradient barrier / falls at lake blocks upstream access. Second pass sampling confirms non fish bearing status.
C13046	1737	1	093N.001	0.3	5	NS	S4	Historical Site. Dewatered. Fish may use lower 10 m. Inferred fish bearing based on access.
C13047	1732	1	093N.001	0.5	29	NS	S4	Historical Site. Fish may use lower 50 m at lake. Inferred fish bearing based on access.
E153	1666	2	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Dry wetland. Potential Fisheries Sensitive Zone.
E154	1678	3	093M.010	0.9	9	NS	S6	Historical Site. Spawning and rearing habitat is poor. A cascade (1.6 m x 1 m) located downstream on mainstem ILP 1676 Reach 2 is a barrier to fish passage. Second pass sampling in Reach 1 confirms non fish bearing status upstream of cascade.
E155	1686	1	093M.010	1.1	3	RB	S4	Historical Site. Excellent rearing habitat and moderate spawning habitat. Rainbow trout captured.
E156	1686	2	093M.010	0.7	5	NS	S4	Historical Site. Poor rearing and limited spawning habitat. Fish bearing based on access.
E159	1676	3	093M.010	1.3	7	NFC	S6	Historical Site. Cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status. No fish captured upstream of cascade.
E160	1676	5	093M.010	1.0	1	NS	S6	Historical Site. Cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status. No fish captured upstream of cascade.
E162	1681	1	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
E163	1611	5	093M.010	5.0	3	RB	S3	Historical Site. Excellent spawning and rearing habitat for rainbow trout. Rainbow trout captured.
E164	1669	3	093M.010	1.0	26	NFC	S6	Historical Site. The lower 30 m of this reach provides potential rearing. The remainder of this reach offers no rearing and spawning habitat due to high gradient (26% over 100 m). No fish captured.
E165	1690	5	093M.010	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
E166	1624	1	093M.010	0.5	7	NS	S6	Historical Site. No fish habitat, intermittent flows with sections of subsurface flow. Second pass sampling in ILP 1618 Reach 4 confirms that this reach is non fish bearing.
E167	1618	4	093M.010	1.2	5	NFC	S4* S6	Historical Site. Poor fish habitat. Second pass sampling and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured. Inferred fish bearing downstream.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
E168	1625	2	093M.010	1.0	5	NFC*	S4*	Historical Site. Poor to fair rearing habitat. Poor spawning habitat - lack of substrate. Fish bearing based on access.
E169	1633	3	093M.010	1.1	4	NS	S6	Historical Site. Second pass sampling confirms non fish bearing status.
E181	1642	7	093M.010	1.8	4	RB	S3/S6	Historical Site. Cascade (2 m x 1 m) within this reach is a barrier to upstream fish migration. No fish captured upstream of barrier. Fish stream below barrier.
E182	1642	8	093M.010	1.6	6	NFC	S6	Historical Site. Cascade (2 m x 1 m) downstream in Reach 7 is a barrier to upstream fish migration. No fish captured at this site confirms non fish bearing status.
E183	1611	11	093M.010	NS	NS	NS	NVC*	Historical Site. No Visible Channel. Not a stream.
E1556	1643	2	093M.010	0.6	4	NFC	S6	Historical Site. Second pass sampling in the best possible habitat indicates that fish do not use this stream. Cascades and gradients (15%) in Reach 1 prevent fish from accessing this reach. No fish captured upstream of cascade and high gradient section.
E1557	1642	2	093M.010	3.0	5	RB	S3	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
E1601	1676	1	093M.010	1.3	4	RB	S4	Historical Site. Poor spawning habitat, poor rearing habitat, and no overwintering habitat. Rainbow trout captured.
E1602	1676	3	093M.010	1.0	5	NFC	S6	Historical Site. A cascade (1.6 m x 1 m) in the downstream portion of Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms fish absence upstream of cascade. No fish captured.
E1603	1676	5	093M.010	0.6	1	NFC	S6	Historical Site. A cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to fish migration. Second pass sampling confirms non fish bearing status upstream of cascade. No fish captured.
E1604	1678	1	093M.010	0.5	2	NFC*	S6	Historical Site. A cascade (1.6 m x 1 m) located downstream on mainstem ILP 1676 Reach 2 prevents fish access to this reach. Second pass sampling above cascade confirms that this stream is non fish bearing. No fish captured.
E1605	1632	1	093M.010	1.0	3	NFC*	S4/S6	Historical Site. Non fish bearing based on second pass sampling. The lower portion of this stream offers fair spawning and poor rearing habitat. Fish bearing based on access in lower portion of reach. No fish captured.
E1606	1633	3	093M.010	0.9	3	NFC*	S6	Historical Site. No spawning, rearing or overwintering habitat. Second pass sampling confirms that fish do not utilize this reach. No fish captured.
E1607	1643	1	093M.010	0.9	5	NFC*	S6	Historical Site. Poor rearing, no spawning and no overwintering habitat. Small cascades and 15% gradient prevent fish access. Second pass sampling in the best possible habitat above the cascade section indicates that fish do not use this stream. The lower 30 m offers some salmonid habitat. No fish captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
E1608	1618	2	093M.010	1.9	4	RB	S3	Historical Site. Good spawning, fair rearing and poor overwintering habitat. Rainbow trout captured.
E1609	1618	4	093M.010	1.3	4	NFC	S4*/S6	Historical Site. The lower 200 m of this can be classified as fish bearing based on access. Second pass sampling in two separate seasons and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fish captured.
E1620	1637	1	093M.010	1.0	3	NS	S6	Historical Site. Stream is classified non fish bearing based on second pass sampling in separate seasons.
F146	2298	13	093K.081	2.0	6	NFC	S6	Historical Site. Second pass sampling in Reach 10 indicates that this reach is non fish bearing. No fish captured.
F147	2298	11	093K.081	2.7	5	NFC	S6	Historical Site. Second pass sampling in Reach 10 indicates that this reach is non fish bearing. No fish captured.
F148	2239	1	093K.081	1.2	15	NFC	S6	Historical Site. Small chutes and cascades prevent fish access. No fish habitat. Second pass sampling in downstream ILP 2298 Reach 10 confirms non fish bearing status. No fish captured.
F180	1406	13	093M.010	1.6	2	NFC	S6	Historical Site. Falls (3 m) downstream in Reach 9 are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. No fish captured upstream of falls.
F1301	2304	4	093K.082	0.7	5	NFC	S4*	Historical Site. Moderate rearing habitat and poor spawning habitat. No barriers to upstream fish migration were observed. Fish stream based on access.
F1302	2298	5	093K.082	4.4	8	RB	S3	Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
F1527	2298	2	093K.082	4.8	5	RB	S3	Historical Site. Rainbow trout captured.
F1528	2299	2	093K.082	0.4	5	NS	S6	Historical Site. No Visible Channel 100 m below sample site prevents upstream fish access.
F1529	2304	5	093K.082	1.7	5	NFC	S3*	Historical Site. Moderate rearing and spawning potential. No barriers to upstream fish migration were observed. Fish stream based on access.
F1545	1412	5	093M.020	1.1	5	NFC	S4*	Historical Site. Subsurface flows between isolated pools. Fish access possible during higher flows. Inferred fish bearing.
F1547	1406	9	093M.020	1.3	5	NFC	S4/S6	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1548	1416	3	093M.020	2.8	7	RB	S3	Historical Site. Rainbow trout captured.
F1565	1412	3	093M.020	1.5	4	NFC	S3	Historical Site. Fish were captured upstream in Reach 4. Fish stream based on seasonal use.
F1610	1412	1	093M.020	1.8	3	RB	S3	Historical Site. Poor rearing, good spawning and no overwintering habitat. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
F1611	1406	5	093M.020	3.0	4	RB	S3	Historical Site. Moderate spawning, rearing, and overwintering habitat. Rainbow trout captured.
F1622	1406	9	093M.020	2.0	3	RB	S3/S6	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Rainbow trout were captured downstream of falls.
F1625	2298	9	093K.081	3.3	6	NFC	S6	Historical Site. Second pass sampling in best possible habitat indicates this is not a fish bearing reach. No fish captured.
F1627	2304	1	093K.082	2.6	6	NFC	S3*	Historical Site. Excellent rearing habitat. Fair rearing habitat. Overwintering habitat present. No barriers to upstream fish migration were observed. Fish stream based on access.
F1715	1412	4	093M.020	1.7	7	RB	S3	Historical Site. Fair spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
SKR-01-NOBA45-API	1530	1	093M.009	1.3	6	NS	S6	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01-NOBA45-AG2	1529	1	093M.009	1.2	10	NS	S4	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01-NOBA45-AW3 - NCD-W3	1536	1	093M.009	NS	NS	NS	NCD	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01-NOBA45-AW4	1536	1	093M.009	1.3	5	NS	S4	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01-NOBA45-AW5	1536	1	093M.009	0.9	7	NS	S4	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
T02-ST1	1308	2	093M.030	1.4	1	NFC	S6	Historical Site. Non fish bearing based on second pass sampling conducted during 1:20K inventory 2002 (site 365).
T02-ST2	1183	1	093M.029	3.2	1	RB	S3	Historical Site. Perennial stream. Rainbow trout captured.
T02-ST3	1181	2	093M.029	NS	NS	NS	WNVC	Historical Site. Wetland - No Visible Channel. Non channelized wetland in upper 300 m of this reach. No potential for access exists through the wetland. Lower 350 m of reach has potential fish access (potential Fisheries Sensitive Zone).
T02-ST3	1181	3	093M.029	0.9	1	NFC	S6	Historical Site. Ephemeral stream. No connection to downstream fish bearing waters. Approximately 30 m below proposed road crossing the stream flow through a non-channelized wetland for over 200 m.
1	2366	2	093K.071	1.3	1	NS	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. Downstream Big Loon Lake is fish bearing. Inferred fish bearing.
2	2359	3	093K.071	1.0	1	NFC	S4*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
3	2359	5	093K.071	1.2	1	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. Bridge and fill underneath is a barrier to upstream fish migration. An old culvert and logs beneath bridge block upstream fish migration as well. Inferred fish bearing as obstructions are not permanent.
4	2373	3	093K.071	2.1	21	NFC	S3*/S6	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Sections of high gradient (20% over 100 m) block upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
5	2370	5	093K.071	2.5	12	NFC	S3*/S6	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. High gradient (20%) ~200 m upstream of site blocks upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
6	2370	6	093K.071	NS	NS	NFC	NS	Fish only sampling site.
7	2358	2	093K.071	2.3	6	NFC, RB	S3	Moderate rearing, poor spawning and potential overwintering habitat observed within site. No fish captured but rainbow trout were visually observed.
8	2251	2	093K.081	2.2	2	NFC	S6	Cascade (1 m x 0.5 m) at the top of Reach 1 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
9	2251	2	093K.081	NS	NS	NFC	NS	Fish only sampling site.
10	2251	3	093K.081	NS	NS	NFC	NS	Fish only sampling site.
11	1942	2	093K.091	2.2	6	NFC	S3*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Channel fans out below road crossing and becomes dry with small pools every 20 m. Inferred fish bearing.
12	1944	1	093K.091	NS	NS	NFC	NS	Fish only sampling site.
13	1944	2	093K.091	1.1	21	NFC	S4*/S6	Dry/Intermittent. High gradient (24%) ~300 m downstream of upper road crossing prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
14	1945	1	093K.091	1.4	20	NFC	S4*/S6	Dry/Intermittent. High gradient (24%) ~100 m upstream of the confluence with ILP 1944 prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
15	1948	1	093K.091	1.9	5	RB	S3	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
16	1948	3	093K.091	1.7	21	NFC	S3*/S6	Dry/Intermittent. High gradient (20.5% over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient. No fish captured.
17	1950	1	093K.091	1.5	20	NS	S3*/S6	Dry/Intermittent. High gradient break (20%+ over 100 m) prevents upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
18	2009	1	093K.081	NS	NS	RB	NS	Fish only sampling site.
19	2009	2	093K.081	2.1	6	NFC	S3*/S6	Falls (3 m) within this reach are a barrier to upstream fish migration. Inferred fish bearing downstream of falls. Moderate rearing, poor spawning and no overwintering habitat observed within site. Four (4) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
20	2253	2	093K.081	2.4	16	NFC	S3*/S6	Cascade section (50 m x 60 m) blocks upstream fish migration. Below cascade section inferred fish bearing. Poor rearing, no spawning and no overwintering habitat observed within site. No fish captured upstream of cascade.
21	2009	3	093K.081	1.6	4	NFC	S6	Falls (3 m) downstream in Reach 2 are a barrier to upstream fish migration. Moderate rearing, poor spawning and no overwintering habitat observed within site. Four (4) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
22	2251	1	093K.081	NS	NS	RB	NS	Fish only sampling site.
23	2308	3	093K.082	2.8	4	NFC	S3*	Moderate rearing, moderate spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were located. Inferred fish bearing.
24	1966	1	093K.091	1.0	3	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
25	1966	2	093K.091	1.4	23	NFC	S4*/S6	Dry/Intermittent. High gradient (23% over 100 m) blocks upstream fish migration. Poor rearing, no spawning and no overwintering habitat observed within site. Lower 100 m of reach is inferred fish bearing. No fish captured.
26	1975	1	093K.091	1.5	3	NS	S4*	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
27	1979	2	093K.091	1.8	4	NS	S3*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
28	1989	3	093K.091	1.8	2	RB	S3	Moderate rearing, poor spawning and poor overwintering habitat observed within site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
29	1995	2	093K.091	1.5	2	NFC	S3*	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
30	1993	1	093K.091	1.0	2	NFC	S4*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
31	1990	1	093K.091	1.5	2	RB	S3	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
32	1450	11	093M.020	2.0	1	RB, PCC	S3	Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout and peamouth chub captured.
33	1290	1	093M.030	1.4	1	NFC	S4*	Moderate rearing, moderate spawning and no overwintering habitat observed within site. Beaver activity downstream may prevent fish access to this reach. Inferred fish bearing.
34	1394	6	093M.030	1.6	2	NFC	S3*	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
35	1394	4	093M.030	1.6	1	NFC	S3*	Moderate rearing, poor spawning and no overwintering habitat observed within site. Lower wetland may limit upstream fish migration. Inferred fish bearing.
36	1119	3	093M.029	1.7	3	RB	S3	Moderate rearing, moderate spawning and no overwintering habitat observed within site. Rainbow trout captured.
37	1123	1	093M.029	1.7	5	NFC	S3*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
38	1429	2	093M.020	1.4	1	RB	S4	Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
39	1404	5	093M.020	1.1	2	NFC	S4*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Inferred fish bearing.
40	1408	3	093M.020	NS	NS	NS	NVC	No Visible Channel. No potential fish habitat.
53	1141	3	093M.029	1.7	4	NFC	S3*	Poor rearing, poor spawning and no overwintering habitat observed within site. Beaver activity downstream may limit access to this reach. Inferred fish bearing.
54	1182	3	093M.029	0.9	6	NFC	S4*	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site. Inferred fish bearing based on potential access.
55	1181	3	093M.029	1.3	1	NFC	S4*	Poor rearing, poor spawning and no overwintering observed within site. Stream is not mapped correctly and flows into beaver pond ILP 1186. Beaver activity may temporarily restrict fish access. Inferred fish bearing based on potential access.
56	1181	5	093M.029	NS	1	NS	NVC	No Visible Channel. No potential fish habitat. No access through this Reach.
57	1296	3	093M.029	1.5	4	RB	S3	Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
58	1173	6	093M.039	1.5	4	NFC	S3*	Poor rearing, poor spawning and no overwintering habitat observed within site. Poor connection to downstream wetland could limit fish access to this reach. Inferred fish bearing.
59	1018	1	093M.039	1.3	2	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
60	1015	1	093M.039	1.4	3	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
61	1091	1	093M.039	1.8	1	NFC	S3*	Moderate rearing, no spawning and overwintering (present) habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
62	1022	8	093M.039	1.6	1	NFC	S3*	Moderate rearing, poor spawning and overwintering (present) habitat observed within site. Extensive beaver activity may limit fish access to this Reach. Inferred fish bearing.
63	1030	2	093M.039	1.4	2	NFC	S4*	Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
64	2131	1	093K.092	1.8	17	NFC	S6	Cascade (2 m x 2 m) downstream in Reach 5 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of cascade resulted in no fish captured and confirms non fish bearing status.
65	2127	5	093K.092	2.1	11	NFC	S6	Cascade (2 m x 2 m) downstream in Reach 5 is a barrier to upstream fish migration. Three (3) sampling sites conducted upstream of cascade resulted in no fish captured and confirms non fish bearing status.
66	2052	2	093K.092	2.1	5	NFC	S6	Falls (2.4 m) downstream of site blocks upstream fish migration. Rainbow trout captured downstream of falls. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
67	2052	2	093K.092	NS	NS	RB	NS	Fish only sampling site.
68	2055	1	093K.092	1.1	5	NFC	S6	Falls (2.4 m) located downstream on mainstem ILP 2052 Reach 2 are a barrier to upstream fish migration. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
69	2052	3	093K.092	2.1	3	NFC	S6	Falls (2.4 m) in Reach 2 are a barrier to upstream fish migration. Six (6) sampling sites conducted upstream of the falls resulted in no fish captured and confirms non fish bearing status.
70	1785	1	093N.001	1.3	2	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. Disturbances on mainstem may limit fish access to this reach. Inferred fish bearing.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
71	1784	1	093N.001	2.2	6	NFC	S3*	Moderate rearing and poor spawning. Overwintering habitat present. Inferred fish bearing based on access.
72	1757	3	093N.001	1.5	2	RB	S3	Poor rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured.
73	1768	3	093N.001	1.1	4	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. Wetlands downstream may limit upstream fish migration. Inferred fish bearing based on access.
74	1769	1	093N.001	1.6	5	NFC	S3*/S6	Poor rearing, poor spawning and no overwintering habitat observed within site. Falls (1.5 m) in the top of this reach are a barrier to upstream fish migration. No fish captured upstream of falls. Inferred fish bearing below falls.
75	1763	5	093N.001	0.7	3	NFC	S4*	Dry/Intermittent. Poor rearing, no spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
355	1332	4	093M.019	1.7	2	NFC	S6	Falls (10 m) downstream at the top of Reach 1 break are a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
356	1332	2	093M.019	1.6	3	NFC	S6	Falls (10 m) at the top of Reach 1 break are a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
357	1231	1	093M.029	3.5	4	RB	S3	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout captured.
358	1231	2	093M.029	3.4	10	RB	S3	Good rearing, good spawning and moderate overwintering habitat observed within site. Rainbow trout captured.
359	1232	1	093M.029	1.3	9	NFC	S6	Dry/Intermittent. Falls (2.5 m) located ~60 m downstream of site are a barrier to upstream fish migration. No fish captured upstream of falls.
360	1206	1	093M.029	1.4	1	NFC	S4*	Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were observed. Inferred fish bearing.
361	1204	1	093M.029	2.9	2	RB, SU	S3	Moderate rearing, no spawning and no overwintering habitat observed within site. Rainbow trout and suckers (general) captured.
363	1398	4	093M.020	3.4	4	RB	S3	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout captured.
364	1305	3	093M.030	NS	NS	NFC	NS	Fish only sampling site. No fish captured in lake confirms non fish bearing status upstream.
365	1308	2	093M.030	NS	NS	NFC	NS	Fish only sampling site. Second pass sampling at this site confirms non fish bearing status.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
366	1441	6	093M.020	0.5	30	NS	S6	Dry/Intermittent. High Gradient (30% over 100 m) is a barrier to upstream fish migration. No fish habitat. No Visible Channel downstream of road.
367	1432	5	093M.020	2.0	6	RB	S3	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout captured.
368	1332	5	093M.019	NS	NS	NFC	NS	Fish only sampling site.
369	1520	1	093M.009	NS	NS	DV	NS	Fish only sampling site.
370	1863	5	093M.010	NS	NS	NFC	NS	Fish only sampling site. (Lake)
371	1863	2	093L.100	1.8	6	NFC	S6	Falls (15 m) in the lower portion of this reach are a barrier to upstream fish migration. Two (2) sampling sites conducted upstream of the falls and lake sampling resulted in no fish captured and confirms non fish bearing status. Poor rearing, poor spawning and no overwintering habitat observed within site.
372	1877	2	093L.100	3.4	6	RB	S3	Good rearing, good spawning and poor overwintering habitat observed within site. Culvert (1.4 m x 25 m) are perched 0.5 m and are a full barrier to fish migration at low and moderate flows. Rainbow trout captured.
373	1594	5	093M.010	1.9	5	RB	S3	Good rearing, good spawning and poor overwintering habitat observed within site. Rainbow trout captured.
374	1690	3	093M.010	0.6	2	NFC	S4*	Poor rearing, no spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
375	1803	6	093M.010	2.2	1	NFC	S3*	Good rearing, no spawning and poor overwintering habitat observed within site. Lake upstream and no barriers to fish migration were observed. Inferred fish bearing.
376	1803	9	093M.010	2.5	0	NFC	S3*	Good rearing, no spawning and good overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
380	1231	2	093M.029	NS	NS	NFC	NS	Fish only sampling site.
576	1808	3	093N.001	1.0	5	NFC	S4*	Low rearing, low spawning and no overwintering habitat observed within site. No barriers observed in Recci, downstream wetland / pond. Inferred fish bearing.
577	1808	1	093N.001	NS	NS	NS	NVC	No Visible Channel. Flooded wetland / pond. Potential Fisheries Sensitive Zone.
578	1792	1	093N.001	0.9	16	NFC	S6*	High gradient (23% for 50 m and 28% for 30 m) downstream of road crossing. Rainbow trout captured downstream within reach (site 579). Inferred non fish bearing. Suggest that lake in Reach 2 of this stream be minnow trapped to confirm fish presence/absence.
579	1792	1	093N.001	NS	NS	RB	NS	Fish only sampling site.
580	1763	1	093N.001	1.4	4	RB	S4	Low rearing, low spawning and no overwintering habitat observed within site. Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
617	1231	3	093M.029	1.8	3	NFC	S6	A bedrock cascade (16 m x 22 m) within this Reach is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
618	1231	2	093M.029	2.2	6	NFC	S6	A bedrock cascade (16 m x 22 m) within this Reach is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
619	1235	1	093M.029	0.8	4	NFC	S6	A bedrock cascade (16 m x 22 m) located downstream on mainstem ILP 1231 Reach 2 is a barrier to upstream fish migration. Four (4) sampling sites conducted upstream of the cascade resulted in no fish captured and confirms non fish bearing status.
620	1224	1	093M.029	1.8	2	CO	S3	Moderate rearing, moderate spawning and potential overwintering habitat observed within site. Coho captured (two had adipose clips).
621	1204	3	093M.029	NS	NS	NS	NVC	No Visible Channel. Flooded / ponded area with extensive beaver use. Potential overwintering habitat in upstream wetland. Potential Fisheries Sensitive Zone.
622	1214	1	093M.029	1.2	2	NFC	S4*	Low rearing, low spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Fish were observed rising in downstream lake. Inferred fish bearing.
623	1119	4	093M.029	0.6	7	NFC	S4*	Low rearing, low spawning and no overwintering habitat observed within Reach. No barriers to fish migration were observed. Stream has been harvested to banks ~100 m downstream of site. Inferred fish bearing.
625	1135	2	093M.029	1.2	19	NFC	S6	High gradient break (20% over 100 m) at cutblock edge and small pitches of >20% within cutblock block upstream fish migration. Stream has been harvested to banks. No Fish captured.
626	1150	5	093M.029	1.4	1	NS	S4*	Dry/Intermittent. Low rearing, low spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
627	1155	6	093M.029	2.7	3	RB	S3	Moderate rearing, moderate spawning and potential overwintering habitat observed within site. Rainbow trout captured.
628	1158	1	093M.029	1.6	12	NFC	S3	Low rearing, low spawning and no overwintering habitat observed within site. No barriers to fish migration were observed. Rainbow trout captured in downstream mainstem ILP 1155 Reach 6. Fish bearing based on access.
629	1155	5	093M.029	NS	NS	RB	NS	Fish only sampling site.
630	1155	6	093M.029	NS	NS	NS	WNVC	Wetland - No Visible Channel. Seasonally flooded. Willow swale / wetland. No barriers observed to site location. Potential Fisheries Sensitive Zone.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
631	1155	8	093M.039	2.3	18	NFC	S3*	Moderate rearing, low spawning and potential overwintering habitat observed within site. Two cascades (1.5 m x 1.5m and 0.9 m x 2 m) were observed within site and are not considered barriers to upstream fish migration. Inferred fish bearing.
632	1022	4	093M.039	NS	NS	RB	NS	Fish only sampling site.
633	1056	1	093M.039	NS	NS	NS	WNVC	Wetland - No Visible Channel. Seasonally flooded depressions. Non Classified Drainage characteristics. No channel connection at confluence observed from helicopter. Potential Fisheries Sensitive Zone.
634	1022	13	093M.039	NS	NS	NFC	NS	Fish only sampling site.
635	1079	1	093M.039	1.2	1	NFC	S4*	Low rearing, no spawning and no overwintering habitat observed within site. Stream has sections of piping. Potential fish access from downstream fish bearing water during flood periods. Inferred fish bearing.
636	1022	5	093M.039	NS	NS	NS	WNVC	Wetland - No Visible Channel. Flooded by beaver dams. Potential Fisheries Sensitive Zone.
637	2075	5	093K.092	3.1	5	NFC	S3*	Low spawning and potential overwintering habitat observed within site. No barriers observed. Cascades over rock and small gradient pitches >15% for 40 m may limit fish access to site location. Inferred fish bearing.
638	2076	1	093K.092	1.7	4	NFC	S3	Low spawning and low overwintering habitat observed within reach. No barriers observed downstream. Fish bearing based on access.
639	2075	3	093K.092	NS	NS	NFC	NS	Fish only sampling site.
640	2075	2	093K.092	NS	NS	NFC	NS	Fish only sampling site.
641	1742	13	093K.092	2.3	3	NFC	S3	Moderate rearing and moderate spawning habitat observed within site. Overwintering habitat present. No barriers to fish migration were observed. Fish bearing based on access.
642	1750	8	093N.002	1.4	10	NFC	S6	Falls (1.5 m) downstream within this reach are a barrier to upstream fish migration. No fish captured upstream of falls.
643	2114	3	093N.002	1.5	7	NFC	S3*	Moderate rearing, moderate spawning and questionable overwintering habitat observed within site. No barriers to fish migration were observed. Inferred fish bearing.
644	1844	1	093N.002	NS	NS	NS	NVC	No Visible Channel. Non classified drainage at bottom of reach. Flooded depressions and ponded areas. No channel observed.
645	1752	4	093N.002	2.2	8	NFC	S3*	Low spawning and no overwintering habitat was observed within site. Access looks possible from downstream lake. Inferred fish bearing.
927	1149	1	093M.029	0.7	2	NS	S4*	Dry/Intermittent. No fish habitat observed, ephemeral stream. No barriers to fish migration were observed. Inferred fish bearing.

CO = coho

CAS = prickly sculpin

CC = slimy sculpin

DV = Dolly Varden

KO = kokanee

LKC = lake chub

MW = mountain whitefish

NSC = Northern pikeminnow

PCC = peamouth chub

RB = rainbow trout

RSC = redbelt shiner

WSC = white sucker

NFC = No Fish Captured

NVC = No Visible Channel

WNVC = Wetland No Visible Channel

NS = Not Sampled

* = Indicates inferred classification

6.0 REFERENCES

- BC Forest Practices Code, 1998. Forest Practices Code Fish Stream Identification Guidebook. Forest Practices Code of British Columbia Act. Co-published by Forest Service British Columbia and British Columbia Environment.
- BC Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans, 1995. Fisheries Information Summary System (FISS) Data Compilation and Mapping Procedures. British Columbia Ministry of Environment, Lands and Parks, and Department of Fisheries and Oceans.
- Campbell, W.R., N.K. Dawe, I. McTaggart-Cowan, J.M. Cooper, G.W. Kaiser & M.C. McNall, 1990. The birds of British Columbia. Volume One. Nonpasserines. UBC Press, Vancouver, Canada. pp. 514.
- Demarchi, D. 1996. An introduction to the ecoregions of British Columbia. MELP, Wildlife Branch. Victoria, B.C. 46 pp. + appendices.
- DeGisi, J.S. and Schell. 1996. Reconnaissance Inventory of Unnamed Lake; Watershed Code 182-8196-633-409-976-03; Survey Dates: September 14 – 17, 1996. Prepared for the Ministry of Environment Lands and Parks, Skeena Region. Smithers, B.C.
- DeGisi, J.S. and Schell. 1996. Reconnaissance Inventory of Unnamed Lake; Watershed Code 182-8196-633-409-638-01; Survey Dates: September 17 – 19, 1996. Prepared for the Ministry of Environment Lands and Parks, Skeena Region. Smithers, B.C.
- Environmental Mining Council of British Columbia (EMCBC). 2002. Interactive Mapping Website. http://emcbc.miningwatch.org/emcbc/mapping/activemaps/choose_map_BC.htm.
- Ford, B.S., P.S. Higgins, A.F. Lewis, K.L. Cooper, T.A. Watson, C.M. Gee, G.L. Ennis, and R.L. Sweeting. 1995. Literature reviews of the life history, habitat requirements and mitigation/compensation strategies for thirteen sport fish species in the Peace, Liard and Columbia River drainages of British Columbia. Canadian Manuscript Report of Fisheries and Aquatic Sciences No. 2321.
- Government of British Columbia, Treaty Negotiations. 2002. Mapping Website. http://www.gov.bc.ca/tno/img/maps/map_4.htm.
- Groot, C. and L. Margolis (eds). 1991. Pacific Salmon Life Histories. UBC Press, Vancouver . pp 564.
- Hartman, G.F., T.G. Northcote, and C.C. Lindsey. 1962. Comparison of inlet and outlet spawning of rainbow trout in Loon Lake, British Columbia. Journal of Fisheries Research Board Canada 19(2):173-200.

- Hooper, D.R. 1973. Evaluation of the effects of flows on trout stream ecology. Pacific Gas and Electric, Dept. of Engineering Research, Emeryville, California. 97p. In: Walburg, C.H., Novotny, J.F., Jacobs, K.E., Swink, W.D., Campbell, T.M., Nestler, J., Saul, G.E. 1981. Effects of reservoir releases on tail water ecology; a literature review. Tech. Rep. E-81-12, Prep. By U.S. Dept. of Int. Fish and Wild. Ser. Nat. Reservoir Research Program, East Central Research and Environmental Lab, U.S. Army Corps of Engineers Waterways Experimental Station. Vixburg, Mississippi.
- Holland, SS. 1976. Landforms of British Columbia. Bulletin 46. BC Dept. of Mines and Petroleum Resources.
- Lyndsey, C.C., T.G. Northcote, and G.F. Hartman. 1959. Homing of rainbow trout to inlet and outlet spawning streams at Loon Lake, British Columbia. Journal of Fisheries Research Board Canada 16(5):695-719.
- McPhail, J.D. and J.S. Baxter. 1996. A review of bull trout (*Salvelinus confluentus*) life-history and habitat use in relation to compensation and improvement opportunities. Fisheries Management Report No. 104. Department of Zoology, UBC, Vancouver, BC.
- Meidinger, D. & J. Pojar, 1991. Ecosystems of British Columbia. British Columbia Ministry of Forests. Victoria, B.C. pp. 330
- Remington, Dawn. 1995. Review and Assessment of Water Quality in the Skeena River Watershed, British Columbia. Habitat Management Sector, Habitat Enhancement Branch, Department of Fisheries and Oceans.
- Resource Inventory Committee, 2001. Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures – Version 2.0, April 2001. Prepared by the BC Fisheries Information Services Branch for the Resource Inventory Committee.
- Scott, W.B. & E.J. Crossman. 1973. Freshwater fishes of Canada. Bryant Press Ltd. Ottawa, Canada.
- Scott, W.B. & E.J. Crossman, 1985. Freshwater fishes of Canada. Bryant Press Ltd. Ottawa, Canada. pp. 966
- The Fisheries Committee: Andy Witt, Dionys de leeuw, Brian Fuhr, Chris Broster, Jeff Lough, Rick Keim, Tom Olson. 1999. Skeena Region – In-stream Work Windows and Measures. Prepared for Habitat Protection BC Environment, Smithers, BC.
- The Canadian Museum of Nature Online. 2002. The Babine Lake Mammoth. Available: <http://www.nature.ca/notebooks/english/babmamm.htm>

- Triton Environmental Consultants Ltd., 1998. Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory in the Tochcha Lake Study Area. Report prepared for Northwood Pulp and Timber Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 1999a. Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory in the Babine Lake Watershed. Report prepared for Northwood Pulp and Timber Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 1999b. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory in the Nizik Lake Watershed. Report prepared for Northwood Pulp and Timber Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 1999c. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory in the Tochcha Lake Study Area. Report prepared for Northwood Pulp and Timber Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 1999d. 1:5,000 Fish Stream Identification of Unnamed Tributaries in the Tochcha Lake Watershed. Report prepared for Northwood Pulp and Timber Ltd.
- Triton Environmental Consultants Ltd., 2000. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory in the Upper Morice Watershed. Report prepared for Northwood Pulp and Timber Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 2001a. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory in the Telkwa River Watershed. Report prepared for Pacific Inland Resources Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd., 2001b. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory of Unnamed Tributaries to Babine Lake (Smithers Landing Planning Area). Report prepared for Canadian Forest Products Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC.
- Triton Environmental Consultants Ltd. 2002. Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory of Selected Tributaries to the South Side of the Fulton River Watershed (Guess Planning Area). Report prepared for Canadian Forest Products Ltd. and the Ministry of Environment, Lands and Parks, Smithers, BC

APPENDIX I

Reach Cards/Site Cards/Fish Collection Forms and Photographs (Sites 1 to 62)

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

2.0 093K.071 2366

STREAM REFERENCING																																	
Gazetted Name:					Local Name:																												
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000					ILP Map #: 093K.071		ILP #: 2366																										
REACH																																	
Reach #: 2.0		UTM(Zone/East/North): 10.317039.6071163				Sample Type: Biased																											
Length (km): .60		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS																											
Gradient (%): 0.0		Confinement: Unconfined		Order: 1		Open water: Absent																											
US Elev (m): 800		Islands: NONE		Riparian Vegetation: Deciduous																													
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																	
SITE																																	
Site #: 1		Field UTM 10.317038.6071220		Agency: C172		Crew: JD/SG		Date: 2002/08/27																									
Site Length (m): 200		GIS UTM 10.316984.6071388		Agency Name: Triton Environmental Consultants (Terrace)																													
CHANNEL																																	
No Vis.Ch.: ☐ Intermittent: ☐																																	
Dewatered: ☐ Tribs.: ☐																																	
Stage: Low ☒																																	
Med ☐																																	
High ☐																																	
Temp (C): 10		pH: 7.6		Conductivity: 60		Turbidity: Turbid ☐ Low ☐																											
						Moderate ☐ Clear ☒																											
MORPHOLOGY																																	
Bed Material: Dominant: Fines		D95 (cm): 16.00		Bars: Non ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐																													
Subdominant: Gravels		D (cm): 2.00																															
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS																													
Coupling: Decoupled				O1 B1 B2 B3 D1 D2 D3																													
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																													
Morphology: RP Riffle Pool																																	
COVER																																	
Total Cover: Abundant		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Type:</td> <td>SWD</td> <td>LWD</td> <td>B</td> <td>U</td> <td>DP</td> <td>OV</td> <td>IV</td> </tr> <tr> <td>Amount:</td> <td>S</td> <td>T</td> <td>N</td> <td>S</td> <td>N</td> <td>D</td> <td>S</td> </tr> <tr> <td>Location: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☒</td> </tr> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	S	T	N	S	N	D	S	Location: P/S/O:	☒	☒	☐	☒	☐	☒	☒
Type:	SWD	LWD	B	U	DP	OV	IV																										
Amount:	S	T	N	S	N	D	S																										
Location: P/S/O:	☒	☒	☐	☒	☐	☒	☒																										
LWD: Few		FSZ: ☐																															
LWD Dist: Evenly Distributed																																	
Right Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		Crown Closure																													
Left Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		1-20%																													
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒																													
Left Bank: Rip.Veg:		Stage: Pole-sapling stage																															
FISH																																	
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																								
1	EF	1	200	338 sec	500	NFC	0																										

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.071 ILP # 2366 Site 1

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
ILP Map #: 093K.071 ILP #: 2366 NID Map #: 093K.071 NID #: 40001 Reach #: 2.0 Site #: 1
Field UTM (Z.E.N): 10.317038.6071220 Method: GPU Site Lg: 200 Method: HC Access: V4
GIS UTM (Z.E.N): 10.316984.6071388 Ref. Name:
Date: 2002/08/27 Time: 08:33 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.20	1.40	1.60	1.10	1.50	1.20					1.33	Method I:	1.0	1.0	C	0.88
Wetted Width (m):	MS	0.60	0.80	1.10	1.00	0.90	1.00					0.90	Method II:	0.5	1.0	C	
Pool Depth (m):	MS	0.20	0.10	0.10	0.20	0.10	0.05					0.13					

Wb Depth: .3 .3 .2 Avg: 0.27 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	S	T	N	S	N	D	S
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 16.0 D (cm): 2.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None
Spawning Habitat	Poor - gravels are present - fines and low flows limit potential.
Rearing Habitat	Poor - slow stagnant water, high % of fines, very shallow depth.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 1 F: 1A	STD	U	Upstream photo of overstream vegetation.
R: 1 F: 2A	STD	D	Downstream photo of SWD in channel.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.071	2366	1

COMMENTS	
Section	Comments
CHANNEL	Low water and shallow depths may limit fish use.
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
2.0	093K.071	2366

Triton Environmental Consultants Ltd.



Site #1, Upstream photo of overstream vegetation.
Roll #1, Frame #1A, Date: 2002/08/27



Site #1, Downstream photo of SWD in channel.
Roll #1, Frame #2A, Date: 2002/08/27

Triton Environmental Consultants Ltd.

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.071 ILP # 2359

STREAM REFERENCING																																												
Gazetted Name:						Local Name:																																						
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000						ILP Map #: 093K.071		ILP #: 2359																																				
REACH																																												
Reach #: 3.0		UTM(Zone/East/North): 10.315268.6071113				Sample Type: Biased																																						
Length (km): 1.38		Coupling: Decoupled		Magnitude: 4		BGC Zone: SBS																																						
Gradient (%): 1.5		Confinement: Occasionally Conf		Order: 2		Open water: Absent																																						
US Elev (m): 800		Islands: NONE		Riparian Vegetation: Coniferous																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 2		Field UTM 10.314999.6071410		Agency: C172		Crew: SG/JD		Date: 2002/08/27																																				
Site Length (m): 200		GIS UTM 10.315015.6071425		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☐		Intermittent: ☒		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Channel Width (m):</td> <td>1.03</td> <td>0.800</td> <td>1.200</td> <td>6</td> </tr> <tr> <td>Wetted Width (m):</td> <td>0.58</td> <td>0.400</td> <td>0.800</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.30</td> <td>0.2</td> <td>0.4</td> <td>3</td> </tr> </table>				Avg	Min	Max	#	Channel Width (m):	1.03	0.800	1.200	6	Wetted Width (m):	0.58	0.400	0.800	6	Bankfull Depth (m):	0.30	0.2	0.4	3	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Gradient %:</td> <td>0.88</td> <td>0.5</td> <td>1</td> <td>4</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.11</td> <td>0.050</td> <td>0.200</td> <td>6</td> </tr> </table>				Avg	Min	Max	#	Gradient %:	0.88	0.5	1	4	Pool Depth (m):	0.11	0.050	0.200	6
Avg	Min	Max	#																																									
Channel Width (m):	1.03	0.800	1.200	6																																								
Wetted Width (m):	0.58	0.400	0.800	6																																								
Bankfull Depth (m):	0.30	0.2	0.4	3																																								
Avg	Min	Max	#																																									
Gradient %:	0.88	0.5	1	4																																								
Pool Depth (m):	0.11	0.050	0.200	6																																								
Dewatered: ☐		Tribes: ☐																																										
Stage: Low ☒		Temp (C): 9		pH: 7.8		Conductivity: 80		Turbidity: Turbid ☐ Low ☐																																				
Med ☐								Moderate ☐ Clear ☒																																				
High ☐																																												
MORPHOLOGY																																												
Bed Material: Dominant: Gravels		D95 (cm): 12.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐																																		
Subdominant: Cobble		D (cm): 3.00								Braid ☐																																		
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1		B2 B3 D1 D2 D3																																		
Coupling: Decoupled																																												
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																								
Morphology: RP Riffle Pool																																												
COVER																																												
Total Cover: Abundant		Type: SWD LWD B U DP OV IV																																										
LWD: Few		Amount: S S N S N D T																																										
LWD Dist: Evenly Distributed		Location: P/S/O: ☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		FSZ: ☐																																		
Right Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐								Crown Closure 1-20%																																		
Left Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐																																										
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest																																										
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒																																								
FEATURES																																												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)																																	
093K.071	88001	BR	3.0	GE	10	GE	R: 1	F: 3A	L:	#:	10.315137.6071																																	
Comments: Bridge over stream																																												
FISH																																												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																			
2	EF	1	200	130 sec	500	NFC	0																																					

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.071 ILP # 2359 Site 2

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.071 ILP #: 2359 NID Map #: 093K.071 NID #: 40002 Reach #: 3.0 Site #: 2
Field UTM (Z.E.N): 10.314999.6071410 Method: GPU Site Lg: 200 Method: HC Access: V4
GIS UTM (Z.E.N): 10.315015.6071425 Ref. Name:
Date: 2002/08/27 Time: 09:39 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	1.10	1.20	0.90	1.00	1.20	0.80					1.03	Method I:	1.0	1.0	C 0.88
Wetted Width (m):	MS	0.50	0.80	0.40	0.60	0.70	0.50					0.58	Method II:	0.5	1.0	C
Pool Depth (m):	MS	0.10	0.20	0.10	0.10	0.05	0.10					0.11				

Wb Depth: .4 .3 .2 Avg: 0.30 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	S	S	N	S	N	D	T
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 12.0 D (cm): 3.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.071	88001	BR	3.0	GE	10	GE	R: 1 F: 3A L: #:		10.315137.6071383	GIS

Comments: Bridge over stream

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - seasonal flows, shallow.
Rearing Habitat	Poor - intermittent flow, shallow, limited pools.

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000	3.0	093K.071	2359	2

PHOTOS					
Photo				Foc Lg	Dir
R:	1	F:	3A	STD	U
R:	1	F:	4A	STD	U
R:	1	F:	5A	STD	D
COMMENTS					
Section				Comments	
CHANNEL				Dry sections upstream and downstream of site.	
CHANNEL				Intermittent Flows	
CHANNEL				S4*	

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K.071	2359

WATERBODY													
Gazetted Name:								Local:					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093K.071				ILP #:		2359		Reach #: 3 -	
Project ID: 5271								Lake/Stream: S		Lake From Date:			
Fish Permit #:		145269		Date: 2002/08/27		To: 2002/08/27		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
2	093K.071	40002				GPU EF 1	8.5	80	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
2	EF 1	1	2002/08/27	09:39	2002/08/27	10:12							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
2	EF	1	1	O	130	200.0	0.7	500	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
2	EF	1	1	NFC		0							
COMMENTS													
Section			Comments										
WATERBODY			Dry sections downstream and upstream of site.										



Site #2, Upstream photo of bridge crossing.
Roll #1, Frame #3A, Date: 2002/08/27



Site #2, Upstream photo of LWD in channel.
Roll #1, Frame #4A, Date: 2002/08/27



Site #2, Downstream photo of overstream vegetation.
Roll #1, Frame #5A, Date: 2002/08/27

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

5.0 093K.071 2359

STREAM REFERENCING																																												
Gazetted Name:						Local Name:																																						
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000						ILP Map #: 093K.071			ILP #: 2359																																			
REACH																																												
Reach #: 5.0		UTM(Zone/East/North): 10.315766.6069735				Sample Type: Biased																																						
Length (km): .68		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS																																						
Gradient (%): 2.5		Confinement: Occasionally Conf		Order: 1		Open water: Absent																																						
US Elev (m): 820		Islands: NONE		Riparian Vegetation: Mixed C/D																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 3		Field UTM 10.315622.6070050		Agency: C172		Crew: SG/JD		Date: 2002/08/27																																				
Site Length (m): 200		GIS UTM 10.315596.6070082		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☐		Intermittent: ☐		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Channel Width (m):</td> <td>1.17</td> <td>0.9</td> <td>1.4</td> <td>6</td> </tr> <tr> <td>Wetted Width (m):</td> <td>0.73</td> <td>0.600</td> <td>0.9</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.33</td> <td>0.3</td> <td>0.4</td> <td>3</td> </tr> </table>				Avg	Min	Max	#	Channel Width (m):	1.17	0.9	1.4	6	Wetted Width (m):	0.73	0.600	0.9	6	Bankfull Depth (m):	0.33	0.3	0.4	3	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Gradient %:</td> <td>1.00</td> <td>1</td> <td>1</td> <td>4</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.12</td> <td>0.100</td> <td>0.200</td> <td>6</td> </tr> </table>				Avg	Min	Max	#	Gradient %:	1.00	1	1	4	Pool Depth (m):	0.12	0.100	0.200	6
Avg	Min	Max	#																																									
Channel Width (m):	1.17	0.9	1.4	6																																								
Wetted Width (m):	0.73	0.600	0.9	6																																								
Bankfull Depth (m):	0.33	0.3	0.4	3																																								
Avg	Min	Max	#																																									
Gradient %:	1.00	1	1	4																																								
Pool Depth (m):	0.12	0.100	0.200	6																																								
Dewatered: ☐		Tribes.: ☐																																										
Stage: Low ☒		Temp (C): 9		pH: 7.8		Conductivity: 80		Turbidity: Turbid ☐ Low ☐																																				
Med ☐								Moderate ☐ Clear ☒																																				
High ☐																																												
MORPHOLOGY																																												
Bed Material: Dominant: Fines		D95 (cm): 14.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐																																		
Subdominant: Cobble		D (cm): 2.00								Braid ☐																																		
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1		B2 B3 D1 D2 D3																																		
Coupling: Decoupled																																												
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																								
Morphology: RP Riffle Pool																																												
COVER																																												
Total Cover: Abundant		Type: SWD LWD B U DP OV IV																																										
LWD: Few		Amount: T T N S N D T																																										
LWD Dist: Evenly Distributed		Location: P/S/O: ☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		FSZ: ☐																																		
Right Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐								Crown Closure																																		
Left Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐								1-20%																																		
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest																																										
Left Bank: Rip.Veg:		Stage: Mature forest				Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒																																						
FEATURES																																												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)																																	
093K.071	88002	BR	2.0	GE	8	GE	R: 1	F: 6A	L:	#:	10.315604.6070																																	
Comments:		Temporary bridge over culvert.																																										
FISH																																												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																			
3	EF	1	200	213 sec	500	NFC	0																																					

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 5.0 ILP Map # 093K.071 ILP # 2359 Site 3

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.071 ILP #: 2359 NID Map #: 093K.071 NID #: 40003 Reach #: 5.0 Site #: 3
Field UTM (Z.E.N): 10.315622.6070050 Method: GPU Site Lg: 200 Method: HC Access: V4
GIS UTM (Z.E.N): 10.315596.6070082 Ref. Name:
Date: 2002/08/27 Time: 10:34 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	1.20	1.30	1.00	0.90	1.40	1.20					1.17	Method I:	1.0	1.0	C 1.00
Wetted Width (m):	MS	0.60	0.80	0.70	0.60	0.80	0.90					0.73	Method II:	1.0	1.0	C
Pool Depth (m):	MS	0.10	0.10	0.20	0.10	0.10	0.10					0.12				

Wb Depth: .3 .4 .3 Avg: 0.33 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	N	S	N	D	T
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F

DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 14.0 D (cm): 2.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.071	88002	BR	2.0	GE	8	GE	R: 1 F: 6A L:	#:	10.315604.6070064	GIS

Comments: Temporary bridge over culvert.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None
Spawning Habitat	Poor - high % of fines and low flows.
Rearing Habitat	Poor - low flows, shallow pools, abundant fines.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

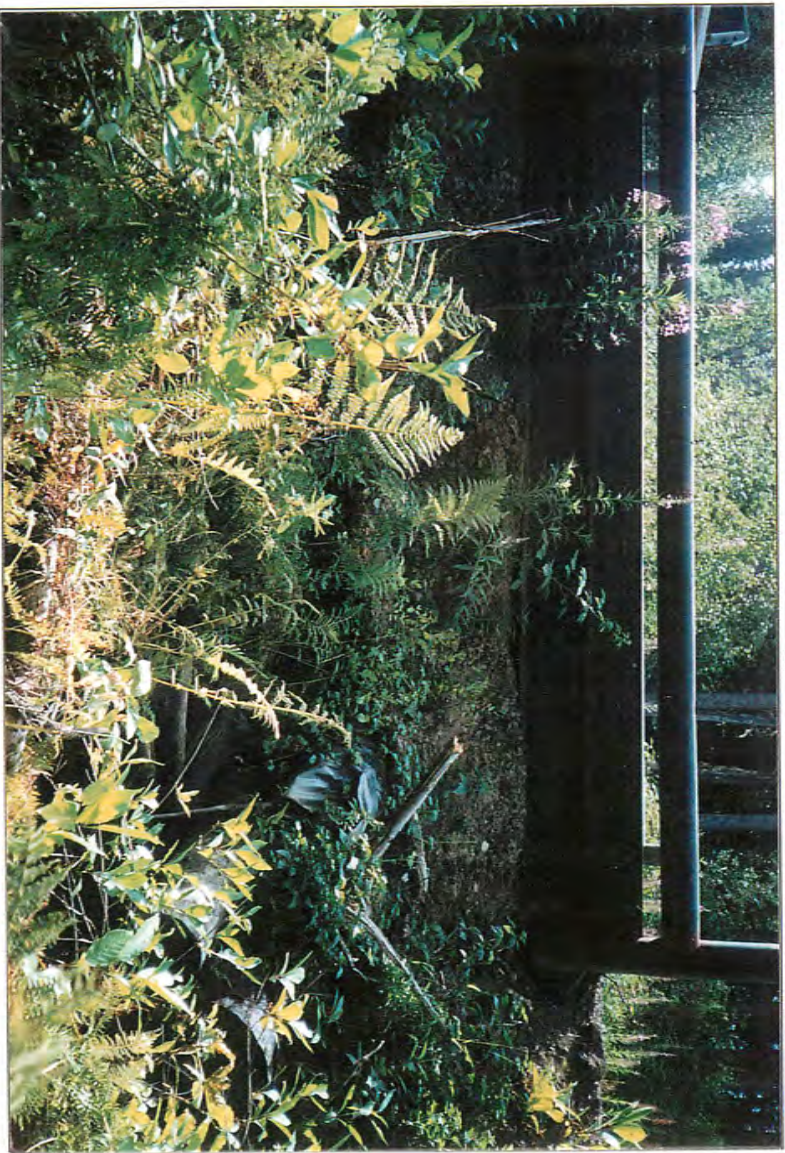
Reach #	ILP Map #	ILP #	Site
5.0	093K.071	2359	3

PHOTOS					
Photo			Foc Lg	Dir	Comments
R:	1	F: 6A	STD	U	Upstream photo of bridge.
R:	1	F: 7A	STD	U	Upstream photo of channel.
R:	1	F: 8A	STD	D	Downstream photo of channel.
COMMENTS					
Section			Comments		
CHANNEL			Bridge and fill underneath is a barrier to fish - old culvert and logs beneath bridge block upstream fish migration.		
CHANNEL			S4*		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
5.0	093K.071	2359

Triton Environmental Consultants Ltd.



Site #3, Upstream photo of bridge.
Roll #1, Frame #6A, Date: 2002/08/27



Site #3, Upstream photo of channel.
Roll #1, Frame #7A, Date: 2002/08/27



Site #3, Downstream photo of channel.
Roll #1, Frame #8A, Date: 2002/08/27

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.071 ILP # 2373

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.071		ILP #: 2373		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 10.319345.6075268				Sample Type: Biased			
Length (km): .78		Coupling: Coupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 22.7		Confinement: Frequently Confin		Order: 1		Open water: Absent			
US Elev (m): 1189		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 4		Field UTM 10.319053.6074741		Agency: C172		Crew: JD/SG		Date: 2002/08/27	
Site Length (m): 200		GIS UTM 10.319000.6074664		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 2.13		1.8		2.400	
Stage: Low ☒				Wetted Width (m): 1.00		0.600		1.3	
Med ☐				Bankfull Depth (m): 0.47		0.4		0.5	
High ☐									
Temp (C): 9		pH: 7.7		Conductivity: 90					
				Avg		Min		Max	
				Gradient %: 20.50		17		24	
				Pool Depth (m): 0.20		0.100		0.300	
				Turbidity: Turbid ☐		Low ☐			
				Moderate ☐		Clear ☒			
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 35.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Boulders		D (cm): 15.00				Mid-channel ☐		Span ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1	
Coupling: Coupled				INDICATORS		B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP		Cascade Pool				D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Abundant		Amount: T		D		S		T	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☒		☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Rock ☐		Manmade ☐		Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
				Vascular ☐					
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
4	EF	1	200	306 sec	400	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.071 ILP # 2373 Site 4

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
ILP Map #: 093K.071 ILP #: 2373 NID Map #: 093K.071 NID #: 40004 Reach #: 3.0 Site #: 4
Field UTM (Z.E.N): 10.319053.6074741 Method: GPU Site Lg: 200 Method: HC Access: V4
GIS UTM (Z.E.N): 10.319000.6074664 Ref. Name:
Date: 2002/08/27 Time: 12:08 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.80	2.30	2.40	2.10	2.30	1.90					2.13	Method I:	23.0	24.0	C	20.50
Wetted Width (m):	MS	0.90	1.10	1.20	0.60	0.90	1.30					1.00	Method II:	18.0	17.0	C	
Pool Depth (m):	MS	0.20	0.20	0.30	0.10	0.20	0.20					0.20					

Wb Depth: .5 .4 .5 Avg: 0.47 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	S	T	N	T	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

LWD: A DIST: C

LB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 90 Method: S3
pH: 7.7 Method: P2 Method: GE
Flood Signs: Sediment wedges Method: GE
Turb.: T ☐ M ☐ L ☐ C ☒

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 35.0 D (cm): 15.00 Morph: CP DISTURBANCE INDICATORS
Pattern: IR C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - pockets of gravel limited by gradient and low flows.
Rearing Habitat	Poor - cascade pool habitat with low flows.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 1 F: 10A	STD	D	Downstream photo of cascade/pool habitat.
R: 1 F: 9A	STD	U	Upstream photo of cascade section.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #3.0

ILP Map #093K.071

ILP #2373

Site4

COMMENTS	
Section	Comments
CHANNEL	Sections of 20% blocks upstream fish migration at UTM location.
CHANNEL	S3*/S6

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K.071	2373

WATERBODY															
Gazetted Name:							Local:								
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000															
Waterbody ID:				ILP Map #: 093K.071				ILP #:		2373		Reach #:		3 -	
Project ID: 5271								Lake/Stream: S				Lake From Date:			
Fish Permit #: 145269				Date: 2002/08/27				To: 2002/08/27		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd				MTD/NO		Temp	Cond	Turbid	Comment			
4	093K.071	40004					GPU	EF	1	9	90	C			
A. GEAR SETTINGS															
Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment							
4	EF	1	1	2002/08/27	12:08	2002/08/27	12:35								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model			
4	EF	1	1	O	306	200.0	1.0	400	60	6	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment					
4	EF	1	1	NFC			0								



Site #4, Upstream photo of cascade section.
Roll #1, Frame #9A, Date: 2002/08/27



Site #4, Downstream photo of cascade/pool habitat.
Roll #1, Frame #10A, Date: 2002/08/27

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 5.0 ILP Map # 093K.071 ILP # 2370 Site 5

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093K.071 ILP #: 2370 NID Map #: 093K.071 NID #: 40005 Reach #: 5.0 Site #: 5
Field UTM (Z.E.N): 10.318374.6074929 Method: GPU Site Lg: 300 Method: HC Access: V4
GIS UTM (Z.E.N): 10.318370.6074876 Ref. Name:
Date: 2002/08/27 Time: 12:45 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Gadient %				Mtd	Avg
Channel Width (m):	T	2.60	2.80	2.10	2.50	3.00	2.30					2.55	Method I:	12.0	14.0	C	12.00	
Wetted Width (m):	T	1.00	0.90	1.20	0.60	1.00	0.40					0.85	Method II:	10.0	12.0	C		
Pool Depth (m):	T	0.30	0.20	0.20	0.30	0.10	0.20					0.22						

Wb Depth: .6 .7 .5 Avg: 0.60 Method: MS Stage: L ☒ M ☐ H ☐ Dw: ☐ No Vis.Ch.: ☐ Intermittent: ☒ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	S	T	T	S	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: A DIST: C

LB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 35.0 D (cm): 12.00 Morph: CP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - large substrates, low flows, high gradient.
Rearing Habitat	Poor - high gradient, disturbed channel, low flows.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 1 F: 11A	STD	U	Upstream photo of pool habitat.
R: 1 F: 12A	STD	D	Downstream photo of dry section.
R: 1 F: 13A	STD	U	20% gradient upstream of site.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
5.0	093K.071	2370	5

COMMENTS	
Section	Comments
CHANNEL	Gradient upstream of site prevents upstream fish migration. (~200m upstream of site 20% gradient blocks fish migration).
CHANNEL	S3/S6



Site #5, Upstream photo of pool habitat.
Roll #1, Frame #11A, Date: 2002/08/27



Site #5, Downstream photo of dry section.
Roll #1, Frame #12A, Date: 2002/08/27



Site #5, 20% gradient upstream of site.
Roll #1, Frame #13A, Date: 2002/08/27

FDIS Reach Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 6.0 ILP Map # 093K.071 ILP # 2370

PROJECT									
Project Name: Babine and Tochcha					Project Code: 5271				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000									
ILP Map #: 093K.071	ILP #: 2370	Reach #: 6.0	NID Map #: 093K.071		NID #: 13082				
Air Photos		Names			UTM(Zone/East/North/Method)				
LINE: BCB910236_		Gaz.:			10.318473.6075268 GIS				
#: 0		Local:			Sample Type: B		Wetland: ☐		
SURVEY INFO									
Date: 2002/08/26			Agency: C172			Crew: SG/JD			
ATTRIBUTES									
Length (km): .30	Gradient: 25	Setting: VW	DISTURBANCE INDICATORS						
DS Elev.: 1020	Order: 2	Open water: A	O1	B1	B2	B3	D1	D2	D3
US Elev: 1095	Magnitude: 6	Confinement: FC	C1	C2	C3	C4	C5	S1	S2
	BGC Zone: SBS	Coupling: CO						S3	S4
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: SI		Mass Movement: M	Exposed/Eroded: NS						
		Riparian Veg.: M	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093K.071	1983

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 6.0 ILP Map # 093K.071 ILP # 2370

WATERBODY													
Gazetted Name:						Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000													
Waterbody ID:						ILP Map #: 093K.071		ILP #: 2370		Reach #: 6 -			
Project ID: 5271						Lake/Stream: S			Lake From Date:				
Fish Permit #: 145269			Date: 2002/08/27			To: 2002/08/27			Agency: C172		Crew: SG/JD		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
6	093K.071	40006				GPU EF 1	9	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
6	EF	1	2002/08/27	13:15	2002/08/27	13:40							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
6	EF	1	O	109	150.0	1.0	500	60	6	SMITH ROOT	12B		
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
6	EF	1	NFC			0							
COMMENTS													
Section			Comments										
WATERBODY			Electrofished high gradient section.										

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.071 ILP # 2358

STREAM REFERENCING																																							
Gazetted Name:						Local Name:																																	
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.071		ILP #: 2358																															
REACH																																							
Reach #: 2.0		UTM(Zone/East/North): 10.315709.6075132				Sample Type: Biased																																	
Length (km): 1.06		Coupling: Partially Couple		Magnitude: 8		BGC Zone: SBS																																	
Gradient (%): 8.8		Confinement: Occasionally Conf		Order: 3		Open water: Absent																																	
US Elev (m): 914		Islands: NONE		Riparian Vegetation: Mixed C/D																																			
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																							
SITE																																							
Site #: 7		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/27																															
Site Length (m): 100		GIS UTM 10.315726.6074695		Agency Name: Triton Environmental Consultants (Terrace)																																			
CHANNEL																																							
No Vis.Ch.: ☐		Intermittent: ☐		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th><th>Min</th><th>Max</th><th>#</th></tr> <tr> <td>Channel Width (m): 2.35</td><td>1.9</td><td>2.8</td><td>6</td></tr> <tr> <td>Wetted Width (m): 1.17</td><td>1</td><td>1.3</td><td>6</td></tr> <tr> <td>Bankfull Depth (m): 0.63</td><td>0.6</td><td>0.7</td><td>3</td></tr> </table>				Avg	Min	Max	#	Channel Width (m): 2.35	1.9	2.8	6	Wetted Width (m): 1.17	1	1.3	6	Bankfull Depth (m): 0.63	0.6	0.7	3	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th><th>Min</th><th>Max</th><th>#</th></tr> <tr> <td>Gradient %: 6.25</td><td>5</td><td>7</td><td>4</td></tr> <tr> <td>Pool Depth (m): 0.42</td><td>0.300</td><td>0.600</td><td>6</td></tr> </table>				Avg	Min	Max	#	Gradient %: 6.25	5	7	4	Pool Depth (m): 0.42	0.300	0.600	6
Avg	Min	Max	#																																				
Channel Width (m): 2.35	1.9	2.8	6																																				
Wetted Width (m): 1.17	1	1.3	6																																				
Bankfull Depth (m): 0.63	0.6	0.7	3																																				
Avg	Min	Max	#																																				
Gradient %: 6.25	5	7	4																																				
Pool Depth (m): 0.42	0.300	0.600	6																																				
Dewatered: ☐		Tribes.: ☐																																					
Stage: Low ☒		Temp (C): 8		pH: 7.8		Conductivity: 70		Turbidity: Turbid ☐ Low ☐																															
Med ☐								Moderate ☐ Clear ☒																															
High ☐																																							
MORPHOLOGY																																							
Bed Material: Dominant: Cobble		D95 (cm): 40.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐																													
Subdominant: Gravels		D (cm): 20.00								Span ☐																													
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE INDICATORS		O1 B1 B2 B3 D1 D2 D3																																	
Coupling: Partially Coupled																																							
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																			
Morphology: CP Cascade Pool																																							
COVER																																							
Total Cover: Abundant		Type: SWD LWD B U DP OV IV																																					
LWD: Few		Amount: T D T S T T N																																					
LWD Dist: Clumped		Location: P/S/O: ☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		☒ ☐ ☐		FSZ: ☐																													
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐																													
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐																													
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest								Crown Closure 1-20%																													
Left Bank: Rip.Veg:		Stage: Mature forest								Instream Veg: None ☒ Algae ☐ Moss ☐ Vascular ☐																													
FEATURES																																							
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)																												
093K.071	88003	CV	1.2	GE	16	GE	R: 1 F: 14A L:	#:			10.315693.6074																												
Comments: perched culvert 0.2 m ~6% grade, full barrier to fish.																																							
FISH																																							
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																														
7	EF	1	200	738 sec	600	NFC	0																																
7	VO	1		25 min		RB	2	100	150																														

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.071 ILP # 2358 Site 7

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000
ILP Map#: 093K.071 ILP #: 2358 NID Map #: 093K.071 NID #: 40007 Reach #: 2.0 Site #: 7
Field UTM (Z.E.N): ... Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.315726.6074695 Ref. Name:
Date: 2002/08/27 Time: 13:55 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	2.60	2.30	2.10	2.40	1.90	2.80					2.35	Method I:	6.0	5.0	C	6.25
Wetted Width (m):	MS	1.20	1.10	1.30	1.20	1.20	1.00					1.17	Method II:	7.0	7.0	C	
Pool Depth (m):	MS	0.30	0.40	0.60	0.50	0.40	0.30					0.42					

Wb Depth: .7 .6 .6 Avg: 0.63 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	T	S	T	T	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: F DIST: C

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 70 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 40.0 D (cm): 20.00 Morph: CP DISTURBANCE INDICATORS
Pattern: IR C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.071	88003	CV	1.2	GE	16	GE	R: 1 F: 14A L:	#:	10.315693.6074907	GIS

Comments: perched culvert 0.2 m ~6% grade, full barrier to fish.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Present.
Spawning Habitat	Poor - substrates too large for resident trout/char.
Rearing Habitat	Moderate - abundant cover, moderately deep pools, adequate flow.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.071	2358	7

PHOTOS					
Photo				Foc Lg	Dir
					Comments
R:	1	F:	14A	STD	U
Perched culvert, barrier to fish passage.					
R:	1	F:	15A	STD	U
Upstream photo of channel.					
R:	1	F:	16A	STD	D
Downstream photo of LWD.					

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0
ILP Map # 093K.071
ILP # 2358

WATERBODY															
Gazetted Name:										Local:					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000															
Waterbody ID:				ILP Map #: 093K.071				ILP #: 2358		Reach #: 2 -					
Project ID: 5271				Lake/Stream: S				Lake From Date:							
Fish Permit #:		145269		Date: 2002/08/27		To: 2002/08/27		Agency: C172		Crew: SG/JD		Resample: ☐			
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
7	093K.071	40007				GPU VO 1									
7	093K.071	40007				GPU EF 1	8	70	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
7	EF 1	1	2002/08/27	13:55	2002/08/27	14:20									
7	VO 1	1	2002/08/27	13:55	2002/08/27	14:20									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
7	EF 1	1	O	738	200.0	1.2	600	60	6	SMITH ROOT	12B				
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
7	EF 1	1	NFC			0									
7	VO 1	1	RB	J		2	100 150	R	Estimate						
INDIVIDUAL FISH DATA															
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment
								Str/Smpl#	Age		Str/Smpl#				
7	VO 1	1	RB	100		U	U								
7	VO 1	1	RB	150		U	U								
COMMENTS															
Section			Comments												
WATERBODY			Visually observed 2 RB while electrofishing, fish eluded shocker and could not be captured.												



Site #7, Perched culvert, barrier to fish passage.
Roll #1, Frame #14A, Date: 2002/05/27



Site #7, Upstream photo of channel.
Roll #1, Frame #15A, Date: 2002/05/27



Site #7, Downstream photo of LWD.
Roll #1, Frame #16A, Date: 2002/05/27

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.081 ILP # 2251

STREAM REFERENCING																									
Gazetted Name:					Local Name:																				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093K.081					ILP #: 2251															
REACH																									
Reach #: 2.0		UTM(Zone/East/North): 10.317111.6083451								Sample Type: Biased															
Length (km): .92		Coupling: Decoupled				Magnitude: 6				BGC Zone: SBS															
Gradient (%): 6.6		Confinement: Occasionally Conf				Order: 3				Open water: Absent															
US Elev (m): 981		Islands: NONE				Riparian Vegetation: Mixed C/D																			
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																									
SITE																									
Site #: 8		Field UTM 10.317493.6083960				Agency: C172				Crew: SG/JD		Date: 2002/08/27													
Site Length (m): 300		GIS UTM 10.317477.6083873				Agency Name: Triton Environmental Consultants (Terrace)																			
CHANNEL																									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#		Avg		Min		Max		#							
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.25		1.9		2.6		6		Gradient %:		2.25		2		3		4			
Stage: Low ☒				Wetted Width (m):		1.05		0.800		1.3		6		Pool Depth (m):		0.23		0.100		0.300		6			
Med ☐				Bankfull Depth (m):		0.53		0.5		0.6		3		Turbidity: Turbid ☐		Low ☐									
High ☐				Temp (C): 10		pH: 7.8		Conductivity: 80						Moderate ☐		Clear ☒									
MORPHOLOGY																									
Bed Material: Dominant: Cobble		D95 (cm): 18.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐		Span ☐													
Subdominant: Gravels		D (cm): 10.00																							
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1		B2		B3		D1		D2		D3							
Coupling: Decoupled						☐		☐		☐		☐		☐		☐		☐							
Confinement: Occasionally Confine						C1		C2		C3		C4		C5		S1		S2		S3		S4		S5	
Morphology: RP Riffle Pool						☐		☐		☐		☐		☐		☐		☐		☐		☐		☐	
COVER																									
Total Cover: Abundant		Type: SWD		LWD		B		U		DP		OV		IV											
LWD: Abundant		Amount: T		T		N		S		T		D		T											
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☐		☐		☒		☒		☒		☒				FSZ: ☐			
Right Bank: Shape: Overhangi		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐		Manmade ☐				Crown Closure									
Left Bank: Shape: Overhangi		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐		Manmade ☐				1-20%									
Right Bank: Rip.Veg: Mixed C/D				Stage: Mature forest																					
Left Bank: Rip.Veg:				Stage: Mature forest												Instream Veg: None ☐		Algae ☐		Moss ☒		Vascular ☐			
FEATURES																									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)														
093K.081	88103	C	1.4	GE		HC	R: 3	F: 03	L:	#:	10.317504.6084														
Comments:																									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)														
093K.081	88102	C	1.2	GE	2	GE	R: 3	F: 02	L:	#:	10.317429.6084														
Comments: 40 m upstream.																									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)														
093K.081	88101	C	1.0	GE		HC	R:	F:	L:	#:	10.317414.6084														
Comments: no photo taken.																									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)														
093K.081	88005	CV	1.2	GE	20	GE	R: 1	F: 19A	L:	#:	10.317197.6083														
Comments: Culvert perched ~1.4 m, barrier (full).																									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)														
093K.081	88004	CV	1.5	GE	16	GE	R:	F:	L:	#:	10.317493.6083														
Comments: Culvert perched 10 cm, partial barrier (no photo taken).																									
FISH																									
Site Number	Capture	Number of	Length fished	Total	Voltage	Species	Total	Minimum	Maximum																

Triton Environmental Consultants Ltd.

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Reach # ILP Map # ILP #

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

2.0 093K.081 2251

Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
8	EF	1	200	315 sec	500	NFC	0		
8	MT	2		3150 min		NFC	0		
9	EF	1	200	306 sec	500	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.081 ILP # 2251 Site 8

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.081 ILP #: 2251 NID Map #: 093K.081 NID #: 40008 Reach #: 2.0 Site #: 8
Field UTM (Z.E.N): 10.317493.6083960 Method: GPU Site Lg: 300 Method: GE Access: V2
GIS UTM (Z.E.N): 10.317477.6083873 Ref. Name:
Date: 2002/08/27 Time: 15:12 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	2.20	2.30	2.60	2.00	1.90	2.50					2.25	Method I:	2.0	3.0	C	2.25
Wetted Width (m):	MS	1.20	1.30	0.80	1.10	1.00	0.90					1.05	Method II:	2.0	2.0	C	
Pool Depth (m):	MS	0.20	0.30	0.30	0.30	0.20	0.10					0.23					

Wb Depth: .6 .5 .5 Avg: 0.53 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	N	S	T	D	T
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

LWD: A DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Scoured banks Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 18.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88103	C	1.4	GE		HC	R: 3 F: 03 L:	#:	10.317504.6084375	GIS
Comments:										
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88102	C	1.2	GE	2	GE	R: 3 F: 02 L:	#:	10.317429.6084344	GIS
Comments: 40 m upstream.										

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP # Site
2.0 093K.081 2251 8

FEATURES																
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	UTM (Z/E/N)	Method				
093K.081	88101	C	1.0	GE		HC	R:		F:		L:		#:		10.317414.6084196	GIS
Comments: no photo taken.																
093K.081	88005	CV	1.2	GE	20	GE	R:	1	F:	19A	L:		#:		10.317197.6083566	GIS
Comments: Culvert perched ~1.4 m, barrier (full).																
093K.081	88004	CV	1.5	GE	16	GE	R:		F:		L:		#:		10.317493.6083949	GIS
Comments: Culvert perched 10 cm, partial barrier (no photo taken).																
HABITAT QUALITY																
Name				Comments												
OverWinter Habitat				None observed.												
Spawning Habitat				Poor - majority of substrates are too large.												
Rearing Habitat				Moderate - limited by shallow depths and low flows.												
PHOTOS																
Photo				Foc Lg		Dir		Comments								
R:	1	F:	17A	STD		U		Upstream photo of riffle habitat.								
R:	1	F:	18A	STD		D		Downstream photo of pool habitat.								
R:	1	F:	19A	STD		U		Perched culvert - full barrier.								
R:	3	F:	02	STD		U		Photo of 1.2 x 1.5 m cascade.								
R:	3	F:	03	STD		U		Photo of 1.4 m cascade.								
COMMENTS																
Section				Comments												
CHANNEL				Lower culvert perched slightly, partial barrier to juveniles. Upper culvert perched ~1.4 m, barrier to all species.												

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.081 ILP # 2251

WATERBODY															
Gazetted Name:										Local:					
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000															
Waterbody ID:										ILP Map #: 093K.081		ILP #: 2251		Reach #: 2 -	
Project ID: 5271										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145269				Date: 2002/08/27				To: 2002/08/27		Agency: C172		Crew: JD/SG		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment				
8	093K.081	40008				GPU	MT 2	10	80	C					
8	093K.081	40008				GPU	MT 1	10	80	C					
9	093K.081	40009				GPU	EF 1	10	80	C					
8	093K.081	40008				GPU	EF 1	10	80	C					
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
8	EF 1	1	2002/08/27	15:12	2002/08/27	15:40									
8	MT 1	1	2002/08/28	07:15	2002/08/29	09:30									
8	MT 2	1	2002/08/28	07:15	2002/08/29	09:30									
9	EF 1	1	2002/08/27	15:45	2002/08/27	16:00									
B. NET/TRAP SPECIFICATIONS															
Site #	MTD/NO.		H/P	Net Type		Length	Depth	Mesh	Set	Habitat					
8	MT 1		1	1			0.4		BT	L					
8	MT 2		1	1			0.3		BT	L					
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
8	EF 1	1	O	315	200.0	1.2	500	60	6	SMITH ROOT	12B				
9	EF 1	1	O	306	200.0	1.1	500	60	6	SMITH ROOT	12B				
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
8	EF 1	1	NFC			0									
8	MT 1	1	NFC			0									
8	MT 2	1	NFC			0									
9	EF 1	1	NFC			0									



Site #8, Upstream photo of riffle habitat.
Roll #1, Frame #17A, Date: 2002/08/27



Site #8, Downstream photo of pool habitat.
Roll #1, Frame #18A, Date: 2002/08/27



Site #8, Perched culvert - full barrier.
Roll #1, Frame #19A, Date: 2002/08/27



Site #8, Photo of 1.2 x 1.5 m cascade.
Roll #3, Frame #02, Date: 2002/08/27



Site #8, Photo of 1.4 m cascade.
Roll #3, Frame #03, Date: 2002/08/27

FDIS Reach Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0
ILP Map # 093K.081
ILP # 2251

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Reach Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
ILP Map #: 093K.081
ILP #: 2251
Reach #: 3.0
NID Map #: 093K.081
NID #: 12818
Air Photos
LINE: BCB910236_# 0
Gaz.:
Local:
Names
UTM(Zone/East/North/Method)
10.316773.6083128
Sample Type: B
Wetland: ☐

SURVEY INFO

Date: 2002/08/26
Agency: C172
Crew: SG/JD

ATTRIBUTES

Length (km): .48
DS Elev.: 981
US Elev: 1042
Gradient: 12.71
Order: 3
Magnitude: 6
BGC Zone: SBS
Setting: VW
Open water: A
Confinement: OC
Coupling: PC
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
☐ ☐ ☐ ☐ ☐ ☐ ☐
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Valley Flat: N
Active Floodplain Visible: ☐
Channel Pattern: SI
C/D:
Est. Width:
Islands: N
Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR
Mass Movement: L
Riparian Veg.: NS
Exposed/Eroded: NS
Landuse: NS

MAPS

Map Type	Map #	Year
TRIM	093K.081	1983

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K.081	2251

Triton Environmental Consultants Ltd.

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
2.0 093K.091 1942

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.091		ILP #:		1942	
REACH											
Reach #: 2.0		UTM(Zone/East/North): 10.311099.6093107				Sample Type: Biased					
Length (km): .88		Coupling: Partially Couple		Magnitude: 3		BGC Zone: SBS					
Gradient (%): 12.1		Confinement: Frequently Confin		Order: 2		Open water: Absent					
US Elev (m): 986		Islands: NONE		Riparian Vegetation: Mixed C/D							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 11		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/28			
Site Length (m): 200		GIS UTM 10.311758.6093002		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 2.17		1.8		2.5		6	
Stage: Low ☒				Wetted Width (m): 0.63		0.5		0.800		6	
Med ☐				Bankfull Depth (m): 0.67		0.6		0.7		3	
High ☐		Temp (C): 8		pH: 7.6		Conductivity: 60					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 25.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Gravels		D (cm): 18.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Partially Coupled				INDICATORS		☐		☐		☐	
Confinement: Frequently Confined				C1		C2		C3		C4	
Morphology: CP Cascade Pool				C5		S1		S2		S3	
				S4		S5					
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		D		T		T		N	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☒		☒		☒	
		☒		☒		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☒		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☒		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:										Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093K.091	88006	CV	2.1	GE	24	GE	R: 1	F: 20A	L:	#:	10.311927.6093
Comments: Arch culvert - embedded material eroded by footings - passes fish.											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
11	EF	1	200	206 sec	700	NFC	0				

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1942 Site 11

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Code: 5271
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

WATERSHED

Gazetted Name: Local Name:
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1942 NID Map #: 093K.091 NID #: 40011 Reach #: 2.0 Site #: 11
Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: HC Access: V2
GIS UTM (Z.E.N): 10.311758.6093002 Ref. Name:
Date: 2002/08/28 Time: 07:35 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	2.00	2.50	1.80	2.30	2.10	2.30					2.17	Method I:	6.0	8.0	C 6.25
Wetted Width (m):	MS	0.60	0.80	0.50	0.60	0.80	0.50					0.63	Method II:	5.0	6.0	C
Pool Depth (m):	MS	0.20	0.10	0.30	0.20	0.10	0.30					0.20				

Wb Depth: .7 .6 .7 Avg: 0.67 Method: MS Stage: L ☒ M ☐ H ☐
No Vis.Ch.: ☐ Intermittent: ☒
Dw: ☐ Tribs.: ☐

COVER

Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	T	T	N	S	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

LWD: F

DIST: C

LB SHP: U

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: U

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Req #: 60
Temp: 8 Method: T4 Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Scour & rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G
D95: 25.0 D (cm): 18.0 Morph: CP
Pattern: SI
Islands: N
Coupling: PC
Confinement: FC
FSZ: ☐
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
☐ ☐ ☐ ☐ ☐ ☐ ☐
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88006	CV	2.1	GE	24	GE	R: 1 F: 20A L: #:		10.311927.6093123	GIS

Comments: Arch culvert - embedded material eroded by footings - passes fish.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - limited by low flows and too small (less than 1 m2) pockets of gravel.
Rearing Habitat	Poor - excessive bedload, low flows, limited pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.091	1942	11

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	1	F:	20A	STD	U	Upstream photo of arch culvert.
R:	1	F:	21A	STD	U	Upstream photo of LWD.
R:	1	F:	22A	STD	D	Downstream photo of stream channel.
COMMENTS						
Section				Comments		
CHANNEL				Channel fans out below road crossing, becomes dry with small pools every 20 m.		
CHANNEL				S3*		

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 2.0
ILP Map # 093K.091
ILP # 1942

WATERBODY													
Gazetted Name:						Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093K.091				ILP #: 1942		Reach #: 2 -			
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145269			Date: 2002/08/28			To: 2002/08/28			Agency: C172		Crew: JD/SG		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
11	093K.091	40011				GPU EF 1	8	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
11	EF 1	1	2002/08/28	07:35	2002/08/28	08:12							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
11	EF	1	1	O	206	200.0	0.6	700	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
11	EF	1	1	NFC		0							
COMMENTS													
Section			Comments										
WATERBODY			Limited pools for shocking.										



Site #11, Upstream photo of arch culvert.
Roll #1, Frame #20A, Date: 2002/08/28



Site #11, Upstream photo of LWD.
Roll #1, Frame #21A, Date: 2002/08/28



Site #11, Downstream photo of stream channel.
Roll #1, Frame #22A, Date: 2002/08/28

FDIS Reach Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1944

PROJECT									
Project Name: Babine and Tochcha					Project Code: 5271				
Stream Name (gaz.): SAKENICHE RIVER									
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000									
ILP Map #: 093K.091	ILP #: 1944	Reach #: 1.0	NID Map #: 093K.091		NID #: 12070				
Air Photos		Names			UTM(Zone/East/North/Method)				
LINE: BCB910236		Gaz.:			10.312083.6092255 GIS				
#: 0		Local:			Sample Type: B Wetland: ☐				
SURVEY INFO									
Date: 2002/08/26			Agency: C172			Crew: SG/JD			
ATTRIBUTES									
Length (km): .91	Gradient: 6.92	Setting: VF	DISTURBANCE O1 B1 B2 B3 D1 D2 D3						
DS Elev.: 850	Order: 2	Open water: A	INDICATORS ☐ ☐ ☐ ☐ ☐ ☐ ☐						
US Elev: 913	Magnitude: 2	Confinement: OC	C1 C2 C3 C4 C5	S1 S2 S3 S4 S5					
	BGC Zone: SBS	Coupling: DC	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐					
Valley Flat: B	C/D: C	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: SI		Mass Movement: L	Exposed/Eroded: NS						
		Riparian Veg.: NS	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093K.091	1983

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0
ILP Map # 093K.091
ILP # 1944

WATERBODY													
Gazetted Name:						Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093K.091				ILP #: 1944		Reach #: 1 -			
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145269			Date: 2002/08/28			To: 2002/08/28			Agency: C172		Crew: JD/SG		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
12	093K.091	40012				GPU EF 1	8	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
12	EF 1	1	2002/08/28	08:30	2002/08/28	08:46							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
12	EF	1	1	O	85	150.0	0.4	600	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
12	EF	1	1	NFC		0							

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1944

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1944		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 10.310451.6092074				Sample Type: Biased			
Length (km): 1.67		Coupling: Coupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 16.1		Confinement: Frequently Confin		Order: 1		Open water: Absent			
US Elev (m): 1181		Islands: NONE		Riparian Vegetation: Deciduous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 13		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/28	
Site Length (m): 400		GIS UTM 10.311886.6092252		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		1.12		0.9	
Stage: Low ☒				Wetted Width (m):		0.30		0.200	
Med ☐				Bankfull Depth (m):		0.30		0.2	
High ☐									
Temp (C): 8		pH: 7.8		Conductivity: 60					
				Avg		Min		Max	
				Gradient %:		20.75		16	
				Pool Depth (m):		0.09		0.050	
				Turbidity: Turbid ☐		Low ☐			
				Moderate ☐		Clear ☒			
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 20.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 10.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Coupled						B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP Cascade Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		T		T		T	
LWD Dist: Clumped		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☒		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☒		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage		None ☐		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☐	
				Vascular ☒					
FEATURES									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto
093K.091	88008	CV	1.0	GE	25	HC	R: 2	F: 1A	UTM (Z/E/N)
Comments: Wooden box culvert.									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto
093K.091	88007	CV	1.4	GE	18	HC	R: 1	F: 23A	UTM (Z/E/N)
Comments: Reach 1 oval culvert perched 15 cm.									
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
13	EF	1	100	89 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1944 Site 13

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1944 NID Map #: 093K.091 NID #: 40013 Reach #: 2.0 Site #: 13
Field UTM (Z.E.N): ... Method: Site Lg: 400 Method: HC Access: V2
GIS UTM (Z.E.N): 10.311886.6092252 Ref. Name:
Date: 2002/08/28 Time: 09:12 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.10	1.20	0.90	1.30	1.20	1.00					1.12
Wetted Width (m):	MS	0.30	0.20			0.40	0.30					0.30
Pool Depth (m):	MS	0.10	0.05			0.10	0.10					0.09

	Gadient %	Mtd	Avg
Method I:	22.0	21.0	C
Method II:	16.0	24.0	C

Wb Depth: .3 .4 .2 Avg: 0.30 Method: MS Stage: L ☒ M ☐ H ☐

No Vis.Ch.: ☐ Intermittent: ☒
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	T	T	N	D	T
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☒

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

LWD: F DIST: C

LB SHP: U

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

RB SHP: U

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

WATER

EMS:
Temp: 8
pH: 7.8
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #: Cond.: 60 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G
D95: 20.0 D (cm): 10.00 Morph: CP
Pattern: SI
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐

O1 B1 B2 B3 D1 D2 D3
☐ ☐ ☐ ☐ ☐ ☐ ☐
DISTURBANCE INDICATORS
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88008	CV	1.0	GE	25	HC	R: 2 F: 1A	L: #:	10.311742.6092203	GIS
Comments: Wooden box culvert.										
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88007	CV	1.4	GE	18	HC	R: 1 F: 23A	L: #:	10.312191.6092308	GIS
Comments: Reach 1 oval culvert perched 15 cm.										

HABITAT QUALITY

Name	Comments
------	----------

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP # Site
2.0 093K.091 1944 13

HABITAT QUALITY						
Name				Comments		
OverWinter Habitat				None.		
Spawning Habitat				None - high gradient, substrates not suitable for spawning.		
Rearing Habitat				Poor - high gradient, low flows, shallow pools.		
PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	1	F:	23A	STD	U	Perched culvert in Reach 1 - partial barrier.
R:	2	F:	1A	STD	U	Wooden box culvert in poor repair.
R:	2	F:	2A	STD	U	Upstream photo of stream channel.
R:	2	F:	3A	STD	D	Downstream photo of channel substrates.
COMMENTS						
Section				Comments		
CHANNEL				Gradient break ~300 m downstream of upper road crossing. Culvert in Reach 1 is full barrier in low flow conditions.		
CHANNEL				S4*/S6		

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000 Reach # 2.0 ILP Map # 093K.091 ILP # 1944

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0																	
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																	
Waterbody ID:										ILP Map #: 093K.091		ILP #: 1944		Reach #: 2 -			
Project ID: 5271										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145269		Date:		2002/08/28		To:		2002/08/28		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
13	093K.091	40013				GPU EF 1	8	60	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
13	EF	1	1	2002/08/28	09:12	2002/08/28	09:35										
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
13	EF	1	1	O	89	100.0	0.5	600	60	6	SMITH	12B					
										ROOT							
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
13	EF	1	1	NFC		0											



Site #13, Perched culvert in Reach 1 - partial barrier.
Roll #1, Frame #23A, Date: 2002/08/28



Site #13, Wooden box culvert in poor repair.
Roll #2, Frame #1A, Date: 2002/08/28



Site #13, Upstream photo of stream channel.
Roll #2, Frame #2A, Date: 2002/08/28



Site #13, Downstream photo of channel substrates.
Roll #2, Frame #3A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1945

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1945		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 10.311681.6091959				Sample Type: Biased			
Length (km): .49		Coupling: Coupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 20.0		Confinement: Frequently Confin		Order: 1		Open water: Absent			
US Elev (m): 1009		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 14		Field UTM ..		Agency: C172		Crew: JD/SG		Date: 2002/08/28	
Site Length (m): 100		GIS UTM 10.311900.6092171		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.42		1.3		1.600	
Stage: Low ☒				Wetted Width (m): 0.40		0.300		0.5	
Med ☐				Bankfull Depth (m): 0.33		0.3		0.4	
High ☐									
Temp (C): 8		pH: 7.6		Conductivity: 60					
				Avg		Min		Max	
				Gradient %: 19.50		16		24	
				Pool Depth (m): 0.08		0.050		0.100	
				Turbidity: Turbid ☐		Low ☐			
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 30.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Boulders		D (cm): 15.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Coupled						B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP Cascade Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		T		T		T	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☒		☒	
Right Bank: Shape: V - shape		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Left Bank: Shape: V - shape		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Pole-sapling stage		None ☐		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☐	
								Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
14	EF	1	100	103 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1945 Site 14

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
Local Name: ILP Map #: 093K.091 ILP #: 1945 NID Map #: 093K.091 NID #: 40014 Reach #: 1.0 Site #: 14
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.311900.6092171 Ref. Name:
Date: 2002/08/28 Time: 09:40 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Gadient %				Mtd	Avg
Channel Width (m):	MS	1.50	1.60	1.40	1.30	1.40	1.30					1.42	Method I:	20.0	16.0	C	19.50	
Wetted Width (m):	MS	0.40	0.50	0.50	0.30	0.40	0.30					0.40	Method II:	18.0	24.0	C		
Pool Depth (m):	MS	0.05	0.05	0.10	0.10	0.05	0.10					0.08						

Wb Depth: .3 .4 .3 Avg: 0.33 Method: MS Stage: L ☒ M ☐ H ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	T	T	N	D	T
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☒

LWD: F DIST: C

LB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: M

STG: PS

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: M

STG: PS

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 30.0 D (cm): 15.00 Morph: CP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - high gradient, substrates not suitable for spawning.
Rearing Habitat	Poor - high gradient, low flows, shallow pools.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 2 F: 4A	STD	U	Upstream photo of channel.
R: 2 F: 5A	STD	D	Downstream photo of channel substrates.

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000	1.0	093K.091	1945	14

COMMENTS	
Section	Comments
CHANNEL	Gradient break 24% ~100 m upstream of confluence.
CHANNEL	S4*/S6

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1945

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0																	
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																	
Waterbody ID:										ILP Map #: 093K.091		ILP #: 1945		Reach #: 1 -			
Project ID: 5271										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145269		Date:		2002/08/28		To:		2002/08/28		Agency: C172		Crew: JD/SG		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
14	093K.091	40014				GPU EF 1	8	60	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
14	EF 1	1	2002/08/28	09:40	2002/08/28	10:10											
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
14	EF	1	1	O	103	100.0	0.5	600	60	6	SMITH ROOT	12B					
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
14	EF	1	1	NFC		0											



Site #14, Upstream photo of channel.
Roll #2, Frame #4A, Date: 2002/08/28



Site #14, Downstream photo of channel substrates.
Roll #2, Frame #5A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1948

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000						ILP Map #: 093K.091		ILP #: 1948			
REACH											
Reach #: 1.0		UTM(Zone/East/North): 10.313167.6090597				Sample Type: Biased					
Length (km): 1.02		Coupling: Decoupled		Magnitude: 5		BGC Zone: SBS					
Gradient (%): 7.0		Confinement: Occasionally Conf		Order: 2		Open water: Absent					
US Elev (m): 921		Islands: NONE		Riparian Vegetation: Mixed C/D							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 15		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/28			
Site Length (m): 100		GIS UTM 10.313181.6090705		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.88		1.600		2.200		6	
Stage: Low ☒				Wetted Width (m): 0.48		0.400		0.600		4	
Med ☐				Bankfull Depth (m): 0.60		0.4		0.8		3	
High ☐		Temp (C): 8		pH: 7.6		Conductivity: 50					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 20.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Gravels		D (cm): 15.00								Span ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Decoupled				INDICATORS		B3		D1		D2	
Confinement: Occasionally Confine				C1		C2		C3		C4	
Morphology: CP Cascade Pool				C5		S1		S2		S3	
				S4		S5					
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		D		N		T		N	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☐		☒		☐	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☒		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest								Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest								1-20%	
								Instream Veg: None ☒		Algae ☐	
										Moss ☐	
										Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093K.091	88009	CV	1.0	GE	25	HC	R:	2	F:	6A	L:
Comments: Partially collapsed wooden box culvert.									#:		10.313207.6090
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
15	EF	1	100	109 sec	600	RB	2	120	135		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1948 Site 15

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1948 NID Map #: 093K.091 NID #: 40015 Reach #: 1.0 Site #: 15
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: GE Access: V2
GIS UTM (Z.E.N): 10.313181.6090705 Ref. Name:
Date: 2002/08/28 Time: 10:20 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	1.80	1.90	2.20	1.60	1.70	2.10					1.88	Method I:	5.0	6.0	C 5.00
Wetted Width (m):	MS	0.40	0.60			0.40	0.50					0.48	Method II:	5.0	4.0	C
Pool Depth (m):	MS	0.20	0.30			0.20	0.20					0.23				

Wb Depth: .4 .8 .6 Avg: 0.60 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	N	T	N	S	N
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☐

LWD: F DIST: C

LB SHP: O

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 50 Method: S3
pH: 7.6 Method: P2 Method: GE
Flood Signs: Rafted debris Method: GE
Turb.: T ☐ M ☐ L ☐ C ☒

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 20.0 D (cm): 15.00 Morph: CP DISTURBANCE INDICATORS
Pattern: IR C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88009	CV	1.0	GE	25	HC	R: 2 F: 6A L: #:		10.313207.6090779	GIS

Comments: Partially collapsed wooden box culvert.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - large substrates, dry sections limited gravels suitable for spawning.
Rearing Habitat	Poor - isolated pools, dry sections, low flow.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Site

1.0

093K.091

1948

15

PHOTOS						
Photo			Foc Lg	Dir	Comments	
R:	2	F: 6A	STD	U	Partially collapsed wooden culvert.	
R:	2	F: 7A	STD	U	Upstream photo of stream channel.	
R:	2	F: 8A	STD	D	Downstream photo of dry section of stream.	
COMMENTS						
Section			Comments			
CHANNEL			Culvert in poor repair.			
CHANNEL			S3			

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093K.091	1948

Triton Environmental Consultants Ltd.



Site #15, Partially collapsed wooden culvert.
Roll #2, Frame #6A, Date: 2002/08/28



Site #15, Upstream photo of stream channel.
Roll #2, Frame #7A, Date: 2002/08/28



Site #15, Downstream photo of dry section of stream.
Roll #2, Frame #8A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 1948

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1948		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 10.311993.6090223				Sample Type: Biased			
Length (km): .44		Coupling: Coupled		Magnitude: 3		BGC Zone: SBS			
Gradient (%): 23.2		Confinement: Frequently Confin		Order: 2		Open water: Absent			
US Elev (m): 1120		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 16		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/28	
Site Length (m): 300		GIS UTM 10.312213.6090250		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Trib.: ☐		Channel Width (m): 1.70		1.5		2	
Stage: Low ☒				Wetted Width (m): 0.27		0.200		0.300	
Med ☐				Bankfull Depth (m): 0.40		0.3		0.5	
High ☐		Temp (C): 8		pH: 7.6		Conductivity: 60		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 40.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Boulders		D (cm): 15.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Coupled						B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP Cascade Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Abundant		Amount: T		D		S		T	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: V - shape		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Left Bank: Shape: V - shape		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest				Vascular ☐			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
16	EF	1	100	109 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 1948 Site 16

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1948 NID Map #: 093K.091 NID #: 40016 Reach #: 3.0 Site #: 16
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: HC Access: V4
GIS UTM (Z.E.N): 10.312213.6090250 Ref. Name:
Date: 2002/08/28 Time: 11:11 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	1.60	1.80	1.50	1.60	1.70	2.00					1.70	Method I:	20.0	21.0	C 20.50
Wetted Width (m):	MS	0.30				0.20	0.30					0.27	Method II:	22.0	19.0	C
Pool Depth (m):	MS	0.10				0.20	0.10					0.13				

Wb Depth: .4 .3 .5 Avg: 0.40 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	S	T	N	S	T
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☒

LWD: A DIST: E

LB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

RB SHP: V

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Method: GE
Flood Signs: Scoured banks & raft Method: GE
Turb.: T ☐ M ☐ L ☐ C ☒

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 40.0 D (cm): 15.00 Morph: CP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - substrates too large, gradient too high.
Rearing Habitat	Poor - high gradient, isolated pools, shallow depths.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 2 F: 10A	STD	D	Downstream photo of channel substrates.
R: 2 F: 9A	STD	U	Upstream photo of LWD in channel.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #3.0

ILP Map #093K.091

ILP #1948

Site16

COMMENTS	
Section	Comments
CHANNEL	Gradient prevents upstream migration.
CHANNEL	S3*/S6

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K.091	1948

Triton Environmental Consultants Ltd.



Site #16, Upstream photo of LWD in channel.
Roll #2, Frame #9A, Date: 2002/08/28



Site #16, Downstream photo of channel substrates.
Roll #2, Frame #10A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochecha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1950

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1950		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 10.311962.6089784				Sample Type: Biased			
Length (km): .67		Coupling: Coupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 20.3		Confinement: Frequently Confin		Order: 1		Open water: Absent			
US Elev (m): 1151		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 17		Field UTM 10.312324.6090137		Agency: C172		Crew: SG/JD		Date: 2002/08/28	
Site Length (m): 200		GIS UTM 10.312266.6090086		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.53		1.4		1.8	
Stage: Low ☒				Wetted Width (m): 0.00		0		0	
Med ☐				Bankfull Depth (m): 0.43		0.4		0.5	
High ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☐	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 30.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Boulders		D (cm): 15.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Coupled				INDICATORS		B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP Cascade Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type:		SWD		LWD		B	
LWD: Few		Amount:		T		S		T	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Mature forest				Vascular ☐			

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1950 Site 17

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093K.091 ILP #: 1950 NID Map #: 093K.091 NID #: 40017 Reach #: 1.0 Site #: 17
Field UTM (Z.E.N): 10.312324.6090137 Method: GPU Site Lg: 200 Method: GE Access: V2
GIS UTM (Z.E.N): 10.312266.6090086 Ref. Name:
Date: 2002/08/28 Time: 11:52 Agency: C172 Crew: SG/JD Fish Crd?: ☐ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.60	1.50	1.40	1.40	1.80	1.50					1.53	Method I:	21.0	19.0	C	20.25
Wetted Width (m):	MS											0.00	Method II:	18.0	23.0	C	
Pool Depth (m):	MS											0.00					

Wb Depth: .4 .5 .4 Avg: 0.43 Method: MS Stage: L ☒ M ☐ H ☐ Dw: ☐ Tribs.: ☐

COVER Total: M

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	T	N	D	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

LWD: F DIST: E

LB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: pH: Flood Signs: Scoured banks
Method: T4 Method: P2 Method: GE
Req #: Cond.: Turb.: T ☐ M ☐ L ☐ C ☐ Method: S3 Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B D95: 30.0 D (cm): 15.00 Morph: CP
Pattern: SI Islands: N Coupling: CO Confinement: CO FSZ: ☐
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - ephemeral substrates too large.
Rearing Habitat	Poor - ephemeral stream, no residual pools.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 2 F: 11A	STD	U	Upstream photo of dry channel.
R: 2 F: 12A	STD	D	Downstream photo of dry channel.

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000	1.0	093K.091	1950	17

COMMENTS	
Section	Comments
CHANNEL	Gradient break 20%+ prevents upstream fish migration.
CHANNEL	S3*/S6



Site #17, Upstream photo of dry channel.
Roll #2, Frame #11A, Date: 2002/08/28



Site #17, Downstream photo of dry channel.
Roll #2, Frame #12A, Date: 2002/08/28

FDIS Reach Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 2009

PROJECT									
Project Name: Babine and Tochcha					Project Code: 5271				
Stream Name (gaz.): SAKENICHE RIVER									
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000									
ILP Map #: 093K.091	ILP #: 2009	Reach #: 1.0	NID Map #: 093K.081		NID #: 12843				
Air Photos		Names		UTM(Zone/East/North/Method)					
LINE: BCB910236_		Gaz.:		10.315265.6086679 GIS					
#: 0		Local:		Sample Type: B		Wetland: ☐			
SURVEY INFO									
Date: 2002/08/26			Agency: C172			Crew: SG/JD			
ATTRIBUTES									
Length (km): .94	Gradient: 5.64	Setting: VF	DISTURBANCE INDICATORS						
DS Elev.: 849	Order: 3	Open water: A	O1	B1	B2	B3	D1	D2	D3
US Elev: 902	Magnitude: 8	Confinement: OC	C1	C2	C3	C4	C5	S1	S2
	BGC Zone: SBS	Coupling: DC						S3	S4
Valley Flat: B	C/D: C								
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: SI		Mass Movement: L	Exposed/Eroded: NS						
		Riparian Veg.: NS	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093K.081	1983

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 2009

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0																	
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																	
Waterbody ID:										ILP Map #: 093K.091		ILP #: 2009		Reach #: 1 -			
Project ID: 5271										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145269		Date:		2002/08/28		To:		2002/08/28		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
18	093K.081	40018				GPU EF 1	8	60	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
18	EF	1	1	2002/08/28	12:40	2002/08/28	12:52										
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
18	EF	1	1	O	89	50.0	1.4	600	60	6	SMITH ROOT	12B					
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
18	EF	1	1	RB	J	7	75 110	R									
INDIVIDUAL FISH DATA																	
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment		
								Str/Smpl#	Age		Str/Smpl#						
18	EF	1	1	RB	90		U	U									
18	EF	1	1	RB	92		U	U									
18	EF	1	1	RB	75		U	U									
18	EF	1	1	RB	80		U	U									
18	EF	1	1	RB	110		U	U									
18	EF	1	1	RB	105		U	U									
18	EF	1	1	RB	89		U	U									

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
2.0 093K.091 2009

STREAM REFERENCING																																												
Gazetted Name:						Local Name:																																						
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000						ILP Map #: 093K.091			ILP #: 2009																																			
REACH																																												
Reach #: 2.0		UTM(Zone/East/North): 10.314172.6086702				Sample Type: Biased																																						
Length (km): 1.22		Coupling: Coupled		Magnitude: 8		BGC Zone: SBS																																						
Gradient (%): 13.2		Confinement: Frequently Confin		Order: 3		Open water: Absent																																						
US Elev (m): 1063		Islands: NONE		Riparian Vegetation: Coniferous																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 19		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/28																																				
Site Length (m): 400		GIS UTM 10.314689.6086739		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☐		Intermittent: ☐		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Channel Width (m):</td> <td>2.15</td> <td>1.8</td> <td>2.6</td> <td>6</td> </tr> <tr> <td>Wetted Width (m):</td> <td>1.17</td> <td>0.800</td> <td>1.4</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.63</td> <td>0.6</td> <td>0.7</td> <td>3</td> </tr> </table>				Avg	Min	Max	#	Channel Width (m):	2.15	1.8	2.6	6	Wetted Width (m):	1.17	0.800	1.4	6	Bankfull Depth (m):	0.63	0.6	0.7	3	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Gradient %:</td> <td>5.50</td> <td>4</td> <td>7</td> <td>4</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.28</td> <td>0.200</td> <td>0.400</td> <td>6</td> </tr> </table>				Avg	Min	Max	#	Gradient %:	5.50	4	7	4	Pool Depth (m):	0.28	0.200	0.400	6
Avg	Min	Max	#																																									
Channel Width (m):	2.15	1.8	2.6	6																																								
Wetted Width (m):	1.17	0.800	1.4	6																																								
Bankfull Depth (m):	0.63	0.6	0.7	3																																								
Avg	Min	Max	#																																									
Gradient %:	5.50	4	7	4																																								
Pool Depth (m):	0.28	0.200	0.400	6																																								
Dewatered: ☐		Tribes: ☐																																										
Stage: Low ☒		Temp (C): 8		pH: 7.6		Conductivity: 60		Turbidity: Turbid ☐ Low ☐																																				
Med ☐								Moderate ☐ Clear ☒																																				
High ☐																																												
MORPHOLOGY																																												
Bed Material: Dominant: Cobble		D95 (cm): 35.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐																																		
Subdominant: Boulders		D (cm): 15.00								Braid ☐																																		
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1 ☐ B1 ☒ B2 ☐ B3 ☐ D1 ☐ D2 ☐ D3 ☐																																						
Coupling: Coupled				C1 ☐ C2 ☐ C3 ☐ C4 ☐ C5 ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5 ☐																																								
Confinement: Confined																																												
Morphology: CP Cascade Pool																																												
COVER																																												
Total Cover: Abundant		Type: SWD LWD B U DP OV IV																																										
LWD: Abundant		Amount: T S T T T T D N																																										
LWD Dist: Evenly Distributed		Location: P/S/O: ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐										FSZ: ☐																																
Right Bank: Shape: Sloping (g)		Texture: Fines ☒ Gravel ☒ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐										Crown Closure																																
Left Bank: Shape: Sloping (g)		Texture: Fines ☒ Gravel ☒ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐										1-20%																																
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest																																										
Left Bank: Rip.Veg:		Stage: Mature forest										Instream Veg: None ☒ Algae ☐ Moss ☐ Vascular ☐																																
FEATURES																																												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto		UTM (Z/E/N)																																
093K.081	88011	F	3.0	GE	1	HC	R: 2	F: 16A	L:	#:		10.314842.6086																																
Comments: Falls are a barrier.																																												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto		UTM (Z/E/N)																																
093K.081	88010	CV	2.0	GE	20	HC	R: 2	F: 13A	L:	#:		10.315356.6086																																
Comments: 3 m wide arch culvert Reach 1.																																												
FISH																																												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																			
19	EF	1	400	513 sec	600	NFC	0																																					

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 2009 Site 19

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 2009 NID Map #: 093K.081 NID #: 40019 Reach #: 2.0 Site #: 19
Field UTM (Z.E.N): .. Method: Site Lg: 400 Method: MAP Access: V4
GIS UTM (Z.E.N): 10.314689.6086739 Ref. Name:
Date: 2002/08/28 Time: 13:40 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	2.10	2.30	2.60	1.90	2.20	1.80					2.15	Method I:	6.0	5.0	C	5.50
Wetted Width (m):	MS	1.20	1.00	1.30	1.40	0.80	1.30					1.17	Method II:	4.0	7.0	C	
Pool Depth (m):	MS	0.30	0.40	0.30	0.20	0.30	0.20					0.28					

Wb Depth: .6 .7 .6 Avg: 0.63 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	T	T	D	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: A DIST: E

LB SHP: S

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☒ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 35.0 D (cm): 15.00 Morph: CP ☐ ☒ ☐ ☐ ☐ ☐ ☐
Pattern: SI DISTURBANCE INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Coupling: CO Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐
Confinement: CO
FSZ: ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88011	F	3.0	GE	1	HC	R: 2 F: 16A L:	#:	10.314842.6086714	GIS

Comments: Falls are a barrier.

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88010	CV	2.0	GE	20	HC	R: 2 F: 13A L:	#:	10.315356.6086945	GIS

Comments: 3 m wide arch culvert Reach 1.

HABITAT QUALITY

Name

Comments

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000	2.0	093K.091	2009	19

HABITAT QUALITY						
Name				Comments		
OverWinter Habitat				None observed.		
Spawning Habitat				Poor - suitable spawning gravel found in small patches less than 1 m2.		
Rearing Habitat				Moderate- abundant cover, deep pools, high habitat complexity.		
PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	2	F:	13A	STD	U	Arch culver in Reach 1.
R:	2	F:	14A	STD	U	Upstream photo of overstream vegetation.
R:	2	F:	15A	STD	D	Downstream photo of channel substrates.
R:	2	F:	16A	STD	U	Photo of 8 m Falls - barrier to fish migration.
COMMENTS						
Section				Comments		
CHANNEL				Falls prevent upstream fish migration.		
CHANNEL				S3*/S6		

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000 Reach # 2.0 ILP Map # 093K.091 ILP # 2009

WATERBODY													
Gazetted Name:						Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093K.091				ILP #:		2009		Reach #: 2 -	
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #:			145269		Date: 2002/08/28			To: 2002/08/28		Agency: C172		Crew: SG/JD	
Resample: ☐													
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mhd			MTD/NO	Temp	Cond	Turbid	Comment			
19	093K.081	40019				GPU EF 1	8	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
19	EF 1	1	2002/08/28	13:40	2002/08/28	14:20							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
19	EF	1	1	O	513	400.0	1.2	600	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
19	EF	1	1	NFC		0							



Site #19, Arch culver in Reach 1.
Roll #2, Frame #13A, Date: 2002/08/28



Site #19, Upstream photo of overstream vegetation.
Roll #2, Frame #14A, Date: 2002/08/28



Site #19, Downstream photo of channel substrates.
Roll #2, Frame #15A, Date: 2002/08/28



Site #19, Photo of 8 m Falls - barrier to fish migration.
Roll #2, Frame #16A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.081 ILP # 2253

STREAM REFERENCING												
Gazetted Name:						Local Name:						
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.081		ILP #: 2253				
REACH												
Reach #: 2.0		UTM(Zone/East/North): 10.316381.6084155				Sample Type: Biased						
Length (km): .97		Coupling: Coupled		Magnitude: 2		BGC Zone: SBS						
Gradient (%): 10.2		Confinement: Occasionally Conf		Order: 2		Open water: Absent						
US Elev (m): 980		Islands: NONE		Riparian Vegetation: Coniferous								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified												
SITE												
Site #: 20		Field UTM 10.316756.6084527		Agency: C172		Crew: SG/JD		Date: 2002/08/28				
Site Length (m): 300		GIS UTM 10.316776.6084616		Agency Name: Triton Environmental Consultants (Terrace)								
CHANNEL												
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#		
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.40		1.9		2.8 6		
Stage: Low ☒				Wetted Width (m):		0.63		0.300		1 6		
Med ☐				Bankfull Depth (m):		0.70		0.6		0.8 3		
High ☐		Temp (C): 8		pH: 7.8		Conductivity: 50						
								Turbidity: Turbid ☐ Low ☐				
								Moderate ☐ Clear ☒				
MORPHOLOGY												
Bed Material: Dominant: Boulders		D95 (cm): 55.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐		
Subdominant: Cobble		D (cm): 25.00								Braid ☐		
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE INDICATORS		O1		B1		B2 B3 D1 D2 D3		
Coupling: Coupled												
Confinement: Entrenched				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5								
Morphology: CP Cascade Pool												
COVER												
Total Cover: Abundant		Type: SWD LWD B U DP OV IV										
LWD: Abundant		Amount: T S D N T S N										
LWD Dist: Clumped		Location: P/S/O: ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐										FSZ: ☐
Right Bank: Shape: Sloping (g)		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐										Crown Closure
Left Bank: Shape: Sloping (g)		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐										1-20%
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest										
Left Bank: Rip.Veg:		Stage: Mature forest										Instream Veg: None ☒ Algae ☐ Moss ☐ Vascular ☐
FEATURES												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto		UTM (Z/E/N)
093K.081	88013	C	50.0	GE	60	GE	R: 2	F: 18A	L:	#:		10.316831.6084
Comments: Cascade / Gradient.												
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto		UTM (Z/E/N)
093K.081	88012	CV	1.4	GE	24	GE	R: 2	F: 17A	L:	#:		10.316741.6084
Comments: Culvert in poor repair.												
FISH												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)			
20	EF	1	300	354 sec	700	NFC	0					

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.081 ILP # 2253 Site 20

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.081 ILP #: 2253 NID Map #: 093K.081 NID #: 40020 Reach #: 2.0 Site #: 20
Field UTM (Z.E.N): 10.316756.6084527 Method: GPU Site Lg: 300 Method: HC Access: V2
GIS UTM (Z.E.N): 10.316776.6084616 Ref. Name:
Date: 2002/08/28 Time: 14:38 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	2.60	2.20	1.90	2.80	2.50	2.40					2.40	Method I:	16.0	18.0	C	15.75
Wetted Width (m):	MS	0.80	1.00	0.60	0.50	0.60	0.30					0.63	Method II:	12.0	17.0	C	
Pool Depth (m):	MS	0.20	0.30	0.30	0.20	0.10	0.20					0.22					

Wb Depth: .6 .8 .7 Avg: 0.70 Method: MS Stage: L ☒ M ☐ H ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	D	N	T	S	N
Loc: P/S/O:	☒	☒	☒	☐	☒	☒	☐

LWD: A DIST: C

LB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 50 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: LWD spanning Method: GE

MORPHOLOGY

Bed Material: Dominant: B Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 55.0 D (cm): 25.00 Morph: CP DISTURBANCE INDICATORS
Pattern: IR C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: EN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88013	C	50.0	GE	60	GE	R: 2 F: 18A L:	#:	10.316831.6084714	GIS
Comments: Cascade / Gradient.										
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88012	CV	1.4	GE	24	GE	R: 2 F: 17A L:	#:	10.316741.6084540	GIS
Comments: Culvert in poor repair.										

HABITAT QUALITY

Name	Comments
------	----------

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.081	2253	20

HABITAT QUALITY					
Name			Comments		
OverWinter Habitat			None observed.		
Spawning Habitat			None - substrates too large, gradient too high.		
Rearing Habitat			Poor - high gradient, intermittent flow, shallow pools.		
PHOTOS					
Photo		Foc Lg	Dir	Comments	
R:	2 F: 17A	STD	U	Upstream photo of culvert crossing.	
R:	2 F: 18A	STD	U	Upstream photo of cascade section.	
R:	2 F: 19A	STD	D	Downstream photo of cascade section.	
R:	2 F: 20A	STD	U	Upstream photo of stream channel.	
R:	2 F: 21A	STD	D	Downstream photo of representative habitat.	
COMMENTS					
Section			Comments		
CHANNEL			Cascade section block upstream fish migration.		
CHANNEL			S3*/S6		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
2.0	093K.081	2253

Triton Environmental Consultants Ltd.



Site #20, Upstream photo of culvert crossing.
Roll #2, Frame #17A, Date: 2002/08/28



Site #20, Upstream photo of cascade section.
Roll #2, Frame #18A, Date: 2002/08/28



Site #20, Downstream photo of cascade section.
Roll #2, Frame #19A, Date: 2002/08/28



Site #20, Upstream photo of stream channel.
Roll #2, Frame #20A, Date: 2002/08/28



Site #20, Downstream photo of representative habitat.
Roll #2, Frame #21A, Date: 2002/08/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 2009

STREAM REFERENCING																																																																							
Gazetted Name:						Local Name:																																																																	
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.091			ILP #: 2009																																																														
REACH																																																																							
Reach #: 3.0		UTM(Zone/East/North): 10.313375.6086864				Sample Type: Biased																																																																	
Length (km): 1.04		Coupling: Partially Couple		Magnitude: 7		BGC Zone: SBS																																																																	
Gradient (%): 5.5		Confinement: Occasionally Conf		Order: 3		Open water: Absent																																																																	
US Elev (m): 1120		Islands: NONE		Riparian Vegetation: Coniferous																																																																			
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																																																							
SITE																																																																							
Site #: 21		Field UTM ..		Agency: C172		Crew: JD/SG		Date: 2002/08/28																																																															
Site Length (m): 300		GIS UTM 10.313566.6086778		Agency Name: Triton Environmental Consultants (Terrace)																																																																			
CHANNEL																																																																							
No Vis.Ch.: ☐		Intermittent: ☐		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Channel Width (m): 1.58</td> <td>1.4</td> <td>1.8</td> <td>6</td> </tr> <tr> <td>Wetted Width (m): 0.98</td> <td>0.600</td> <td>1.3</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m): 0.60</td> <td>0.5</td> <td>0.7</td> <td>3</td> </tr> </table>				Avg	Min	Max	#	Channel Width (m): 1.58	1.4	1.8	6	Wetted Width (m): 0.98	0.600	1.3	6	Bankfull Depth (m): 0.60	0.5	0.7	3	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> <tr> <td>Gradient %: 3.75</td> <td>3</td> <td>5</td> <td>4</td> </tr> <tr> <td>Pool Depth (m): 0.18</td> <td>0.100</td> <td>0.300</td> <td>6</td> </tr> </table>				Avg	Min	Max	#	Gradient %: 3.75	3	5	4	Pool Depth (m): 0.18	0.100	0.300	6																																
Avg	Min	Max	#																																																																				
Channel Width (m): 1.58	1.4	1.8	6																																																																				
Wetted Width (m): 0.98	0.600	1.3	6																																																																				
Bankfull Depth (m): 0.60	0.5	0.7	3																																																																				
Avg	Min	Max	#																																																																				
Gradient %: 3.75	3	5	4																																																																				
Pool Depth (m): 0.18	0.100	0.300	6																																																																				
Dewatered: ☐		Tribes: ☐						Turbidity: Turbid ☐ Low ☐																																																															
Stage: Low ☒		Temp (C): 8		pH: 7.6		Conductivity: 60		Moderate ☐ Clear ☒																																																															
Med ☐																																																																							
High ☐																																																																							
MORPHOLOGY																																																																							
Bed Material: Dominant: Cobble		D95 (cm): 30.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐																																																													
Subdominant: Boulders		D (cm): 15.00								Braid ☐																																																													
Channel Pattern: Sinuous		Islands: None		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th colspan="12">DISTURBANCE INDICATORS</th> </tr> <tr> <td>O1</td><td>B1</td><td>B2</td><td>B3</td><td>D1</td><td>D2</td><td>D3</td> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> <tr> <td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5</td> <td colspan="7"></td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> <td colspan="7"></td> </tr> </table>								DISTURBANCE INDICATORS												O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	S1	S2	S3	S4	S5								☐	☐	☐	☐	☐							
DISTURBANCE INDICATORS																																																																							
O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5																																																												
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																																												
S1	S2	S3	S4	S5																																																																			
☐	☐	☐	☐	☐																																																																			
Coupling: Partially Coupled																																																																							
Confinement: Frequently Confined																																																																							
Morphology: RP Riffle Pool																																																																							
COVER																																																																							
Total Cover: Abundant		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> <tr> <th>Amount:</th> <td>T</td> <td>T</td> <td>S</td> <td>D</td> <td>T</td> <td>T</td> <td>N</td> </tr> </table>										Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	T	S	D	T	T	N																																												
Type:	SWD	LWD	B	U	DP	OV	IV																																																																
Amount:	T	T	S	D	T	T	N																																																																
LWD: None		Location: P/S/O: ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ FSZ: ☐																																																																					
LWD Dist: Not Applicable																																																																							
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐ Crown Closure																																																													
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐ 1-20%																																																													
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest																																																																					
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐		Vascular ☐																																																													
FEATURES																																																																							
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto																																																													
093K.081	88014	CV	2.0	GE	26	HC	R: 2	F: 22A	L:	#:	UTM (Z/E/N)																																																												
Comments: Culvert perched.											10.313482.6086																																																												
FISH																																																																							
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																																														
21	EF	1	300	369 sec	700	NFC	0																																																																

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-0000-0000-0000-0000-0000

Reach # 3.0 ILP Map # 093K.091 ILP # 2009 Site # 21

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-0000-0000-0000-0000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-0000-0000-0000-0000-0000
ILP Map #: 093K.091 ILP #: 2009 NID Map #: 093K.081 NID #: 40021 Reach #: 3.0 Site #: 21
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: HC Access: V2
GIS UTM (Z.E.N): 10.313566.6086778 Ref. Name:
Date: 2002/08/28 Time: 15:40 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.60	1.50	1.80	1.70	1.40	1.50					1.58	Method I:	3.0	4.0	C	3.75
Wetted Width (m):	MS	1.00	1.20	0.80	1.30	0.60	1.00					0.98	Method II:	5.0	3.0	C	
Pool Depth (m):	MS	0.20	0.20	0.30	0.10	0.20	0.10					0.18					

Wb Depth: .5 .6 .7 Avg: 0.60 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	S	D	T	T	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: N DIST: NA

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None observed Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 30.0 D (cm): 15.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: FC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.081	88014	CV	2.0	GE	26	HC	R: 2 F: 22A L:	#:	10.313482.6086889	GIS

Comments: Culvert perched.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - substrates too large.
Rearing Habitat	Moderate - high habitat complexity, abundant cover, limited by shallow depths.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093K.091	2009	21

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	2	F:	22A	STD	U	Photo of perched culvert.
R:	2	F:	23A	STD	U	Upstream photo of pool habitat.
R:	2	F:	24A	STD	D	Downstream photo of channel.
COMMENTS						
Section				Comments		
CHANNEL				Falls located in Reach 2 prevent upstream fish migration.		
CHANNEL				S6		

Tochcha Lake Planning Area

000-000000-00000-00000-0000-0000-000-000-000-000-000-000

ILP Map #

3.0

093K.091

2009

Gazetted Name:

Local:

Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0

WS Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Waterbody ID:

ILP Map #: 093K.091

ILP #:

2009

Reach #:

3 -

Project ID: 5271

Lake/Stream: S

Lake From Date:

Fish Permit #: 145269

Date: 2002/08/28

To: 2002/08/28

Agency: C172

Crew: JD/SG

Resample: ☐

Site#	NID Map	NID #	UTM:Zone/East/North/Mthd				MTD/NO		Temp	Cond	Turbid	Comment
21	093K.081	40021	10	317515	6084444	GPU	EF	1	8	60	C	

Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment
21	EF 1	1	2002/08/28	14:20	2002/08/28	15:40	

Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model
21	EF	1	1	O	369	300.0	1.2	700	60	6	SMITH ROOT	12B

Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)		FishAct	Comment
21	EF	1	1	NFC			0				



Site #21, Photo of perched culvert.
Roll #2, Frame #22A, Date: 2002/08/28



Site #21, Upstream photo of pool habitat.
Roll #2, Frame #23A, Date: 2002/08/28



Site #21, Downstream photo of channel.
Roll #2, Frame #24A, Date: 2002/08/28

FDIS Reach Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.081 ILP # 2251

PROJECT																													
Project Name: Babine and Tochcha					Project Code: 5271																								
Stream Name (gaz.): SAKENICHE RIVER																													
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000																													
WATERSHED																													
Reach Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000																													
ILP Map #: 093K.081		ILP #: 2251		Reach #: 1.0		NID Map #: 093K.081		NID #: 12816																					
Air Photos			Names			UTM(Zone/East/North/Method)																							
LINE: BCB910236_			Gaz.:			10.317421.6084183																							
#: 0			Local:			Sample Type: B		Wetland: ☐																					
SURVEY INFO																													
Date: 2002/08/26			Agency: C172			Crew: SG/JD																							
ATTRIBUTES																													
Length (km): .85		Gradient: 8.12		Setting: VW		DISTURBANCE INDICATORS																							
DS Elev.: 851		Order: 3		Open water: A		<table border="0" style="width: 100%;"> <tr> <td>O1</td><td>B1</td><td>B2</td><td>B3</td><td>D1</td><td>D2</td><td>D3</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>				O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐						
O1	B1	B2	B3	D1	D2	D3																							
☐	☐	☐	☐	☐	☐	☐																							
US Elev: 920		Magnitude: 6		Confinement: OC		<table border="0" style="width: 100%;"> <tr> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>				C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																				
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																				
		BGC Zone: SBS		Coupling: PC																									
Valley Flat: N		C/D:		Islands: N																									
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR																									
Channel Pattern: IR				Mass Movement: L		Exposed/Eroded: NS																							
				Riparian Veg.: NS		Landuse: NS																							

MAPS		
Map Type	Map #	Year
TRIM	093K.081	1983

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.081 ILP # 2251

WATERBODY															
Gazetted Name:										Local:					
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:				ILP Map #: 093K.081				ILP #: 2251		Reach #: 1					
Project ID: 5271				Lake/Stream: S				Lake From Date:							
Fish Permit #:		145269		Date: 2002/08/29		To: 2002/08/29		Agency: C172		Crew: SG/JD		Resample: ☐			
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
22	093K.081	40022				GPU EF 1	8	50	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
22	EF 1	1	2002/08/29	16:00	2002/08/29	16:30									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
22	EF 1	1	O	159	150.0	2.0	900	60	6	SMITH ROOT	12B				
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
22	EF 1	1	RB	J		8	135 162	R							
INDIVIDUAL FISH DATA															
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment
								Str/Smpl#	Age		Str/Smpl#				
22	EF 1	1	RB	135		U	U						3	01	
22	EF 1	1	RB	146		U	U								
22	EF 1	1	RB	153		U	U								
22	EF 1	1	RB	162		U	U								
22	EF 1	1	RB	138		U	U								
22	EF 1	1	RB	140		U	U								
22	EF 1	1	RB	145		U	U								
22	EF 1	1	RB	155		U	U								



Site #22, Rainbow trout 135 mm.
Roll #3, Frame #01, Date: 2002/08/29

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K,082	2308

Triton Environmental Consultants Ltd.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.082 ILP # 2308 Site 23

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093K.082 ILP #: 2308 NID Map #: 093K.082 NID #: 40023 Reach #: 3.0 Site #: 23
Field UTM (Z.E.N): 10.322975.6085617 Method: GPU Site Lg: 800 Method: MAP Access: V2
GIS UTM (Z.E.N): 10.323027.6085478 Ref. Name:
Date: 2002/08/29 Time: 09:20 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	2.60	2.90	3.30	2.40	2.50	3.10					2.80	Method I:	3.0	4.0	C	3.50
Wetted Width (m):	MS	1.20	1.00	1.30	1.00	0.80	1.60					1.15	Method II:	4.0	3.0	C	
Pool Depth (m):	MS	0.30	0.40	0.20	0.30	0.40	0.30					0.32					

Wb Depth: .6 .7 .6 Avg: 0.63 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	T	T	T	S	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: A DIST: C

LB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☐ G ☒ C ☒ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 7 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 30.0 D (cm): 15.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Moderate - suitable gravels are abundant.
Rearing Habitat	Moderate - LWD abundant pools of moderate depth, high habitat complexity.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 3 F: 04	STD	U	Upstream photo of LWD.
R: 3 F: 05	STD	D	Downstream photo of riffle habitat.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093K.082	2308	23

COMMENTS	
Section	Comments
CHANNEL	S3*
CHANNEL	No barriers to upstream fish migration were located - stream walked downstream to lower crossing.

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093K.082	2308

Triton Environmental Consultants Ltd.



Site #23, Upstream photo of LWD.
Roll #3, Frame #04, Date: 2002/08/29



Site #23, Downstream photo of riffle habitat.
Roll #3, Frame #05, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1966

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1966		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 10.317769.6088260				Sample Type: Biased			
Length (km): .85		Coupling: Decoupled		Magnitude: 2		BGC Zone: SBS			
Gradient (%): 3.9		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 883		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 24		Field UTM 10.317328.6088429		Agency: C172		Crew: SG/JD		Date: 2002/08/29	
Site Length (m): 100		GIS UTM 10.317304.6088280		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.03		0.800		1.200	
Stage: Low ☒				Wetted Width (m): 0.68		0.600		0.800	
Med ☐				Bankfull Depth (m): 0.43		0.4		0.5	
High ☐									
Temp (C): 10		pH: 7.8		Conductivity: 70		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 30.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Cobble		D (cm): 5.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		T		D	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☒		☒	
		☒		☒		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Mature forest				Vascular ☐			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
24	EF	1	100	133 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1966 Site # 24

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
Local Name: ILP Map #: 093K.091 ILP #: 1966 NID Map #: 093K.091 NID #: 40024 Reach #: 1.0 Site #: 24
Field UTM (Z.E.N): 10.317328.6088429 Method: GPU Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.317304.6088280 Ref. Name:
Date: 2002/08/29 Time: 11:01 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.10	1.20	0.80	0.90	1.00	1.20					1.03	Method I:	3.0	2.0	C	2.50
Wetted Width (m):	MS	0.60	0.80	0.60	0.70	0.80	0.60					0.68	Method II:	2.0	3.0	C	
Pool Depth (m):	MS	0.20	0.20	0.10	0.10	0.20	0.10					0.15					

Wb Depth: .4 .5 .4 Avg: 0.43 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	D	N	T	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F

DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

RIP: M

STG: MF

STG: MF

WATER

EMS: Temp: 10 pH: 7.8 Flood Signs: None Method: T4 Method: P2 Method: GE Req #: Cond.: 70 Turb.: T ☐ M ☐ L ☐ C ☒ Method: S3 Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C D95: 30.0 D (cm): 5.00 Morph: RP O1 B1 B2 B3 D1 D2 D3
DISTURBANCE INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Pattern: SI Islands: N Coupling: DC Confinement: OC FSZ: ☐
Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - shallow depths and low flows.
Rearing Habitat	Poor - shallow pools, low flows.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 3 F: 06	STD	U	Upstream photo of spanning LWD.
R: 3 F: 07	STD	D	Downstream photo of pool habitat.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093K.091	1966	24

COMMENTS	
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093K.091	1966

Triton Environmental Consultants Ltd.



Site #24, Upstream photo of spanning LWD.
Roll #3, Frame #06, Date: 2002/08/29



Site #24, Downstream photo of pool habitat.
Roll #3, Frame #07, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
2.0 093K.091 1966

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093K.091		ILP #: 1966		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 10.318235.6088758				Sample Type: Blased			
Length (km): .81		Coupling: Coupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 19.6		Confinement: Frequently Confin		Order: 1		Open water: Absent			
US Elev (m): 1042		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 25		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/29	
Site Length (m): 100		GIS UTM 10.318086.6088424		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.43		1.200		1.600	
Stage: Low ☒				Wetted Width (m): 0.20		0		0.300	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.4	
High ☐		Temp (C): 8		pH: 7.6		Conductivity: 70			
								Turbidity.: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 40.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Boulders		D (cm): 15.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Coupled						B2		B3	
Confinement: Confined						D1		D2	
Morphology: CP Cascade Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Abundant		Amount: T		D		T		S	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☐		☒	
								FSZ: ☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest				Rock ☐		Manmade ☐	
Left Bank: Rip.Veg:		Stage: Mature forest				Instream Veg: None ☒		Algae ☐	
						Moss ☐		Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
25	EF	1	100	96 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1966 Site 25

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1966 NID Map #: 093K.091 NID #: 40025 Reach #: 2.0 Site #: 25
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: GE Access: V4
GIS UTM (Z.E.N): 10.318086.6088424 Ref. Name:
Date: 2002/08/29 Time: 11:35 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.40	1.50	1.30	1.60	1.20	1.60					1.43	Method I:	21.0	32.0	C	23.00
Wetted Width (m):	MS	0.30				0.00	0.30					0.20	Method II:	16.0	23.0	C	
Pool Depth (m):	MS	0.10				0.05	0.10					0.08					

Wb Depth: .4 .3 .4 Avg: 0.37 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	T	S	N	S	N
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☐

LWD: A DIST: C

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 70 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Scoured banks Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B O1 B1 B2 B3 D1 D2 D3
D95: 40.0 D (cm): 15.00 Morph: CP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - high gradient and substrates not suitable for spawning.
Rearing Habitat	Poor - high gradient ephemeral stream, shallow residual pools.

COMMENTS

Section	Comments
SITE CARD	No Photos Taken.
CHANNEL	Lower 100 m S4* gradient prevents fish access.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.091	1966	25

COMMENTS	
Section	Comments
CHANNEL	S4/S6

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
2.0	093K.091	1966

Triton Environmental Consultants Ltd.

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1975

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000						ILP Map #: 093K.091		ILP #: 1975			
REACH											
Reach #: 1.0		UTM (Zone/East/North): 10.316622.6090343				Sample Type: Biased					
Length (km): .70		Coupling: Decoupled		Magnitude: 3		BGC Zone: SBS					
Gradient (%): 7.4		Confinement: Occasionally Conf		Order: 2		Open water: Absent					
US Elev (m): 902		Islands: NONE		Riparian Vegetation: Deciduous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 26		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/29			
Site Length (m): 100		GIS UTM 10.316287.6090192		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.50		1.3		1.700		6	
Stage: Low ☒				Wetted Width (m): 0.00		0		0		0	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.4		3	
High ☐		Temp (C):		pH:		Conductivity:					
								Turbidity.: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☐	
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 20.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Gravels		D (cm): 10.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Decoupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Moderate		Type: SWD		LWD		B		U		DP OV IV	
LWD: Few		Amount: T		T		T		S		N D N	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☒		☒		☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage								Crown Closure 1-20%	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage								Instream Veg: None ☒ Algae ☐ Moss ☐ Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093K.091	88015	CV	1.0	GE	20	GE	R: 3	F: 08	L:	#:	10.316356.6090
Comments:											

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1975 Site # 26

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
ILP Map #: 093K.091 ILP #: 1975 NID Map #: 093K.091 NID #: 40026 Reach #: 1.0 Site #: 26
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.316287.6090192 Ref. Name:
Date: 2002/08/29 Time: 12:02 Agency: C172 Crew: SG/JD Fish Crd?: ☐ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.60	1.40	1.50	1.30	1.70	1.50					1.50	Method I:	2.0	3.0	C	3.00
Wetted Width (m):	MS											0.00	Method II:	4.0	3.0	C	
Pool Depth (m):	MS											0.00					

Wb Depth: .4 .3 .4 Avg: 0.37 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: M

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	T	S	N	D	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

LWD: F DIST: E

LB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

WATER

EMS: Temp: Method: T4 Req #: Cond.: Method: S3
pH: Method: P2 Turb.: T ☐ M ☐ L ☐ C ☐ Method: GE
Flood Signs: None observed Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 20.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88015	CV	1.0	GE	20	GE	R: 3 F: 08 L:	#:	10.316356.6090208	GIS

Comments:

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	None - low flows and substrate not suitable for spawning.
Rearing Habitat	Poor - ephemeral stream, no residual pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093K.091	1975	26

PHOTOS					
Photo				Foc Lg	Dir
R:	3	F:	08	STD	U
R:	3	F:	09	STD	U
R:	3	F:	10	STD	D
COMMENTS					
Section				Comments	
CHANNEL				S4*	



Site #26, Wooden box culvert.
Roll #3, Frame #08, Date: 2002/08/29



Site #26, Upstream photo of a dry channel.
Roll #3, Frame #09, Date: 2002/08/29



Site #26, Downstream photo of representative habitat.
Roll #3, Frame #10, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1979

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000						ILP Map #: 093K.091		ILP #:		1979	
REACH											
Reach #: 2.0		UTM(Zone/East/North): 10.316658.6093335				Sample Type: Biased					
Length (km): 1.77		Coupling: Decoupled		Magnitude: 4		BGC Zone: SBS					
Gradient (%): 6.8		Confinement: Frequently Confin		Order: 2		Open water: Absent					
US Elev (m): 1020		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 27		Field UTM ..		Agency: C172		Crew: JD/SG		Date: 2002/08/29			
Site Length (m): 100		GIS UTM 10.315790.6092959		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.77		1.5		2.200		6	
Stage: Low ☒				Wetted Width (m): 0.00		0		0		0	
Med ☐				Bankfull Depth (m): 0.60		0.4		0.8		3	
High ☐		Temp (C):		pH:		Conductivity:					
								Turbidity: Turbid ☐ Low ☐			
								Moderate ☐ Clear ☐			
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 20.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Cobble		D (cm): 15.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Decoupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD LWD B U DP OV IV		Amount: T D N S N S N		Location: P/S/O: ☒		☒		☐	
LWD: Abundant										FSZ: ☐	
LWD Dist: Clumped											
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure 21-40%	
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐		Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093K.091	88016	CV	.9	GE	25	GE	R: 3	F: 11	L:	#:	10.315710.6092
Comments: Perched culvert.											

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1979 Site 27

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1979 NID Map #: 093K.091 NID #: 40027 Reach #: 2.0 Site #: 27
Field UTM (Z.E.N): ... Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.315790.6092959 Ref. Name:
Date: 2002/08/29 Time: 12:55 Agency: C172 Crew: JD/SG Fish Crd?: ☐ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.80	1.60	1.90	2.20	1.50	1.60					1.77	Method I:	3.0	4.0	C	4.00
Wetted Width (m):	MS											0.00	Method II:	5.0	4.0	C	
Pool Depth (m):	MS											0.00					

Wb Depth: .4 .8 .6 Avg: 0.60 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	N	S	N	S	N
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☐

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: A DIST: C

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: pH: Flood Signs: Rafted debris
Method: T4 Method: P2 Method: GE
Req #: Cond.: Turb.: T ☐ M ☐ L ☐ C ☐
Method: S3 Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C D95: 20.0 D (cm): 15.00 Morph: RP
Pattern: SI Islands: N Coupling: DC Confinement: OC FSZ: ☐
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88016	CV	.9	GE	25	GE	R: 3 F: 11 L:	#:	10.315710.6092885	GIS

Comments: Perched culvert.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - low flows, limited gravels for spawning.
Rearing Habitat	Poor - ephemeral stream with no residual pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.091	1979	27

PHOTOS						
Photo			Foc Lg	Dir	Comments	
R:	3	F:	11	STD	U	Photo of eroded and perched culvert.
R:	3	F:	12	STD	U	Upstream photo of LWD.
R:	3	F:	13	STD	D	Downstream photo of dry channel.
R:	3	F:	14	STD	D	Photo of eroded culvert.
COMMENTS						
Section			Comments			
SITE CARD			No barriers to fish migration were identified.			
CHANNEL			S3*			



Site #27, Photo of eroded and perched culvert.
Roll #3, Frame #11, Date: 2002/08/29



Site #27, Upstream photo of LWD.
Roll #3, Frame #12, Date: 2002/08/29



Site #27, Downstream photo of dry channel.
Roll #3, Frame #13, Date: 2002/08/29



Site #27, Photo of eroded culvert.
Roll #3, Frame #14, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 1989

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.091		ILP #: 1989			
REACH											
Reach #: 3.0		UTM(Zone/East/North): 10.316323.6095768				Sample Type: Biased					
Length (km): 1.01		Coupling: Decoupled		Magnitude: 3		BGC Zone: SBS					
Gradient (%): 3.6		Confinement: Occasionally Conf		Order: 2		Open water: Absent					
US Elev (m): 980		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 28		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/29			
Site Length (m): 100		GIS UTM 10.315922.6095700		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.77		1.4		2.3		6	
Stage: Low ☒				Wetted Width (m): 1.10		0.9		1.3		6	
Med ☐				Bankfull Depth (m): 0.63		0.6		0.7		3	
High ☐		Temp (C): 12		pH: 7.8		Conductivity: 70					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 30.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Cobble		D (cm): 10.00				Span ☐				Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Decoupled				INDICATORS		B3		D1		D2	
Confinement: Occasionally Confine				C1		C2		C3		C4	
Morphology: RP Riffle Pool				C5		S1		S2		S3	
						S4		S5			
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		S		T		D		T	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒		☒	
				☒		☒		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest								1-20%	
										Instream Veg: None ☒	
										Algae ☐	
										Moss ☐	
										Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093K.091	88017	CV	1.0	GE	24	GE	R: 3	F: 16	L:	#:	UTM (Z/E/N)
Comments: Perched culvert.											10.315837.6095
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
28	EF	1	100	106 sec	600	RB	15	80	150		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 1989 Site 28

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
ILP Map #: 093K.091 ILP #: 1989 NID Map #: 093K.091 NID #: 40028 Reach #: 3.0 Site #: 28
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.315922.6095700 Ref. Name:
Date: 2002/08/29 Time: 13:30 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.80	1.60	1.70	1.80	1.40	2.30					1.77	Method I:	2.0	3.0	C	2.00
Wetted Width (m):	MS	1.20	1.10	0.90	1.30	1.10	1.00					1.10	Method II:	2.0	1.0	C	
Pool Depth (m):	MS	0.30	0.20	0.20	0.40	0.30	0.20					0.27					

Wb Depth: .6 .7 .6 Avg: 0.63 Method: MS Stage: L ☒ M ☐ H ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	D	T	S	N
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 12 Method: T4 Req #: Cond.: 70 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 30.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88017	CV	1.0	GE	24	GE	R: 3 F: 16 L: #:		10.315837.6095695	GIS

Comments: Perched culvert.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Poor - some refuge in upstream wetland.
Spawning Habitat	Poor - substrates limited, flows are low.
Rearing Habitat	Moderate - abundant cover, residual pools of moderate depth.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093K.091	1989	28

PHOTOS				
Photo		Foc Lg	Dir	Comments
R:	3	F:	16	STD U Perched Culverts.
COMMENTS				
Section		Comments		
CHANNEL		RB captured.		
CHANNEL		S3		

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093K.091 ILP # 1989

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0																	
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																	
Waterbody ID:										ILP Map #: 093K.091		ILP #: 1989		Reach #: 3 -			
Project ID: 5271										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145269		Date:		2002/08/29		To:		2002/08/29		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
28	093K.091	40028				GPU EF 1	12	70	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
28	EF	1	1	2002/08/29 13:30	2002/08/29 14:00												
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
28	EF	1	1	O	106	100.0	1.2	600	60	6	SMITH ROOT	12B					
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
28	EF	1	1	RB	J	15	80 150	R									
INDIVIDUAL FISH DATA																	
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment		
								Str/Smpl#	Age		Str/Smpl#						
28	EF	1	1	RB	150		U	U					3	15			
28	EF	1	1	RB	135		U	U									
28	EF	1	1	RB	100		U	U									
28	EF	1	1	RB	105		U	U									
28	EF	1	1	RB	80		U	U									
28	EF	1	1	RB	90		U	U									
28	EF	1	1	RB	110		U	U									
28	EF	1	1	RB	120		U	U									
28	EF	1	1	RB	140		U	U									
28	EF	1	1	RB	145		U	U									
28	EF	1	1	RB	150		U	U									
28	EF	1	1	RB	110		U	U									
28	EF	1	1	RB	95		U	U									
28	EF	1	1	RB	85		U	U									
28	EF	1	1	RB	100		U	U									



Site #28, Rainbow trout captured at site.
Roll #3, Frame #15, Date: 2002/08/29



Site #28, Perched Culverts.
Roll #3, Frame #16, Date: 2002/08/29

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
20	093K 091	1995

Gazetted Name:	Local Name:		
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000	ILP Map #: 093K.091	ILP #:	1995

Reach #: 2.0	UTM(Zone/East/North): 10.316229.6094822	Sample Type: Biased
Length (km): .58	Coupling: Partially Couple	Magnitude: 3
Gradient (%): 6.0	Confinement: Occasionally Conf	Order: 2
US Elev (m): 995	Islands: NONE	Riparian Vegetation: Mixed C/D
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified		
BGC Zone: SBS Open water: Absent		

Site #: 29	Field UTM ..	Agency: C172	Crew: SG/JD	Date: 2002/08/29
Site Length (m): 200	GIS UTM 10.316224.6094827	Agency Name: Triton Environmental Consultants (Terrace)		

No Vis.Ch.: ☐	Intermittent: ☐	Avg	Min	Max	#	Avg	Min	Max	#		
Dewatered: ☐	Tribs.: ☐	Channel Width (m):	1.53	1.4	1.700	6	Gradient %:	2.25	1	3	4
Stage: Low ☒		Wetted Width (m):	0.70	0.5	0.9	6	Pool Depth (m):	0.12	0.100	0.200	6
Med ☐		Bankfull Depth (m):	0.57	0.5	0.6	3					
High ☐	Temp (C): 9	pH: 7.6	Conductivity: 80								
							Turbidity: Turbid ☐	Low ☐			
							Moderate ☐	Clear ☒			

[illegible]

Total Cover: Abundant		Type:	SWD	LWD	B	U	DP	OV	IV					
LWD: Few		Amount:	T	D	T	S	N	S	N					
LWD Dist: Evenly Distributed		Location: P/S/O:	☒ ☐ ☐	☒ ☐ ☐	☒ ☐ ☐	☒ ☐ ☐	☐ ☐ ☐	☒ ☐ ☐	☐ ☐ ☐	FSZ: ☐				
Right Bank:	Shape: Overhang	Texture: Fines	☒	Gravel	☐	Cobble	☐	Boulder	☐	Rock	☐	Manmade	☐	Crown Closure
Left Bank:	Shape: Overhang	Texture: Fines	☒	Gravel	☐	Cobble	☐	Boulder	☐	Rock	☐	Manmade	☐	1-20%
Right Bank:	Rip.Veg: Mixed C/D	Stage: Mature forest												
Left Bank:	Rip.Veg:	Stage: Mature forest												
		Instream Veg:		None	☒	Algae	☐	Moss	☐	Vascular	☐			

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto			UTM (Z/E/N)
093K.091	88018	CV	1.4	GE	26	GE	R:	3	F:	17	L:	#:	10.316213.6094
Comments: well placed culvert													

Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
29	EF	1	200	341 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093K.091 ILP # 1995 Site # 29

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1995 NID Map #: 093K.091 NID #: 40029 Reach #: 2.0 Site #: 29
Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: MAP Access: V2
GIS UTM (Z.E.N): 10.316224.6094827 Ref. Name:
Date: 2002/08/29 Time: 14:20 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.40	1.50	1.70	1.60	1.50	1.50					1.53	Method I:	2.0	3.0	C	2.25
Wetted Width (m):	MS	0.60	0.80	0.60	0.50	0.80	0.90					0.70	Method II:	1.0	3.0	C	
Pool Depth (m):	MS	0.10	0.10	0.10	0.20	0.10	0.10					0.12					

Wb Depth: .6 .5 .6 Avg: 0.57 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	T	S	N	S	N
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 25.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: FC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88018	CV	1.4	GE	26	GE	R: 3 F: 17 L:	#:	10.316213.6094822	GIS

Comments: well placed culvert

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Moderate - spawning gravels are limited, flows are low.
Rearing Habitat	Poor - subject to low flows, shallow pool depths.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093K.091	1995	29

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	3	F:	17	STD	U	Photo of well placed culvert.
R:	3	F:	18	STD	U	Upstream photo of channel bed.
R:	3	F:	19	STD	D	Downstream photo of riffle habitat.
COMMENTS						
Section				Comments		
CHANNEL				Wetland downstream may limit upstream fish migration.		
CHANNEL				S3*		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
2.0	093K.091	1995

Triton Environmental Consultants Ltd.



Site #29, Photo of well placed culvert.
Roll #3, Frame #17, Date: 2002/08/29



Site #29, Upstream photo of channel bed.
Roll #3, Frame #18, Date: 2002/08/29



Site #29, Downstream photo of riffle habitat.
Roll #3, Frame #19, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0 093K.091 1993

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000						ILP Map #: 093K.091			ILP #: 1993		
REACH											
Reach #: 1.0		UTM(Zone/East/North): 10.315250.6096182				Sample Type: Biased					
Length (km): .84		Coupling: Decoupled		Magnitude: 2		BGC Zone: SBS					
Gradient (%): 5.2		Confinement: Occasionally Conf		Order: 2		Open water: Absent					
US Elev (m): 978		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 30		Field UTM ..		Agency: C172		Crew: JD/SG		Date: 2002/08/29			
Site Length (m): 100		GIS UTM 10.315245.6096050		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		0.97		0.800		1.3 6	
Stage: Low ☒				Wetted Width (m):		0.58		0.400		0.800 4	
Med ☐				Bankfull Depth (m):		0.40		0.4		0.4 3	
High ☐		Temp (C): 9		pH: 7.6		Conductivity: 60		Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Fines		D (cm): 5.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Partially Coupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD LWD B U DP OV IV		Amount: T S N D N S N		Location: P/S/O: ☒		☒		☐	
LWD: Few										FSZ: ☐	
LWD Dist: Evenly Distributed											
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure 1-20%	
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐		Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093K.091	88019	CV	.6	GE	24	GE	R: 3	F: 20	L:	#:	UTM (Z/E/N) 10.315245.6095
Comments: twin culverts poor shape.											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
30	EF	1	100	106 sec	600	NFC	0				

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1993 Site # 30

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093K.091 ILP #: 1993 NID Map #: 093K.091 NID #: 40030 Reach #: 1.0 Site #: 30
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.315245.6096050 Ref. Name:
Date: 2002/08/29 Time: 14:58 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.00	0.80	1.30	1.00	0.80	0.90					0.97	Method I:	2.0	1.0	C	1.50
Wetted Width (m):	MS	0.40	0.60			0.50	0.80					0.58	Method II:	1.0	2.0	C	
Pool Depth (m):	MS	0.20	0.10			0.10	0.20					0.15					

Wb Depth: .4 .4 .4 Avg: 0.40 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	D	N	S	N
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☐

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 9 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88019	CV	.6	GE	24	GE	R: 3 F: 20 L:	#:	10.315245.6095954	GIS

Comments: twin culverts poor shape.

HABITAT QUALITY

Name	Comments
Overwinter Habitat	None observed.
Spawning Habitat	Poor - abundant fines and limited pockets of suitable gravels.
Rearing Habitat	Poor - shallow residual pool depths, low flows.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093K.091	1993	30

PHOTOS					
Photo			Foc Lg	Dir	Comments
R:	3	F: 20	STD	U	Upstream photo of twin culverts.
R:	3	F: 21	STD	D	Downstream photo of stream channel.
R:	3	F: 22	STD	U	Upstream photo fo representative habitat.
COMMENTS					
Section			Comments		
CHANNEL			S4*		

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1993

WATERBODY													
Gazetted Name:						Local:							
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093K.091				ILP #: 1993		Reach #: 1 -			
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145269			Date: 2002/08/29			To: 2002/08/29			Agency: C172		Crew: JD/SG		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
30	093K.091	40030				GPU EF 1	9	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
30	EF	1	2002/08/29	14:58	2002/08/29	15:15							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
30	EF	1	1	O	106	100.0	0.8	600	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
30	EF	1	1	NFC		0							



Site #30, Upstream photo of twin culverts.
Roll #3, Frame #20, Date: 2002/08/29



Site #30, Downstream photo of stream channel.
Roll #3, Frame #21, Date: 2002/08/29



Site #30, Upstream photo fo representative habitat.
Roll #3, Frame #22, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1990

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093K.091		ILP #:		1990	
REACH											
Reach #: 1.0		UTM(Zone/East/North): 10.313935.6098431				Sample Type: Biased					
Length (km): 2.97		Coupling: Decoupled		Magnitude: 4		BGC Zone: SBS					
Gradient (%): 3.3		Confinement: Occasionally Conf		Order: 2		Open water: Absent					
US Elev (m): 1000		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 31		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/29			
Site Length (m): 100		GIS UTM 10.312842.6096669		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.55		1.3		1.8		6	
Stage: Low ☒				Wetted Width (m): 0.80		0.5		1.200		6	
Med ☐				Bankfull Depth (m): 0.43		0.3		0.6		3	
High ☐		Temp (C): 12		pH: 7.6		Conductivity: 90					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Fines		D (cm): 5.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Decoupled				INDICATORS		B3		D1		D2	
Confinement: Occasionally Confine				C1		C2		C3		C4	
Morphology: RP Riffle Pool				C5		S1		S2		S3	
										S4	
										S5	
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		S		N		S		N	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest								1-20%	
										Instream Veg: None ☒	
										Algae ☐	
										Moss ☐	
										Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093K.091	88020	CV	.9	GE	24	GE	R: 4	F: 1A	L:	#:	UTM (Z/E/N)
Comments: Partial barrier											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
31	EF	1	100	202 sec	500	RB	15	48	95		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.091 ILP # 1990 Site 31

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093K.091 ILP #: 1990 NID Map #: 093K.091 NID #: 40031 Reach #: 1.0 Site #: 31
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 10.312842.6096669 Ref. Name:
Date: 2002/08/29 Time: 15:30 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.30	1.80	1.60	1.50	1.60	1.50					1.55	Method I:	1.0	2.0	C	1.75
Wetted Width (m):	MS	0.60	0.80	1.00	0.50	1.20	0.70					0.80	Method II:	3.0	1.0	C	
Pool Depth (m):	MS	0.10	0.20	0.40	0.20	0.20	0.10					0.20					

Wb Depth:

.6

.3

.4

Avg: 0.43

Method: MS

Stage: L ☒ M ☐ H ☐

No Vis.Ch.: ☐

Intermittent: ☒

Dw: ☐

Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	S	N	D	S
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 12 Method: T4 Req #: Cond.: 90 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093K.091	88020	CV	.9	GE	24	GE	R: 4 F: 1A L:	#:	10.312855.6096564	GIS

Comments: Partial barrier

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - isolated pockets of potential spawning gravels.
Rearing Habitat	Poor - shallow overall stream depth, limited flow and isolated residual pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093K.091	1990	31

PHOTOS					
Photo				Foc Lg	Dir
R:	4	F:	1A	STD	U
R:	4	F:	2A	STD	D
R:	4	F:	3A	STD	U
Comments					
Photo of culvert - partial barrier.					
Downstream photo of channel.					
Upstream photo of representative habitat.					
COMMENTS					
Section				Comments	
CHANNEL				RB captured.	
CHANNEL				S3	

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093K.091	1990

Triton Environmental Consultants Ltd.



Site #31, Photo of culvert - partial barrier.
Roll #4, Frame #1A, Date: 2002/08/29



Site #31, Downstream photo of channel.
Roll #4, Frame #2A, Date: 2002/08/29



Site #31, Upstream photo of representative habitat.
Roll #4, Frame #3A, Date: 2002/08/29

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 11.0 ILP Map # 093M.020 ILP # 1450

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.020			ILP #: 1450		
REACH											
Reach #: 11.0		UTM(Zone/East/North): 9.685252.6119329				Sample Type: Biased					
Length (km): .33		Coupling: Decoupled		Magnitude: 2		BGC Zone: SBS					
Gradient (%): 0.0		Confinement: Unconfined		Order: 2		Open water: Absent					
US Elev (m): 860		Islands: NONE		Riparian Vegetation: Deciduous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 32		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/30			
Site Length (m): 100		GIS UTM 9.685320.6119279		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		1.98		1.600		2.3 6	
Stage: Low ☒				Wetted Width (m):		1.37		1.200		1.600 6	
Med ☐				Bankfull Depth (m):		0.47		0.4		0.5 3	
High ☐		Temp (C): 8		pH: 7.6		Conductivity: 80		Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Fines		D95 (cm): 25.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Cobble		D (cm): 5.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Decoupled				INDICATORS		☐		☐		☐	
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD LWD B U DP OV IV		Amount: T S T T T D T		Location: P/S/O: ☒		☒		☒	
LWD: Few										FSZ: ☐	
LWD Dist: Evenly Distributed											
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:										Vascular ☒	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093M.020	88021	CV	.9	GE	16	GE	R: 4	F: 5A	L:	#:	UTM (Z/E/N) 9.685405.6119
Comments: well placed culvert											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
32	EF	1	100	412 sec	800	RB	3	105	140		
32	EF	1	100	412 sec	800	PCC	5	130	185		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #	Site
11.0	093M.020	1450	32

Triton Environmental Consultants Ltd.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
11.0	093M.020	1450	32

PHOTOS					
Photo				Foc Lg	Dir
R:	4	F:	5A	STD	U
R:	4	F:	6A	STD	U
R:	4	F:	7A	STD	D
COMMENTS					
Section				Comments	
CHANNEL				S3	

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 11.0 ILP Map # 093M.020 ILP # 1450

WATERBODY															
Gazetted Name:										Local:					
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #: 093M.020		ILP #: 1450		Reach #: 11 -	
Project ID: 5271										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145269				Date: 2002/08/30				To: 2002/08/30		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
32	093M.020	40032				GPU EF 1	8	80	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
32	EF	1	2002/08/30	07:40	2002/08/30	08:13									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
32	EF	1	1	O	412	100.0	1.0	800	60	6	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
32	EF	1	1	PCC	A	5	130 185	R							
32	EF	1	1	RB	J	3	105 140	R							
INDIVIDUAL FISH DATA															
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment
								Str/Smpl#	Age		Str/Smpl#				
32	EF	1	1	PCC	185		U	U					4	4A	
32	EF	1	1	PCC	165		U	U							
32	EF	1	1	PCC	130		U	U							
32	EF	1	1	PCC	180		U	U							
32	EF	1	1	PCC	150		U	U							
32	EF	1	1	RB	105		U	U							
32	EF	1	1	RB	110		U	U							
32	EF	1	1	RB	140		U	U							



Site #32, Peamouth chub captured at site.
Roll #4, Frame #4A, Date: 2002/08/30



Site #32, Photo of well placed culvert.
Roll #4, Frame #5A, Date: 2002/08/30



Site #32, Upstream photo of channel.
Roll #4, Frame #6A, Date: 2002/08/30



Site #32, Downstream photo of cover.
Roll #4, Frame #7A, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.030 ILP # 1290

STREAM REFERENCING																																												
Gazetted Name:					Local Name:																																							
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093M.030		ILP #: 1290																																					
REACH																																												
Reach #: 1.0		UTM(Zone/East/North): 9.678277.6127403				Sample Type: Biased																																						
Length (km): .66		Coupling: Decoupled		Magnitude: 4		BGC Zone: SBS																																						
Gradient (%): 3.8		Confinement: Occasionally Conf		Order: 3		Open water: Absent																																						
US Elev (m): 1000		Islands: NONE		Riparian Vegetation: Coniferous																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 33		Field UTM 9.678466.6127275		Agency: C172		Crew: SG/JD		Date: 2002/08/30																																				
Site Length (m): 100		GIS UTM 9.678437.6127306		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☐ Intermittent: ☐		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>1.37</td> <td>1.200</td> <td>1.600</td> <td>6</td> </tr> <tr> <td>Wetted Width (m):</td> <td>0.87</td> <td>0.600</td> <td>1.200</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.50</td> <td>0.5</td> <td>0.5</td> <td>3</td> </tr> </tbody> </table>					Avg	Min	Max	#	Channel Width (m):	1.37	1.200	1.600	6	Wetted Width (m):	0.87	0.600	1.200	6	Bankfull Depth (m):	0.50	0.5	0.5	3	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Gradient %:</td> <td>1.25</td> <td>1</td> <td>2</td> <td>4</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.20</td> <td>0.100</td> <td>0.300</td> <td>6</td> </tr> </tbody> </table>					Avg	Min	Max	#	Gradient %:	1.25	1	2	4	Pool Depth (m):	0.20	0.100	0.300	6
	Avg	Min	Max	#																																								
Channel Width (m):	1.37	1.200	1.600	6																																								
Wetted Width (m):	0.87	0.600	1.200	6																																								
Bankfull Depth (m):	0.50	0.5	0.5	3																																								
	Avg	Min	Max	#																																								
Gradient %:	1.25	1	2	4																																								
Pool Depth (m):	0.20	0.100	0.300	6																																								
Dewatered: ☐ Tribes: ☐						Turbidity: Turbid ☐ Low ☐																																						
Stage: Low ☒						Moderate ☐ Clear ☒																																						
Med ☐																																												
High ☐		Temp (C): 8 pH: 7.6 Conductivity: 120																																										
MORPHOLOGY																																												
Bed Material: Dominant: Gravels		D95 (cm): 5.00		Bars: Non ☒		Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐		Braid ☐																																				
Subdominant: Fines		D (cm): 5.00																																										
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS																																								
Coupling: Decoupled				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>O1</td><td>B1</td><td>B2</td><td>B3</td><td>D1</td><td>D2</td><td>D3</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>						O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐																					
O1	B1	B2	B3	D1	D2	D3																																						
☐	☐	☐	☐	☐	☐	☐																																						
Confinement: Occasionally Confine				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>						C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐															
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																			
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																			
Morphology: RP Riffle Pool																																												
COVER																																												
Total Cover: Abundant		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td>T</td> <td>T</td> <td>N</td> <td>D</td> <td>T</td> <td>S</td> <td>N</td> </tr> </tbody> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	T	N	D	T	S	N																			
Type:	SWD	LWD	B	U	DP	OV	IV																																					
Amount:	T	T	N	D	T	S	N																																					
LWD: Few		Location: P/S/O: ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐																																										
LWD Dist: Evenly Distributed		FSZ: ☐																																										
Right Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		Crown Closure 1-20%																																								
Left Bank: Shape: Overhang		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐																																										
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest																																										
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒ Algae ☐ Moss ☐ Vascular ☐																																								
FISH																																												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																			
33	EF	1	200	324 sec	300	NFC	0																																					

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.030 ILP # 1290 Site 33

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093M.030 ILP #: 1290 NID Map #: 093M.030 NID #: 40033 Reach #: 1.0 Site #: 33
Field UTM (Z.E.N): 9.678466.6127275 Method: GPU Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.678437.6127306 Ref. Name:
Date: 2002/08/30 Time: 08:45 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.40	1.50	1.20	1.30	1.60	1.20					1.37	Method I:	1.0	2.0	C	1.25
Wetted Width (m):	MS	0.90	1.00	0.70	0.80	1.20	0.60					0.87	Method II:	1.0	1.0	C	
Pool Depth (m):	MS	0.20	0.30	0.20	0.20	0.10	0.20					0.20					

Wb Depth: .5 .5 .5 Avg: 0.50 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	N	D	T	S	N
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 120 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 5.00 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Moderate - gravels are abundant, flows adequate.
Rearing Habitat	Moderate - abundant cover, undercut banks, adequate flow and pool depths.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 4 F: 8A	STD	D	Downstream photo of riffle/pool habitat.
R: 4 F: 9A	STD	U	Upstream photo of channel substrates.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093M.030	1290	33

COMMENTS	
Section	Comments
CHANNEL	Beaver activity downstream may prevent fish access to this reach.
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093M.030	1290

Triton Environmental Consultants Ltd.



Site #33, Downstream photo of riffle/pool habitat.
Roll #4, Frame #8A, Date: 2002/08/30



Site #33, Upstream photo of channel substrates.
Roll #4, Frame #9A, Date: 2002/08/30

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
6.0	093M.020	1394

Triton Environmental Consultants Ltd.

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #	Site
6.0	093M.020	1394	34

Project Name: Babine and Tocha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Gazetted Name:			Local Name:		
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					
ILP Map#: 093M.020	ILP #: 1394	NID Map #: 093M.030	NID #: 40034	Reach #: 6.0	Site #: 34
Field UTM (Z.E.N): ..	Method:	Site Lg: 200	Method: MAP	Access: V2	
GIS UTM (Z.E.N): 9.681634.6122877			Ref. Name:		
Date: 2002/08/30	Time: 09:50	Agency: C172	Crew: JD/SG	Fish Crd?: ☒	Incomplete

	Mtd	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.40	1.60	1.50	1.70	1.60	1.50				1.55
Wetted Width (m):	MS			0.40	0.50	0.30	0.40				0.40
Pool Depth (m):	MS			0.10	0.05	0.10	0.05				0.08

	Gadient %	Mtd	Avg
Method I:	2.0	3.0	C
Method II:	2.0	1.0	C

Wb Depth: Avg: 0.40 Method: MS Stage: L ☒ M ☐ H ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	S	N	D	T
Loc: P/S/O:	☒ ☐ ☐	☒ ☐ ☐	☐ ☐ ☐	☒ ☐ ☐	☐ ☐ ☐	☒ ☐ ☐	☒ ☐ ☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE 1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

EMS: Temp: 10 pH: 7.8 Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #: Cond.: 100

Turb.: T ☐ M ☐ L ☐ C ☒

Method: S3
Method: GE

Bed Material:	Dominant: G	Subdom: C	<table border="1"> <tr> <td>O1</td><td>B1</td><td>B2</td><td>B3</td><td>D1</td><td>D2</td><td>D3</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>										O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐																					
O1	B1	B2	B3	D1	D2	D3																																									
☐	☐	☐	☐	☐	☐	☐																																									
D95: 20.0	D (cm): 5.00	Morph: RP	<table border="1"> <tr> <td colspan="7">DISTURBANCE INDICATORS</td> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5</td> </tr> <tr> <td colspan="7"></td> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>										DISTURBANCE INDICATORS							C1	C2	C3	C4	C5	S1	S2	S3	S4	S5								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
DISTURBANCE INDICATORS							C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																															
							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																														
Pattern: SI																																															
Islands: N																																															
Coupling: DC																																															
Confinement: OC																																															
FSZ: ☐			Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																												

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo				AirPhoto				UTM (Z/E/N)	Method
093M.030	88022	CV	1.4	GE	24	GE	R:	4	F:	10A	L:		#:		9.681554.6122845	GIS
Comments:		Partial barrier at low flows.														

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - fines and cobbles, low flows.
Rearing Habitat	Poor - low flows, dry sections, shallow pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
6.0	093M.020	1394	34

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	4	F:	10A	STD	U	Photo of culvert - partial barrier.
R:	4	F:	11A	STD	U	Upstream photo of channel substrates.
R:	4	F:	12A	STD	D	Downstream photo of dry channel.
COMMENTS						
Section				Comments		
CHANNEL				Wetland downstream may limit upstream fish migration.		
CHANNEL				S3		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
6.0	093M.020	1394

Triton Environmental Consultants Ltd.



Site #34, Photo of culvert - partial barrier.
Roll #4, Frame #10A, Date: 2002/08/30



Site #34, Upstream photo of channel substrates.
Roll #4, Frame #11A, Date: 2002/08/30



Site #34, Downstream photo of dry channel.
Roll #4, Frame #12A, Date: 2002/08/30

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 4.0 ILP Map # 093M.020 ILP # 1394 Site 35

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Local Name:
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.020 ILP #: 1394 NID Map #: 093M.030 NID #: 40035 Reach #: 4.0 Site #: 35
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: HC Access: V2
GIS UTM (Z.E.N): 9.681432.6122158 Ref. Name:
Date: 2002/08/30 Time: 10:34 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.60	1.90	1.40	1.60	1.50	1.70					1.62	Method I:	1.0	2.0	C	1.25
Wetted Width (m):	MS	1.00	1.20	0.60	1.10	0.80	0.70					0.90	Method II:	1.0	1.0	C	
Pool Depth (m):	MS	0.20	0.30	0.10	0.20	0.10	0.30					0.20					

Wb Depth: .4 .4 .4 Avg: 0.40 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	S	T	D	T
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 12 Method: T4 Req #: Cond.: 100 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 25.0 D (cm): 8.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093M.030	88023	CV	1.8	GE	24	GE	R: 4 F: 13A L:	#:	9.681353.6122253	GIS

Comments: Well placed culvert.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - fines and cobbles limit spawning potential.
Rearing Habitat	Moderate - low flows and shallow depth limit production.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
4.0	093M.020	1394	35

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	4	F:	13A	STD	U	Photo of well placed culvert.
R:	4	F:	14A	STD	U	Upstream photo of overstream vegetation.
R:	4	F:	15A	STD	D	Downstream photo of representative habitat.
COMMENTS						
Section				Comments		
CHANNEL				Low wetland may limit upstream fish migration.		
CHANNEL				S3*		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
4.0	093M.020	1394

WATERBODY																	
Gazetted Name:					Local:												
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0																	
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																	
Waterbody ID:					ILP Map #: 093M.020					ILP #:		1394		Reach #:		4 -	
Project ID: 5271					Lake/Stream: S					Lake From Date:							
Fish Permit #:		145269		Date: 2002/08/30		To: 2002/08/30		Agency: C172		Crew: JD/SG		Resample: ☐					
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
35	093M.030	40035				GPU EF 1	12	100	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
35	EF	1	1	2002/08/30	10:34	2002/08/30	10:52										
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
35	EF		1	1	O	345	300.0	0.8	400	60	6	SMITH ROOT	12B				
FISH SUMMARY																	
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
35	EF		1	1	NFC		0										



Site #35, Photo of well placed culvert.
Roll #4, Frame #13A, Date: 2002/08/30



Site #35, Upstream photo of overstream vegetation.
Roll #4, Frame #14A, Date: 2002/08/30



Site #35, Downstream photo of representative habitat.
Roll #4, Frame #15A, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1119

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.029			ILP #: 1119		
REACH											
Reach #: 3.0		UTM(Zone/East/North): 9.676965.6122342				Sample Type: Biased					
Length (km): 1.68		Coupling: Partially Couple		Magnitude: 7		BGC Zone: SBS					
Gradient (%): 3.0		Confinement: Occasionally Conf		Order: 3		Open water: Absent					
US Elev (m): 960		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 36		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/30			
Site Length (m): 100		GIS UTM 9.676423.6123567		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		1.70		1.5		1.9 6	
Stage: Low ☒				Wetted Width (m):		1.08		0.800		1.3 6	
Med ☐				Bankfull Depth (m):		0.53		0.4		0.6 3	
High ☐		Temp (C): 10		pH: 7.8		Conductivity: 90					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Cobble		D (cm): 8.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Partially Coupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD LWD B U DP OV IV									
LWD: Few		Amount: S S N S T D T									
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure 1-20%	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☐		Vascular ☒	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093M.029	88024	CV	1.2	GE	16	GE	R: 4	F: 16A	L:	#:	9.676343.6123
Comments:											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
36	EF	1	100	106 sec	500	RB	16	65	140		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1119 Site 36

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.029 ILP #: 1119 NID Map #: 093M.029 NID #: 40036 Reach #: 3.0 Site #: 36
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V4
GIS UTM (Z.E.N): 9.676423.6123567 Ref. Name:
Date: 2002/08/30 Time: 11:15 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.60	1.80	1.70	1.70	1.50	1.90					1.70	Method I:	2.0	3.0	C	2.50
Wetted Width (m):	MS	1.00	1.20	1.00	0.80	1.30	1.20					1.08	Method II:	3.0	2.0	C	
Pool Depth (m):	MS	0.20	0.20	0.30	0.20	0.10	0.30					0.22					

Wb Depth: .4 .6 .6 Avg: 0.53 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	S	S	N	S	T	D	T
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 90 Method: S3
pH: 7.8 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Rafted debris Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 8.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093M.029	88024	CV	1.2	GE	16	GE	R: 4 F: 16A L:	#:	9.676343.6123683	GIS

Comments:

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Moderate - abundant gravels suitable for spawning.
Rearing Habitat	Moderate - abundant cover and pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093M.029	1119	36

PHOTOS					
Photo				Foc Lg	Dir
R:	4	F:	16A	STD	U
R:	4	F:	17A	STD	U
R:	4	F:	18A	STD	D
COMMENTS					
Section				Comments	
CHANNEL				RB captured.	
CHANNEL				S3	

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093M.029	1119

Triton Environmental Consultants Ltd.



Site #36, Photo of culvert - possible velocity barrier.
Roll #4, Frame #16A, Date: 2002/08/30



Site #36, Upstream photo of spanning LWD.
Roll #4, Frame #17A, Date: 2002/08/30



Site #36, Downstream photo of gravel substrates.
Roll #4, Frame #18A, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.029 ILP # 1123

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.029		ILP #: 1123			
REACH											
Reach #: 1.0		UTM(Zone/East/North): 9.675235.6124089				Sample Type: Biased					
Length (km): .83		Coupling: Partially Couple		Magnitude: 4		BGC Zone: SBS					
Gradient (%): 6.3		Confinement: Occasionally Conf		Order: 3		Open water: Absent					
US Elev (m): 940		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 37		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/30			
Site Length (m): 200		GIS UTM 9.675248.6124212		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		1.70		1.5		1.9 6	
Stage: Low ☒				Wetted Width (m):		0.82		0.600		1 6	
Med ☐				Bankfull Depth (m):		0.53		0.5		0.6 3	
High ☐		Temp (C): 10		pH: 7.6		Conductivity: 80					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Cobble		D (cm): 10.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Partially Coupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1		C2		C3		C4 C5 S1 S2 S3 S4 S5	
Morphology: CP Cascade Pool				☐		☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP OV IV	
LWD: Few		Amount: T		S		N		T		N D N	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☐		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure 1-20%	
Left Bank: Rip.Veg:		Stage: Mature forest						Instream Veg: None ☒		Algae ☐ Moss ☐ Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093M.029	88025	BR	1.0	GE	10	GE	R: 4	F: 19A	L: #:		9.675232.6124
Comments: Bridge											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
37	EF	1	200	100 sec	500	NFC	0				

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.029 ILP # 1123 Site 37

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000
ILP Map #: 093M.029 ILP #: 1123 NID Map #: 093M.029 NID #: 40037 Reach #: 1.0 Site #: 37
Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: HC Access: V4
GIS UTM (Z.E.N): 9.675248.6124212 Ref. Name:
Date: 2002/08/30 Time: 12:02 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.60	1.70	1.70	1.80	1.50	1.90					1.70	Method I:	5.0	6.0	C	5.00
Wetted Width (m):	MS	1.00	0.90	0.80	0.70	0.60	0.90					0.82	Method II:	3.0	6.0	C	
Pool Depth (m):	MS	0.10	0.10	0.10	0.10	0.20	0.10					0.12					

Wb Depth:	.5	.5	.6	Avg: 0.53	Method: MS	Stage: L ☒ M ☐ H ☐	No Vis.Ch.: ☐ Intermittent: ☒
							Dw: ☐ Tribs.: ☐

Wb Depth: .5 .5 .6 Avg: 0.53

Method: MS

Stage: L ☒ M ☐ H ☐

No Vis.Ch.: ☐ Intermittent: ☒
Dw: ☐ Tribs.: ☐

COVER

Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	T	N	D	N
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☐

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F

DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

RIP: C

STG: MF

STG: MF

WATER

EMS:
Temp: 10
pH: 7.6
Flood Signs: Rafted Debris

Method: T4
Method: P2
Method: GE

Req #: Cond.: 80 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C
D95: 15.0 D (cm): 10.00 Morph: CP
Pattern: SI
Islands: N
Coupling: PC
Confinement: OC
FSZ: ☐

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093M.029	88025	BR	1.0	GE	10	GE	R: 4 F: 19A L:	#:	9.675232.6124302	GIS

Comments: Bridge

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - substrates large, small pockets of suitable gravel.
Rearing Habitat	Poor - shallow residual pools, isolated sections of stream.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	1.0	093M.029	1123	37

PHOTOS					
Photo			Foc Lg	Dir	Comments
R:	4	F: 19A	STD	U	Bridge crossing.
R:	4	F: 20A	STD	U	Upstream photo of channel.
R:	4	F: 21A	STD	D	Downstream photo of channel.
COMMENTS					
Section			Comments		
CHANNEL			S3		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093M.029	1123

WATERBODY													
Gazetted Name:							Local:						
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093M.029				ILP #:		1123		Reach #: 1 -	
Project ID: 5271								Lake/Stream: S		Lake From Date:			
Fish Permit #:		145269		Date: 2002/08/30		To: 2002/08/30		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
37	093M.029	40037				GPU EF 1	10	80	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
37	EF 1	1	2002/08/30	12:02	2002/08/30	12:30							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
37	EF	1	1	O	100	200.0	0.8	500	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
37	EF	1	1	NFC		0							



Site #37, Bridge crossing.
Roll #4, Frame #19A, Date: 2002/08/30



Site #37, Upstream photo of channel.
Roll #4, Frame #20A, Date: 2002/08/30



Site #37, Downstream photo of channel.
Roll #4, Frame #21A, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #

2.0 093M.020 1429

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.020		ILP #: 1429			
REACH											
Reach #: 2.0		UTM(Zone/East/North): 9.684531.6116845				Sample Type: Biased					
Length (km): 2.96		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS					
Gradient (%): 1.4		Confinement: Occasionally Conf		Order: 1		Open water: Absent					
US Elev (m): 860		Islands: NONE		Riparian Vegetation: Coniferous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 38		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/30			
Site Length (m): 100		GIS UTM 9.684648.6116580		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.42		1.3		1.600		6	
Stage: Low ☒				Wetted Width (m): 0.50		0.400		0.600		6	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.5		3	
High ☐		Temp (C): 10		pH: 7.6		Conductivity: 60					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Fines		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Cobble		D (cm): 2.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Decoupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1		C2		C3		C4	
Morphology: RP Riffle Pool				C5		S1		S2		S3	
				S4		S5					
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		S		N		T		N	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒		☐	
										FSZ: ☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest								Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest								1-20%	
										Instream Veg: None ☐	
										Algae ☐	
										Moss ☐	
										Vascular ☒	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093M.020	88026	CV	.6	GE	20	GE	R: 4	F: 22A	L:	#:	UTM (Z/E/N)
Comments: Partial barrier.											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
38	EF	1	100	102 sec	700	RB	1	65	65		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093M.020 ILP # 1429 Site 38

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.020 ILP #: 1429 NID Map #: 093M.020 NID #: 40038 Reach #: 2.0 Site #: 38
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.684648.6116580 Ref. Name:
Date: 2002/08/30 Time: 12:57 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.60	1.40	1.30	1.50	1.40	1.30					1.42	Method I:	1.0	1.0	C	1.00
Wetted Width (m):	MS	0.60	0.40	0.50	0.60	0.50	0.40					0.50	Method II:	1.0	1.0	C	
Pool Depth (m):	MS	0.10	0.10	0.05	0.10	0.10	0.10					0.09					

Wb Depth: .5 .3 .3 Avg: 0.37 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	T	N	D	T
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 2.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093M.020	88026	CV	.6	GE	20	GE	R: 4 F: 22A L:	#:	9.684643.6116469	GIS

Comments: Partial barrier.

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - gravels mixed with fines.
Rearing Habitat	Poor - shallow residual pools, low flows, stagnant water.

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000	2.0	093M.020	1429	38

PHOTOS					
Photo		Foc Lg	Dir	Comments	
R:	4	F: 22A	STD	U	Photo of culvert partial barrier.
R:	4	F: 23A	STD	D	Downstream photo of channel.
R:	4	F: 24A	STD	U	Upstream photo of channel.
COMMENTS					
Section		Comments			
CHANNEL		RB captured.			
CHANNEL		S4			

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093M.020 ILP # 1429

WATERBODY															
Gazetted Name:										Local:					
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #: 093M.020		ILP #: 1429		Reach #: 2 -	
Project ID: 5271										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145269		Date: 2002/08/30		To: 2002/08/30		Agency: C172		Crew: JD/SG		Resample: ☐					
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
38	093M.020	40038				GPU EF 1	10	60	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
38	EF	1	2002/08/30	12:57	2002/08/30	13:20									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
38	EF	1	1	O	102	100.0	0.5	700	60	6	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
38	EF	1	1	RB	J	1	65 65	R							
INDIVIDUAL FISH DATA															
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age	Vch#	Genetic	Roll #	Frame#	Comment		
								Str/Smpl#		Str/Smpl#					
38	EF	1	1	RB	65		U	U							



Site #38, Photo of culvert partial barrier.
Roll #4, Frame #22A, Date: 2002/08/30



Site #38, Downstream photo of channel.
Roll #4, Frame #23A, Date: 2002/08/30



Site #38, Upstream photo of channel.
Roll #4, Frame #24A, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

5.0 093M.020 1404

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.020			ILP #: 1404		
REACH											
Reach #: 5.0		UTM(Zone/East/North): 9.680696.6115995				Sample Type: Biased					
Length (km): 1.73		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS					
Gradient (%): 6.0		Confinement: Occasionally Conf		Order: 1		Open water: Absent					
US Elev (m): 1023		Islands: NONE		Riparian Vegetation: Deciduous							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 39		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/08/30			
Site Length (m): 100		GIS UTM 9.681563.6115390		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max		#	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.12		0.9		1.3		6	
Stage: Low ☒				Wetted Width (m): 0.55		0.5		0.600		4	
Med ☐				Bankfull Depth (m): 0.40		0.4		0.4		3	
High ☐		Temp (C): 10		pH: 7.4		Conductivity: 60					
								Turbidity: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Cobble		D (cm): 5.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2	
Coupling: Decoupled				INDICATORS		☐		☐		☐	
Confinement: Occasionally Confine				C1		C2		C3		C4	
Morphology: RP Riffle Pool				C5		S1		S2		S3	
										S4	
										S5	
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		S		N		S		N	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒		☐	
										FSZ: ☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Deciduous				Stage: Pole-sapling stage						Crown Closure	
Left Bank: Rip.Veg:				Stage: Pole-sapling stage						1-20%	
				Instream Veg: None ☐		Algae ☐		Moss ☐		Vascular ☒	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo			AirPhoto	
093M.020	88027	CV	.8	GE	16	GE	R: 4	F: 25A	L:	#:	UTM (Z/E/N)
Comments: well placed (photo Roll 5 Frame 01)											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
39	EF	1	200	262 sec	700	NFC	0				

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 5.0 ILP Map # 093M.020 ILP # 1404 Site 39

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093M.020 ILP #: 1404 NID Map #: 093M.020 NID #: 40039 Reach #: 5.0 Site #: 39
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.681563.6115390 Ref. Name:
Date: 2002/08/30 Time: 13:35 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.10	1.20	1.00	1.30	0.90	1.20					1.12	Method I:	2.0	2.0	C	1.50
Wetted Width (m):	MS	0.60	0.50	0.60			0.50					0.55	Method II:	1.0	1.0	C	
Pool Depth (m):	MS	0.30	0.20	0.10			0.20					0.20					

Wb Depth: .4 .4 .4 Avg: 0.40 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	S	N	D	T
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 60 Method: S3
pH: 7.4 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

FEATURES

NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)	Method
093M.020	88027	CV	.8	GE	16	GE	R: 4 F: 25A L:	#:	9.681479.6115427	GIS

Comments: well placed (photo Roll 5 Frame 01)

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None
Spawning Habitat	Poor - low flows, limited substrates
Rearing Habitat	Poor - intermittent flow, shallow residual pools.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
5.0	093M.020	1404	39

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	4	F:	25A	STD	U	Photo of culvert.
R:	5	F:	01	STD	U	Photo of culvert.
R:	5	F:	02	STD	U	Upstream photo of channel.
R:	5	F:	03	STD	D	Downstream photo of LWD and cover.
COMMENTS						
Section				Comments		
CHANNEL				S4*		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
5.0	093M.020	1404

WATERBODY													
Gazetted Name:							Local:						
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093M.020				ILP #:		1404		Reach #: 5 -	
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #:		145269		Date: 2002/08/30		To: 2002/08/30		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
39	093M.020	40039				GPU EF 1	10	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
39	EF 1	1	2002/08/30	13:35	2002/08/30	13:52							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
39	EF	1	1	O	262	200.0	0.6	700	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
39	EF	1	1	NFC		0							



Site #39, Photo of culvert.
Roll #4, Frame #25A, Date: 2002/08/30



Site #39, Photo of culvert.
Roll #5, Frame #01, Date: 2002/08/30



Site #39, Upstream photo of channel.
Roll #5, Frame #02, Date: 2002/08/30



Site #39, Downstream photo of LWD and cover.
Roll #5, Frame #03, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.020 ILP # 1408

STREAM REFERENCING																																												
Gazetted Name:						Local Name:																																						
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.020		ILP #:		1408																																		
REACH																																												
Reach #: 3.0		UTM(Zone/East/North): 9.681167.6115969				Sample Type: Biased																																						
Length (km): 1.07		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS																																						
Gradient (%): 5.6		Confinement: Occasionally Conf		Order: 1		Open water: Absent																																						
US Elev (m): 980		Islands: NONE		Riparian Vegetation: Not Specified																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 40		Field UTM 9.681694.6115538		Agency: C172		Crew: SG/JD		Date: 2002/08/30																																				
Site Length (m): 100		GIS UTM 9.681854.6115517		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☒		Intermittent: ☐		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Wetted Width (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>				Avg	Min	Max	#	Channel Width (m):	0.00	0	0	0	Wetted Width (m):	0.00	0	0	0	Bankfull Depth (m):	0.00	0	0	0	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Gradient %:</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>				Avg	Min	Max	#	Gradient %:	0.00	0	0	0	Pool Depth (m):	0.00	0	0	0
Avg	Min	Max	#																																									
Channel Width (m):	0.00	0	0	0																																								
Wetted Width (m):	0.00	0	0	0																																								
Bankfull Depth (m):	0.00	0	0	0																																								
Avg	Min	Max	#																																									
Gradient %:	0.00	0	0	0																																								
Pool Depth (m):	0.00	0	0	0																																								
Dewatered: ☐		Tribes: ☐																																										
Stage: Low ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐																																				
Med ☐								Moderate ☐ Clear ☐																																				
High ☐																																												
MORPHOLOGY																																												
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐		Mid-channel ☐																																		
Subdominant:		D (cm):								Span ☐																																		
Channel Pattern:		Islands:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">DISTURBANCE INDICATORS</th> <th>O1</th> <th>B1</th> <th>B2</th> <th>B3</th> <th>D1</th> <th>D2</th> <th>D3</th> </tr> </thead> <tbody> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>C4</td> <td>C5</td> <td>S1</td> <td>S2</td> <td>S3</td> <td>S4</td> <td>S5</td> </tr> </tbody> </table>								DISTURBANCE INDICATORS			O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5													
DISTURBANCE INDICATORS			O1	B1	B2	B3	D1	D2	D3																																			
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																			
Coupling:																																												
Confinement:																																												
Morphology:																																												
COVER																																												
Total Cover:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:								FSZ: ☐																		
Type:	SWD	LWD	B	U	DP	OV	IV																																					
Amount:																																												
LWD:																																												
LWD Dist:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Location: P/S/O:</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								Location: P/S/O:																																		
Location: P/S/O:																																												
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐																																		
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐																																		
Right Bank: Rip.Veg:		Stage:																																										
Left Bank: Rip.Veg:		Stage:		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐																																								

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #	Site
3.0	093M.020	1408	40

Triton Environmental Consultants Ltd.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #3.0

ILP Map #093M.020

ILP #1408

Site40

COMMENTS	
Section	Comments
CHANNEL	No evidence of scour of alluvial substrates. No channel - No Visible Channel.



Site #40, Upslope photo of a vegetated seepage.
Roll #5, Frame #04, Date: 2002/08/30



Site #40, Downslope photo of a vegetated seepage.
Roll #5, Frame #05, Date: 2002/08/30

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #
3.0 093M.029 1141

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093M.029		ILP #: 1141		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.672410.6126144				Sample Type: Biased			
Length (km): .33		Coupling: Decoupled		Magnitude: 7		BGC Zone: SBS			
Gradient (%): 4.8		Confinement: Occasionally Conf		Order: 3		Open water: Absent			
US Elev (m): 916		Islands: NONE		Riparian Vegetation: Deciduous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 53		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/09/28	
Site Length (m): 200		GIS UTM 9.672395.6126326		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐ Intermittent: ☐									
Dewatered: ☐ Tribes.: ☐									
Stage: Low ☒		Avg		Min		Max		#	
Med ☐		Channel Width (m): 1.68		1.5		1.9		6	
High ☐		Wetted Width (m): 1.00		0.800		1.200		6	
Temp (C): 10		Bankfull Depth (m): 0.43		0.4		0.5		3	
pH: 8.0									
Conductivity: 100									
Turbidity: Turbid ☐								Low ☐	
Moderate ☐								Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Cobble		D (cm): 8.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☐	
		☐		☐		☐		☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Mature forest							
Left Bank: Rip.Veg:		Stage: Mature forest							
		Instream Veg: None ☐		Algae ☐		Moss ☐		Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
53	EF	1	200	362 sec	400	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1141 Site 53

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.029 ILP #: 1141 NID Map #: 093M.029 NID #: 40053 Reach #: 3.0 Site #: 53
Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: GE Access: H
GIS UTM (Z.E.N): 9.672395.6126326 Ref. Name:
Date: 2002/09/28 Time: 09:00 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	T	1.60	1.80	1.70	1.90	1.50	1.60					1.68	Method I:	4.0	3.0	C	4.00
Wetted Width (m):	T	1.10	1.00	0.80	1.20	1.10	0.80					1.00	Method II:	4.0	5.0	C	
Pool Depth (m):	T	0.10	0.20	0.20	0.10	0.20	0.10					0.15					

Wb Depth: .4 .4 .5 Avg: 0.43 Method: T Stage: L ☒ M ☐ H ☐
No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	D	N	S	T
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: MF

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: MF

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 100 Method: S3
pH: 8.0 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 8.00 Morph: RP DISTURBANCE INDICATORS
Pattern: S1 C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - substrates poor quality for resident fish.
Rearing Habitat	Poor - shallow overall depth, low flows.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 7 F: 17A	STD	U	Upstream photo of riffle / pool habitat.
R: 7 F: 18A	STD	D	Downstream photo of pool habitat.

FDIS Site Card

Tochcha Lake Planning Area

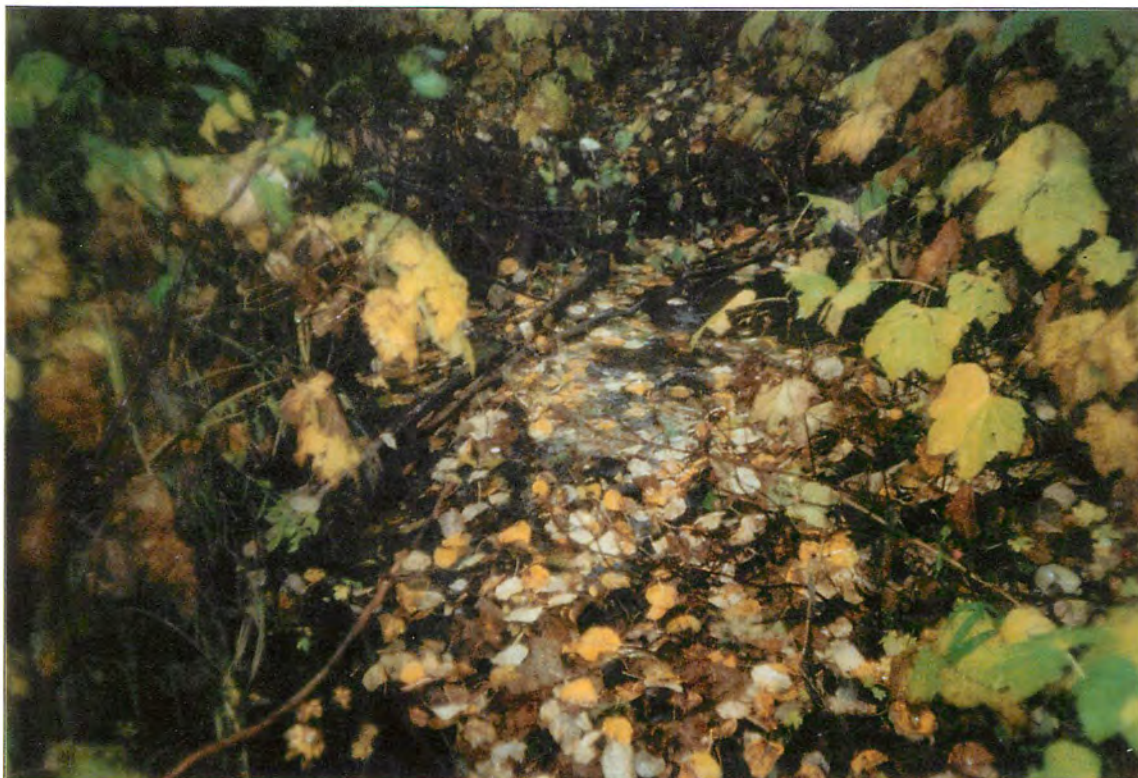
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	3.0	093M.029	1141	53

COMMENTS	
Section	Comments
CHANNEL	Beaver activity downstream may limit access to this reach.
CHANNEL	S3*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093M.029	1141

Triton Environmental Consultants Ltd.



Site #53, Upstream photo of riffle / pool habitat.
Roll #7, Frame #17A, Date: 2002/09/28



Site #53, Downstream photo of pool habitat.
Roll #7, Frame #18A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1182

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093M.029		ILP #: 1182		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.677219.6127116				Sample Type: Biased			
Length (km): .75		Coupling: Partially Couple		Magnitude: 4		BGC Zone: SBS			
Gradient (%): 6.4		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 944		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 54		Field UTM 9.677020.6126597		Agency: C172		Crew: SG/JD		Date: 2002/09/28	
Site Length (m): 200		GIS UTM 9.677026.6126609		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		0.90		0.600	
Stage: Low ☒				Wetted Width (m):		0.58		0.300	
Med ☐				Bankfull Depth (m):		0.33		0.3	
High ☐		Temp (C): 6		pH: 8.0		Conductivity: 80			
						Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Cobble		D (cm): 5.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Partially Coupled				INDICATORS		B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		T		D	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☒		☒	
		☒		☒		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest							
Left Bank: Rip.Veg:		Stage: Mature forest							
				Instream Veg: None ☐		Algae ☐		Moss ☒	
								Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
54	EF	1	200	280 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1182 Site 54

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000
Local Name: ILP Map #: 093M.029 ILP #: 1182 NID Map #: 093M.029 NID #: 40054 Reach #: 3.0 Site #: 54
Field UTM (Z.E.N): 9.677020.6126597 Method: GPU Site Lg: 200 Method: MAP Access: H
GIS UTM (Z.E.N): 9.677026.6126609 Ref. Name:
Date: 2002/09/28 Time: 10:20 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	T	1.20	0.60	0.80	1.00	1.10	0.70					0.90	Method I:	6.0	7.0	C	6.00
Wetted Width (m):	T	0.50	0.30	0.70	0.80	0.70	0.50					0.58	Method II:	6.0	5.0	C	
Pool Depth (m):	T	0.10	0.10	0.10	0.10	0.10	0.10					0.10					

Wb Depth: .3 .4 .3 Avg: 0.33 Method: T Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribes: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	T	D	N	S	T
Loc: P/S/O:	☒	☒	☒	☒	☐	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 6 Method: T4 Req #: Cond.: 80 Method: S3
pH: 8.0 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: PC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor.
Rearing Habitat	Poor.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 7 F: 19A	STD	U	Upstream photo of moss covered substrates.
R: 7 F: 20A	STD	D	Downstream photo of pool habitat.

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093M.029	1182

Triton Environmental Consultants Ltd.



Site #54, Upstream photo of moss covered substrates.
Roll #7, Frame #19A, Date: 2002/09/28



Site #54, Downstream photo of pool habitat.
Roll #7, Frame #20A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

3.0 093M.029 1181

STREAM REFERENCING

Gazetted Name:

Local Name:

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

ILP Map #: 093M.029

ILP #: 1181

REACH

Reach #: 3.0 UTM(Zone/East/North): 9.676542.6127576 Sample Type: Biased
 Length (km): 1.85 Coupling: Decoupled Magnitude: 6 BGC Zone: SBS
 Gradient (%): 3.1 Confinement: Occasionally Conf Order: 2 Open water: Absent
 US Elev (m): 937 Islands: NONE Riparian Vegetation: Coniferous
 Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified

SITE

Site #: 55 Field UTM .. Agency: C172 Crew: JD/SG Date: 2002/09/28
 Site Length (m): 300 GIS UTM 9.676513.6127155 Agency Name: Triton Environmental Consultants (Terrace)

CHANNEL

No Vis.Ch.: ☐ Intermittent: ☐ Avg Min Max #
 Dewatered: ☐ Tribs.: ☐ Channel Width (m): 1.28 1.100 1.5 6
 Stage: Low ☒ Wetted Width (m): 0.98 0.800 1.100 6
 Med ☐ Bankfull Depth (m): 0.30 0.2 0.4 3
 High ☐ Temp (C): 7 pH: 8.0 Conductivity: 80
 Gradient %: 1.00 1 1 4
 Pool Depth (m): 0.15 0.100 0.200 6
 Turbidity: Turbid ☐ Low ☐
 Moderate ☐ Clear ☒

MORPHOLOGY

Bed Material: Dominant: Gravels D95 (cm): 10.00 Bars: Non ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐
 Subdominant: Cobble D (cm): 5.00 Braid ☐
 Channel Pattern: Sinuous Islands: None DISTURBANCE O1 B1 B2 B3 D1 D2 D3
 Coupling: Decoupled INDICATORS ☐ ☐ ☐ ☐ ☐ ☐ ☐
 Confinement: Unconfined C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
 Morphology: RP Riffle Pool ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

COVER

Total Cover: Abundant
 LWD: Abundant
 LWD Dist: Evenly Distributed
 Type: SWD LWD B U DP OV IV
 Amount: T S N D N S T
 Location: P/S/O: ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ FSZ: ☐
 Right Bank: Shape: Overhang Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐ Crown Closure
 Left Bank: Shape: Overhang Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐ 1-20%
 Right Bank: Rip.Veg: Coniferous Stage: Mature forest
 Left Bank: Rip.Veg: Stage: Mature forest Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒

FISH

Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
55	EF	1	300	316 sec	500	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.029 ILP # 1181 Site 55

PROJECT																																					
Project Name: Babine and Tochcha										Project Code: 5271																											
Stream Name (gaz.): SAKENICHE RIVER																																					
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000																																					
WATERSHED																																					
Gazetted Name:										Local Name:																											
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000																																					
ILP Map#: 093M.029		ILP #: 1181		NID Map #: 093M.029		NID #: 40055		Reach #: 3.0		Site #: 55																											
Field UTM (Z.E.N): ..				Method:		Site Lg: 300		Method: GIS		Access: H																											
GIS UTM (Z.E.N): 9.676513.6127155						Ref. Name:																															
Date: 2002/09/28		Time: 11:23		Agency: C172		Crew: JD/SG		Fish Crd?: ☒		Incomplete: ☐																											
CHANNEL																																					
										<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Gradient %</th> <th colspan="2">Mtd</th> <th colspan="2">Avg</th> </tr> </thead> <tbody> <tr> <td colspan="2">Method I:</td> <td>1.0</td> <td>1.0</td> <td colspan="2">C</td> <td colspan="2">1.00</td> </tr> <tr> <td colspan="2">Method II:</td> <td>1.0</td> <td>1.0</td> <td colspan="2">C</td> <td colspan="2"></td> </tr> </tbody> </table>						Gradient %		Mtd		Avg		Method I:		1.0	1.0	C		1.00		Method II:		1.0	1.0	C			
		Gradient %		Mtd		Avg																															
Method I:		1.0	1.0	C		1.00																															
Method II:		1.0	1.0	C																																	
Channel Width (m):		T	1.30	1.20	1.40	1.10	1.50	1.20					1.28																								
Wetted Width (m):		T	1.00	1.10	1.00	0.90	0.80	1.10					0.98																								
Pool Depth (m):		T	0.10	0.20	0.20	0.10	0.20	0.10					0.15																								
Wb Depth:		.3	.2	.4	Avg: 0.30		Method: T		Stage: L ☒ M ☐ H ☐		No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐																										
COVER <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td>T</td> <td>S</td> <td>N</td> <td>D</td> <td>N</td> <td>S</td> <td>T</td> </tr> <tr> <td>Loc: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☒</td> </tr> </tbody> </table> Total: A LWD: A LB SHP: O Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: C STG: MF DIST: E RB SHP: O Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: C STG: MF														Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	S	N	D	N	S	T	Loc: P/S/O:	☒	☒	☐	☐	☐	☒	☒
Type:	SWD	LWD	B	U	DP	OV	IV																														
Amount:	T	S	N	D	N	S	T																														
Loc: P/S/O:	☒	☒	☐	☐	☐	☒	☒																														

CROWN CLOSURE
1 1-20%
INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #3.0

ILP Map #093M.029

ILP #1181

Site55

COMMENTS	
Section	Comments
CHANNEL	Stream not mapped correctly, flows into beaver pond ILP 1186. Beaver activity may restrict fish access.
CHANNEL	S4*

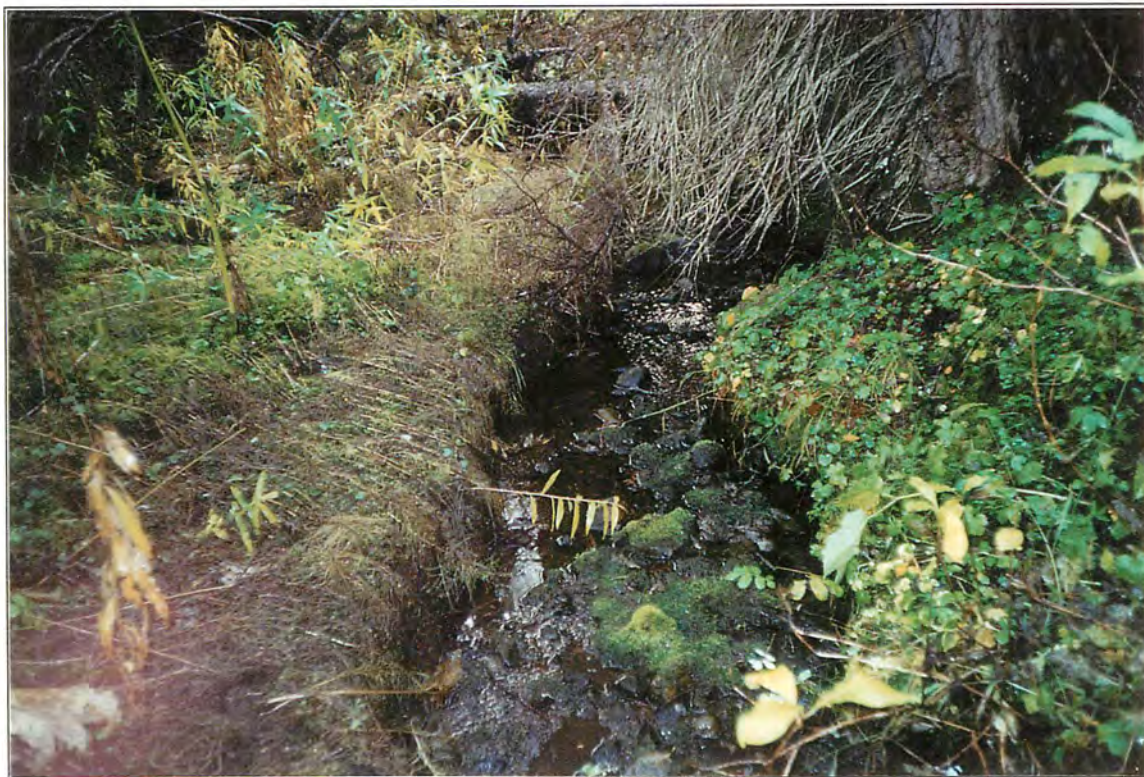
Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
3.0	093M.029	1181

Triton Environmental Consultants Ltd.



Site #55, Upstream photo of pool habitat.
Roll #7, Frame #21A, Date: 2002/09/28



Site #55, Downstream photo of riffle habitat.
Roll #7, Frame #22A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
5.0 093M.029 1181

STREAM REFERENCING																																															
Gazetted Name:						Local Name:																																									
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000						ILP Map #: 093M.029		ILP #: 1181																																							
REACH																																															
Reach #: 5.0		UTM(Zone/East/North): 9.675610.6129354				Sample Type: Biased																																									
Length (km): .42		Coupling: Partially Couple		Magnitude: 3		BGC Zone: SBS																																									
Gradient (%): 2.1		Confinement: Occasionally Conf		Order: 2		Open water: Absent																																									
US Elev (m): 1030		Islands: NONE		Riparian Vegetation: Not Specified																																											
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																															
SITE																																															
Site #: 56		Field UTM 9.675616.6129150		Agency: C172		Crew: SG/JD		Date: 2002/09/28																																							
Site Length (m): 100		GIS UTM 9.675661.6129086		Agency Name: Triton Environmental Consultants (Terrace)																																											
CHANNEL																																															
No Vis.Ch.: ☒		Intermittent: ☐		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Wetted Width (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>					Avg	Min	Max	#	Channel Width (m):	0.00	0	0	0	Wetted Width (m):	0.00	0	0	0	Bankfull Depth (m):	0.00	0	0	0	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Gradient %:</td> <td>1.25</td> <td>1</td> <td>2</td> <td>4</td> </tr> <tr> <td>Pool Depth (m):</td> <td>0.00</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>					Avg	Min	Max	#	Gradient %:	1.25	1	2	4	Pool Depth (m):	0.00	0	0	0	
	Avg	Min	Max	#																																											
Channel Width (m):	0.00	0	0	0																																											
Wetted Width (m):	0.00	0	0	0																																											
Bankfull Depth (m):	0.00	0	0	0																																											
	Avg	Min	Max	#																																											
Gradient %:	1.25	1	2	4																																											
Pool Depth (m):	0.00	0	0	0																																											
Dewatered: ☐		Tribes: ☐																																													
Stage: Low ☐								Turbidity: Turbid ☐ Low ☐																																							
Med ☐								Moderate ☐ Clear ☐																																							
High ☐		Temp (C):		pH:		Conductivity:																																									
MORPHOLOGY																																															
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐																																					
Subdominant:		D (cm):								Braid ☐																																					
Channel Pattern:		Islands:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">DISTURBANCE INDICATORS</th> <th>O1</th> <th>B1</th> <th>B2</th> <th>B3</th> <th>D1</th> <th>D2</th> <th>D3</th> </tr> </thead> <tbody> <tr> <td>Coupling:</td> <td></td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Confinement:</td> <td></td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Morphology:</td> <td></td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>								DISTURBANCE INDICATORS		O1	B1	B2	B3	D1	D2	D3	Coupling:		☐	☐	☐	☐	☐	☐	☐	Confinement:		☐	☐	☐	☐	☐	☐	☐	Morphology:		☐	☐	☐	☐	☐	☐	☐
DISTURBANCE INDICATORS		O1	B1	B2	B3	D1	D2	D3																																							
Coupling:		☐	☐	☐	☐	☐	☐	☐																																							
Confinement:		☐	☐	☐	☐	☐	☐	☐																																							
Morphology:		☐	☐	☐	☐	☐	☐	☐																																							
COVER																																															
Total Cover:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Location: P/S/O:</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:								Location: P/S/O:	☐	☐	☐	☐	☐	☐	☐	FSZ: ☐													
Type:	SWD	LWD	B	U	DP	OV	IV																																								
Amount:																																															
Location: P/S/O:	☐	☐	☐	☐	☐	☐	☐																																								
LWD:																																															
LWD Dist:																																															
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐ Crown Closure																																					
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐																																					
Right Bank: Rip.Veg:		Stage:																																													
Left Bank: Rip.Veg:		Stage:		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐																																											

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 5.0 ILP Map # 093M.029 ILP # 1181 Site 56

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.029 ILP #: 1181 NID Map #: 093M.029 NID #: 40056 Reach #: 5.0 Site #: 56
Field UTM (Z.E.N): 9.675616.6129150 Method: GPU Site Lg: 100 Method: HC Access: H
GIS UTM (Z.E.N): 9.675661.6129086 Ref. Name:
Date: 2002/09/28 Time: 12:08 Agency: C172 Crew: SG/JD Fish Crd?: ☐ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):												0.00	Method I:	1.0	2.0	C	1.25
Wetted Width (m):												0.00	Method II:	1.0	1.0	C	
Pool Depth (m):												0.00					

Wb Depth: Avg: 0.00 Method: MS Stage: L ☐ M ☐ H ☐ No Vis.Ch.: ☒ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER

Total:

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:							
Loc: P/S/O:	☐	☐	☐	☐	☐	☐	☐

CROWN CLOSURE

INSTREAM VEG: N ☐ A ☐ M ☐ V ☐

LWD:

DIST:

LB SHP:

RB SHP:

Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐

Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐

RIP:

RIP:

STG:

STG:

WATER

EMS: Temp: Method: Req #: Cond.: Method:
pH: Method: Turb.: T ☐ M ☐ L ☐ C ☐ Method: GE
Flood Signs: Method:

MORPHOLOGY

Bed Material: Dominant: Subdom: O1 B1 B2 B3 D1 D2 D3
D95: D (cm): Morph: DISTURBANCE INDICATORS
Pattern: C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: ☐
Coupling: ☐
Confinement: ☐
FSZ: ☐ Bars: N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name Comments
Other No Visible Channel - vegetated seepage, some isolated pockets of standing water, no potential fish habitat - no access through this reach upstream reaches S6.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 7 F: 23A	STD	U	Upslope photo of a vegetated seepage.
R: 7 F: 24A	STD	D	Downslope photo of a vegetated seepage.

COMMENTS

Section Comments

FDIS Site Card

Tochcha Lake Planning Area

		Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000		5.0	093M.029	1181	56
COVER	No fish habitat.				
SITE CARD	No Visible Channel.				



Site #56, Upslope photo of a vegetated seepage.
Roll #7, Frame #23A, Date: 2002/09/28



Site #56, Downslope photo of a vegetated seepage.
Roll #7, Frame #24A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.030 ILP # 1296

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093M.030		ILP #: 1296		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.677076.6130682				Sample Type: Biased			
Length (km): .94		Coupling: Decoupled		Magnitude: 5		BGC Zone: SBS			
Gradient (%): 2.9		Confinement: Occasionally Conf		Order: 3		Open water: Absent			
US Elev (m): 1187		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 57		Field UTM 9.677173.6130342		Agency: C172		Crew: JD/SG		Date: 2002/09/28	
Site Length (m): 100		GIS UTM 9.677190.6130340		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.52		1.4		1.600	
Stage: Low ☒				Wetted Width (m): 1.02		0.9		1.200	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.4	
High ☐		Temp (C): 8		pH: 8.1		Conductivity: 70		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Cobble		D (cm): 10.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Occasionally Confine				C1		C2		C3	
Morphology: RP Riffle Pool				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest						Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest						21-40%	
				Instream Veg: None ☒		Algae ☐		Moss ☐	
								Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
57	EF	1	100	109 sec	600	RB	7	70	110

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.030 ILP # 1296 Site 57

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
Local Name: ILP Map #: 093M.030 ILP #: 1296 NID Map #: 093M.029 NID #: 40057 Reach #: 3.0 Site #: 57
Field UTM (Z.E.N): 9.677173.6130342 Method: GPU Site Lg: 100 Method: GE Access: H
GIS UTM (Z.E.N): 9.677190.6130340 Ref. Name:
Date: 2002/09/28 Time: 12:40 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg	
Channel Width (m):	T	1.60	1.50	1.40	1.60	1.50	1.50					1.52	Method I:	3.0	4.0	C	3.75	
Wetted Width (m):	T	1.00	0.90	1.20	1.00	1.10	0.90					1.02		Method II:	5.0	3.0	C	
Pool Depth (m):	T	0.30	0.40	0.30	0.50	0.30	0.20					0.33						

Wb Depth: .3 .4 .4 Avg: 0.37 Method: T Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	D	T	S	N
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 70 Method: S3
pH: 8.1 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Present.
Spawning Habitat	Poor - poor spawning substrates.
Rearing Habitat	Moderate - moderately deep pool, abundant cover and adequate flow.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 1A	STD	U	Upstream photo of stream channel.
R: 8 F: 2A	STD	D	Downstream photo of pool habitat.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #3.0

ILP Map #093M.030

ILP #1296

Site57

COMMENTS	
Section	Comments
CHANNEL	RB captured.
CHANNEL	S3

FDIS Fish Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093M.030 ILP # 1296

WATERBODY														
Gazetted Name:										Local:				
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0														
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000														
Waterbody ID:					ILP Map #: 093M.030					ILP #: 1296		Reach #: 3 -		
Project ID: 5271					Lake/Stream: S					Lake From Date:				
Fish Permit #: 145269					Date: 2002/09/28			To: 2002/09/28		Agency: C172		Crew: JD/SG		Resample: ☐
SITE / METHOD														
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment				
57	093M.029	40057				GPU EF 1	8	70	C					
A. GEAR SETTINGS														
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment							
57	EF	1	2002/09/28	12:40	2002/09/28	13:10								
C. ELECTROFISHER SPECIFICATIONS														
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model			
57	EF	1	1	O	109	100.0	1.1	600	60	6	SMITH ROOT	12B		
FISH SUMMARY														
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment					
57	EF	1	1	RB	J	7	70 110	R						
INDIVIDUAL FISH DATA														
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic	Roll #	Frame#	Comment
								Str/Smpl#//Age			Str/Smpl#			
57	EF	1	1	RB	90		U	U						
57	EF	1	1	RB	95		U	U						
57	EF	1	1	RB	75		U	U						
57	EF	1	1	RB	70		U	U						
57	EF	1	1	RB	80		U	U						
57	EF	1	1	RB	110		U	U						
57	EF	1	1	RB	85		U	U						



Site #57, Upstream photo of stream channel.
Roll #8, Frame #1A, Date: 2002/09/28



Site #57, Downstream photo of pool habitat.
Roll #8, Frame #2A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
6.0 093M.029 1173

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093M.029		ILP #: 1173		
REACH									
Reach #: 6.0		UTM(Zone/East/North): 9.675020.6132321				Sample Type: Biased			
Length (km): .52		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 6.3		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 1021		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 58		Field UTM 9.674668.6132275		Agency: C172		Crew: JD/SG		Date: 2002/09/28	
Site Length (m): 200		GIS UTM 9.674708.6132294		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.53		1.4		1.700	
Stage: Low ☒				Wetted Width (m): 1.00		0.600		1.3	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.4	
High ☐		Temp (C): 8		pH: 8.1		Conductivity: 80			
						Turbidity: Turbid ☐		Low ☐	
								Moderate ☐	
								Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Fines		D (cm): 10.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		D		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest							
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
								Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
58	EF	1	200	216 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 6.0 ILP Map # 093M.029 ILP # 1173 Site 58

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093M.029 ILP #: 1173 NID Map #: 093M.039 NID #: 40058 Reach #: 6.0 Site #: 58
Field UTM (Z.E.N): 9.674668.6132275 Method: GPU Site Lg: 200 Method: MAP Access: H
GIS UTM (Z.E.N): 9.674708.6132294 Ref. Name:
Date: 2002/09/28 Time: 13:40 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	T	1.60	1.50	1.70	1.50	1.40	1.50					1.53	Method I:	3.0	4.0	C	4.25
Wetted Width (m):	T	1.00	0.90	1.20	1.00	0.60	1.30					1.00	Method II:	5.0	5.0	C	
Pool Depth (m):	T	0.20	0.30	0.20	0.20	0.30	0.30					0.25					

Wb Depth: .3 .4 .4 Avg: 0.37 Method: T Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	S	D	N	S	T	T	N
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☐

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

2 21-40%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 80 Method: S3
pH: 8.1 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: Sediment wedges Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - low flows, subject to ephemeral flows.
Rearing Habitat	Poor - low flows, shallow pools, disturbed channel.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 3A	STD	U	Upstream photo of channel at wetland.
R: 8 F: 4A	STD	D	Downstream photo of channel at wetland.
R: 8 F: 5A	STD	U	Upstream photo of gravel substrates.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
6.0	093M.029	1173	58

PHOTOS				
Photo		Foc Lg	Dir	Comments
R:	8	F:	6A	STD
			D	Downstream photo of wedges.
COMMENTS				
Section		Comments		
CHANNEL		Very poor connection to downstream wetland - could limit fish access to this reach.		
CHANNEL		S3*		

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
6.0	093M.029	1173

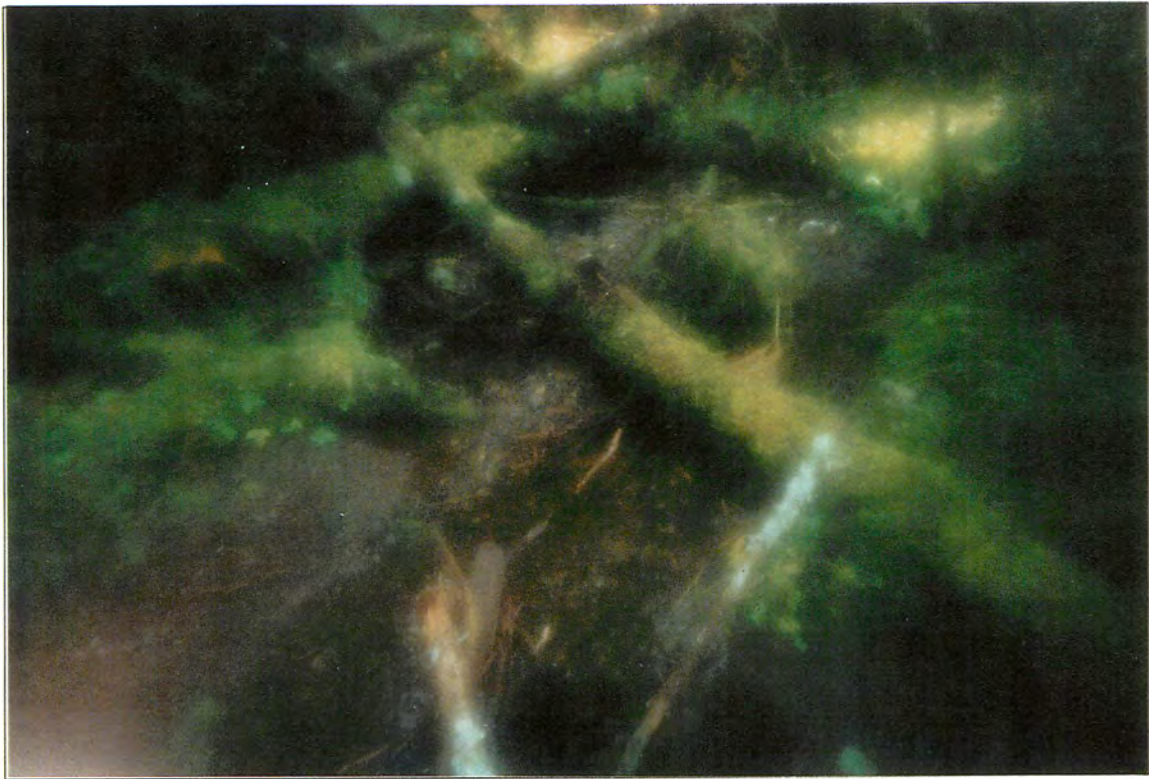
WATERBODY															
Gazetted Name:							Local:								
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:				ILP Map #: 093M.029				ILP #:		1173		Reach #:		6 -	
Project ID: 5271								Lake/Stream: S				Lake From Date:			
Fish Permit #:		145269		Date: 2002/09/28		To: 2002/09/28		Agency: C172		Crew: JD/SG		Resample:		☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
58	093M.039	40058				GPU EF 1	8	80	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
58	EF	1	1	2002/09/28	13:40	2002/09/28	14:00								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
58	EF	1	1	O	216	200.0	1.0	600	60	6	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
58	EF	1	1	NFC			0								



Site #58, Upstream photo of channel at wetland.
Roll #8, Frame #3A, Date: 2002/09/28



Site #58, Downstream photo of channel at wetland.
Roll #8, Frame #4A, Date: 2002/09/28



Site #58, Upstream photo of gravel substrates.
Roll #8, Frame #5A, Date: 2002/09/28



Site #58, Downstream photo of wedges.
Roll #8, Frame #6A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.039 ILP # 1018

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093M.039		ILP #: 1018		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.674719.6132798				Sample Type: Biased			
Length (km): .69		Coupling: Decoupled		Magnitude: 2		BGC Zone: SBS			
Gradient (%): 6.2		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 1020		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 59		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/09/28	
Site Length (m): 300		GIS UTM 9.674454.6132705		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.32		1.100		1.600	
Stage: Low ☒				Wetted Width (m): 0.62		0.5		0.800	
Med ☐				Bankfull Depth (m): 0.37		0.3		0.4	
High ☐		Temp (C): 8		pH: 7.9		Conductivity: 80			
						Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 10.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Fines		D (cm): 5.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: Overhanging		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhanging		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Mature forest		Vascular ☐					
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
59	EF	1	300	323 sec	500	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.039 ILP # 1018 Site 59

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000

Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093M.039 ILP #: 1018 NID Map #: 093M.039 NID #: 40059 Reach #: 1.0 Site #: 59
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: MAP Access: H
GIS UTM (Z.E.N): 9.674454.6132705 Ref. Name:
Date: 2002/09/28 Time: 14:20 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg					
Channel Width (m):	T	1.30	1.20	1.60	1.40	1.30	1.10					1.32	Method I:	3.0	2.0	C	1.75
Wetted Width (m):	T	0.60	0.50	0.80	0.60	0.70	0.50					0.62	Method II:	1.0	1.0	C	
Pool Depth (m):	T	0.10	0.20	0.30	0.10	0.10	0.10					0.15					

Wb Depth: .4 .3 .4 Avg: 0.37 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	S	N	D	T	T	T
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.9 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 10.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None.
Spawning Habitat	Poor - suitable gravels are mixed with fines.
Rearing Habitat	Poor - shallow pools, low flows, low habitat complexity.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 7A	STD	U	Upstream photo of stream channel.
R: 8 F: 8A	STD	D	Downstream photo of stream channel.

FDIS Site Card

Tochcha Lake Planning Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000	1.0	093M.039	1018	59

COMMENTS	
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093M.039	1018

Triton Environmental Consultants Ltd.



Site #59, Upstream photo of stream channel.
Roll #8, Frame #7A, Date: 2002/09/28



Site #59, Downstream photo of stream channel.
Roll #8, Frame #8A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.039 ILP # 1015

STREAM REFERENCING																																	
Gazetted Name:					Local Name:																												
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093M.039		ILP #: 1015																										
REACH																																	
Reach #: 1.0		UTM(Zone/East/North): 9.674258.6132708				Sample Type: Biased																											
Length (km): .49		Coupling: Decoupled		Magnitude: 3		BGC Zone: SBS																											
Gradient (%): 3.5		Confinement: Occasionally Conf		Order: 2		Open water: Absent																											
US Elev (m): 992		Islands: NONE		Riparian Vegetation: Coniferous																													
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																	
SITE																																	
Site #: 60		Field UTM ..		Agency: C172		Crew: SG/JD		Date: 2002/09/28																									
Site Length (m): 300		GIS UTM 9.674131.6132626		Agency Name: Triton Environmental Consultants (Terrace)																													
CHANNEL																																	
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max																									
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.42		1.3		1.600																									
Stage: Low ☒				Wetted Width (m): 0.93		0.600		1.200																									
Med ☐				Bankfull Depth (m): 0.43		0.4		0.5																									
High ☐		Temp (C): 8		pH: 7.5		Conductivity: 80																											
						Turbidity: Turbid ☐		Low ☐																									
						Moderate ☐		Clear ☒																									
MORPHOLOGY																																	
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐																									
Subdominant: Cobble		D (cm): 8.00				Mid-channel ☐		Span ☐																									
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS																													
Coupling: Decoupled				O1 B1 B2 B3 D1 D2 D3																													
Confinement: Occasionally Confine				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																													
Morphology: RP Riffle Pool																																	
COVER																																	
Total Cover: Abundant		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td>T</td> <td>T</td> <td>N</td> <td>D</td> <td>T</td> <td>S</td> <td>T</td> </tr> <tr> <td>Location: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> </tr> </tbody> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	T	N	D	T	S	T	Location: P/S/O:	☒	☒	☐	☒	☒	☒	☒
Type:	SWD	LWD	B	U	DP	OV	IV																										
Amount:	T	T	N	D	T	S	T																										
Location: P/S/O:	☒	☒	☐	☒	☒	☒	☒																										
LWD: Few		FSZ: ☐																															
LWD Dist: Evenly Distributed																																	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐																									
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐																									
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Rock ☐		Manmade ☐		Crown Closure 1-20%																									
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☐																									
								Vascular ☒																									
FISH																																	
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																								
60	EF	1	300	296 sec	600	NFC	0																										

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.039 ILP # 1015 Site # 60

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.039 ILP #: 1015 NID Map #: 093M.039 NID #: 40060 Reach #: 1.0 Site #: 60
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: MAP Access: H
GIS UTM (Z.E.N): 9.674131.6132626 Ref. Name:
Date: 2002/09/28 Time: 14:50 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg	
Channel Width (m):	MS	1.30	1.60	1.50	1.40	1.40	1.30					1.42	Method I:	2.0	3.0	C	3.25
Wetted Width (m):	MS	1.00	0.90	0.60	1.20	0.80	1.10					0.93	Method II:	4.0	4.0	C	
Pool Depth (m):	MS	0.20	0.20	0.30	0.20	0.20	0.30					0.23					

Wb Depth: .4 .5 .4 Avg: 0.43 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	N	D	T	S	T
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

LWD: F DIST: E

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 8 Method: T4 Req #: Cond.: 80 Method: S3
pH: 7.5 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C O1 B1 B2 B3 D1 D2 D3
D95: 15.0 D (cm): 8.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: OC
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None observed.
Spawning Habitat	Poor - limited spawning substrates suitable for resident fish.
Rearing Habitat	Poor - shallow pool depths, low habitat complexity.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 10A	STD	D	Downstream photo of stream channel.
R: 8 F: 9A	STD	U	Upstream photo of stream channel.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093M.039	1015	60

COMMENTS	
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093M.039	1015

WATERBODY													
Gazetted Name:							Local:						
Project Code: 182-819600-63300-40900-0000-0000-000-000-000-000-0													
WS Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093M.039				ILP #:		1015		Reach #: 1 -	
Project ID: 5271				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145269				Date: 2002/09/28		To: 2002/09/28		Agency: C172		Crew: SG/JD		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
60	093M.039	40060				GPU EF 1	8	80	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
60	EF	1	1	2002/09/28	14:50	2002/09/28	15:15						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
60	EF	1	1	O	296	300.0	1.0	600	60	6	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
60	EF	1	1	NFC		0							



Site #60, Upstream photo of stream channel.
Roll #8, Frame #9A, Date: 2002/09/28



Site #60, Downstream photo of stream channel.
Roll #8, Frame #10A, Date: 2002/09/28

Tochcha Lake Planning Area

1.0	093M.039	1091
-----	----------	------

Triton Environmental Consultants Ltd.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093M.039 ILP # 1091 Site # 61

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093M.039 ILP #: 1091 NID Map #: 093M.039 NID #: 40061 Reach #: 1.0 Site #: 61
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: MAP Access: H
GIS UTM (Z.E.N): 9.670471.6137228 Ref. Name:
Date: 2002/09/28 Time: 15:31 Agency: C172 Crew: SG/JD Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	T	2.00	1.60	2.20	1.50	1.60	1.80					1.78	Method I:	1.0	1.0	C	1.00
Wetted Width (m):	T	2.00	1.60	2.20	1.50	1.60	1.80					1.78	Method II:	1.0	1.0	C	
Pool Depth (m):	T	1.00	0.60	1.00	1.30	0.60	0.80					0.88					

Wb Depth: .8 .8 1.0 Avg: 0.87 Method: GE Stage: L ☐ M ☒ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	T	N	D	S	S	S
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

LWD: N DIST: NA

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: G

STG: INIT

CROWN CLOSURE

0 0%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: G

STG: INIT

WATER

EMS: Temp: 12 Method: T4 Req #: Cond.: 100 Method: S3
pH: 7.9 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: NA O1 B1 B2 B3 D1 D2 D3
D95: 1.00 D (cm): 1.00 Morph: LC DISTURBANCE INDICATORS
Pattern: IM C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Present - deep pools.
Spawning Habitat	None - 100% fines and organics.
Rearing Habitat	Moderate - deep pools, abundant cover.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 11A	STD	U	Upstream photo of wetland channel.
R: 8 F: 12A	STD	D	Downstream photo of wetland habitat.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093M.039	1091	61

COMMENTS	
Section	Comments
CHANNEL	S3*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
1.0	093M.039	1091

Triton Environmental Consultants Ltd.



Site #61, Upstream photo of wetland channel.
Roll #8, Frame #11A, Date: 2002/09/28



Site #61, Downstream photo of wetland habitat.
Roll #8, Frame #12A, Date: 2002/09/28

FDIS Reach/Site Summary

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000

Reach # 8.0 ILP Map # 093M.039 ILP # 1022

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000					ILP Map #: 093M.039		ILP #: 1022		
REACH									
Reach #: 8.0		UTM(Zone/East/North): 9.670528.6137909				Sample Type: Biased			
Length (km): 1.21		Coupling: Coupled		Magnitude: 5		BGC Zone: SBS			
Gradient (%): 2.5		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 1040		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 62		Field UTM ..		Agency: C172		Crew: JD/SG		Date: 2002/09/28	
Site Length (m): 200		GIS UTM 9.670651.6137222		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		#					
Stage: Low ☒		Channel Width (m): 1.55		1.4		1.700		6	
Med ☐		Wetted Width (m): 1.20		1		1.4		6	
High ☐		Bankfull Depth (m): 0.57		0.5		0.6		3	
Temp (C): 10		pH: 7.9		Conductivity: 90					
				Turbidity: Turbid ☐		Low ☐			
				Moderate ☐		Clear ☒			
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 10.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Fines		D (cm): 5.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Coupled				INDICATORS		B2		B3	
Confinement: Confined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		D		N		S	
LWD Dist: Clumped		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		None ☒		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Mature forest		None ☒		Algae ☐		Moss ☐	
				Vascular ☐					
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
62	EF	1	200	216 sec	600	NFC	0		

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000-000

Reach # 8.0 ILP Map # 093M.039 ILP # 1022 Site # 62

PROJECT

Project Name: Babine and Tochcha
Stream Name (gaz.): SAKENICHE RIVER
Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-000-000-000
Project Code: 5271

WATERSHED

Gazetted Name: Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000-000
ILP Map #: 093M.039 ILP #: 1022 NID Map #: 093M.039 NID #: 40062 Reach #: 8.0 Site #: 62
Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: GE Access: H
GIS UTM (Z.E.N): 9.670651.6137222 Ref. Name:
Date: 2002/09/28 Time: 16:08 Agency: C172 Crew: JD/SG Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	T	1.50	1.60	1.40	1.60	1.70	1.50					1.55	Method I:	2.0	1.0	C	1.25
Wetted Width (m):	T	1.40	1.20	1.10	1.30	1.00	1.20					1.20	Method II:	1.0	1.0	C	
Pool Depth (m):	T	0.20	0.30	0.20	0.40	0.50	0.20					0.30					

Wb Depth: .6 .5 .6 Avg: 0.57 Method: T Stage: L ☒ M ☐ H ☐

No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:	T	D	N	S	S	T	T
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F DIST: C

LB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

RB SHP: O

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: C

STG: MF

WATER

EMS: Temp: 10 Method: T4 Req #: Cond.: 90 Method: S3
pH: 7.9 Method: P2 Method: GE
Flood Signs: None Method: GE Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 10.0 D (cm): 5.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: CO
Confinement: CO
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Present.
Spawning Habitat	Poor - beaver complexing leads to ponding and abundant fines.
Rearing Habitat	Moderate - abundant cover, deep pools, adequate flows.

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 8 F: 13A	STD	U	Upstream photo of representative habitat.
R: 8 F: 14A	STD	D	Downstream photo of pool habitat.

FDIS Site Card

Tochcha Lake Planning Area

Watershed Code: 000-000000-00000-00000-0000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
8.0	093M.039	1022	62

COMMENTS	
Section	Comments
CHANNEL	Extensive beaver activity may limit fish access to this reach.
CHANNEL	S3*

Tochcha Lake Planning Area

Reach #	ILP Map #	ILP #
8.0	093M.039	1022

Triton Environmental Consultants Ltd.



Site #62, Upstream photo of representative habitat.
Roll #8, Frame #13A, Date: 2002/09/28



Site #62, Downstream photo of pool habitat.
Roll #8, Frame #14A, Date: 2002/09/28