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 VOJ 1Z0

March 2003

Prepared by:



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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

10 309760 6100680 (Tochcha Lake) **UTM at Mouth:**

 1352.9 km^2 Watershed Area: 2033.9 km **Total of All Stream Lengths:** 5th (largest)

Stream Order:

93M/01, 93M/08, 93N/04, NTS Maps: 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:2763Random Sampling Sites:0Biased Sampling Sites:100Fish Sampling Only Sites:19Total Sampling Sites:119Total Historical Sampling Sites:365

Field Sampling Dates: August 27 - October 8, 2002 Fish Species Captured During Survey: RB, DV, CO, PCC, SU

CONTRACTOR INFORMATION

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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.

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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

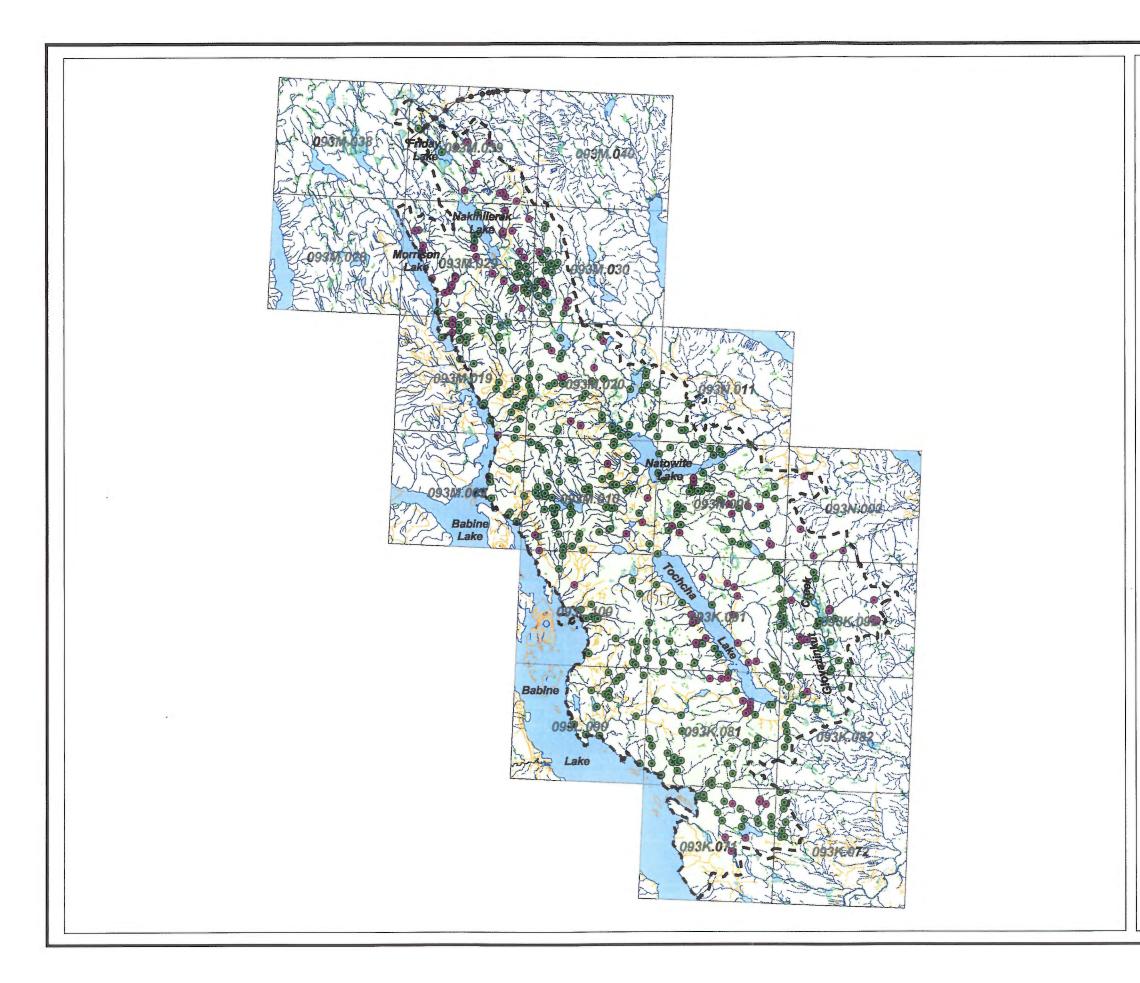
Fish and fish habitat values were the primary components of the inventory:

- 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.

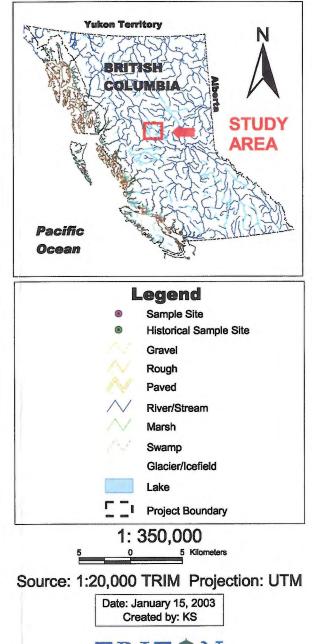
The results of the inventory are presented on 1:20,000 scale Terrain Resource Information Management (TRIM) based maps, Field Data Information Summary (FDIS) data forms, and in the body of this report.

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



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 FFSR.
- 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), redside 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 unnmaned 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, redside 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.

Table 1. Summary Survey Inform	ation 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 \rightarrow Stuart Lake \rightarrow Stuart River \rightarrow Nechako River \rightarrow
	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	365
Sites:	

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, redside 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	Reach Order Species Stage		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	Α	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	А	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	Α	13	61	150			
B174	1524	2	2	RB	J	3	48	53			
B175	1524	3	2	RB	Α	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	Α	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	Α	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	Α	6	150	300			
B1712	1349	4	3	RB	A	5	150	300			
B1719	2213	1	2	RB	А	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	Α	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	КО	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	Α	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	КО	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	Α	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	Ŀ	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	6()	80
C12030	1742	1	4	RB	1;	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	Α	1	210	210
C12031	1500	1	2	RB	ŀ	4	50	65
C12031	1500	1	2	RB	J	5	65	110
C12032	1801	16	4	RB	ŀ.	3	42	42
C12032	1801	16	4	RB	Ţ	8	60	130
C12033	2052	1	3	RB	J	1	90	90
C12033	2052	1	3	RB	F	3	4()	42
C12034	2127	2	3	RB	A	1	190	190
C12046	1455	1	3	RB	F	4	40	46
C12046	1455	i	3	RB	J	2	92	105
C12114	2316	i	2	RB	J	3	60	110
C12114	2316	1	2	RB	F	9	35	55
C12114	1276	7	3	RB	J	6	115	205
E155	1686	1	2	RB	J	3	42	86
E163	1611	5	4	RB	Ā	9	72	181
E103	1642	7	2	RB	Λ	† <u>†</u>	120	120
F1302	2298	5	3	RB	J	 	120	120
F1502	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
	1676	1	2	RB	J	6	45	60
E1601		2	2	RB	J	3	82	90
E1608	1618	1	2	RB	J	2	65	74
F1610	1412	5	3	RB	J	6	93	136
F1611	1406	9	3	RB	J	12	100	200
F1622	1406		2	RB	A	5	160	285
F1715	1412	4	2	RB	J	1	150	150
T02-ST2	1183		3	RB	J	2	100	150
7	2358	2		RB	J	2	120	135
15	1948	1	2		J	7	75	110
18	2009	1 1	3	RB	J	8	135	162
22	2251	1 2	3	RB		15	80	150
28	1989	3	2	RB	J		48	95
31	1990	1	2	RB	J	15	105	140
32	1450	11	2	RB	J	5	130	185
32	1450	11	2	PCC	A		65	140
36	1119	3	3	RB	J	16	65	65
38	1429	2	1 2	RB	J	1 7	70	110
57	1296	3	3	RB	J	7		170
67	2052	2	3	RB	J	2	150	95
72	1757	3	1	RB	J	12	65	J 95

Table 2. Fish capture locations within the study area.

Site	ILP	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	90 110	90	
372	1877	2	2	RB	J	1		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	Α	2	120	130	
632	1022	4	4	RB	F	5	40	40	
632	1022	4	4	RB	J	5	70	80	

CO = coho

MW = mountain whitefish

A = adult

CAS = prickly sculpin CC = slimy sculpin NSC = Northern pikeminnow PCC = peamouth chub F = fry J = juvenile

DV = Dolly Varden KO = kokanee

RB = rainbow trout RSC = redside shiner

LKC = lake chub

WSC = white sucker

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, VON 2HO.

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	0	N	D	Habitat Requirements
	incubation of the eggs (~28 to 40 days)													Gravel substrate with minimal fines, typically in pool tail-outs.
Egg / Fry	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.
	young rear in natal stream													Juveniles will often occupy margins of riffle and boulder areas.
	outmigration of juveniles to lake or mainstem													
Juvenile / Immature	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.
	Migration to spawning sites													Tributary streams, larger mainstems, inlets/outlets of lakes.
Adult / Mature	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

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

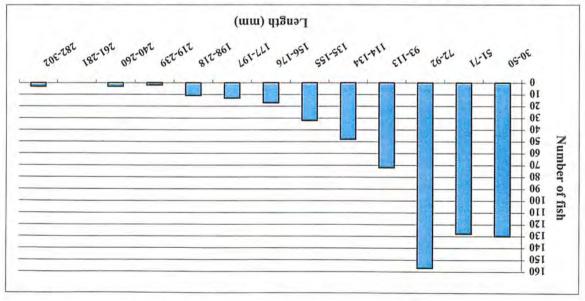


Figure 2. Length-frequency distribution for rainbow trout captured in the study area (n=616).

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

- 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

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.

4.3.2 Dolly Varden

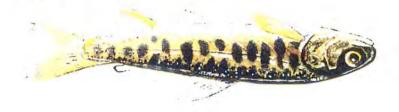


Illustration by C. Groot from Pollard, W.R., G.F. Hartman, C. Groot, and Phil Edgell. 1997. Field Identification of Coastal Juvenile Salmonids. Harbour Publishing, PO Box 219, Madeira Park, BC, Canada, VON 2H0.

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	0	N	D	Habitat Requirements
	incubation of the eggs (16 weeks)													Small gravel substrate with minimal fines, typically in riffle areas.
Egg / Fry	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 sid channels and back-channels with undercut banks and quiet shallow areas.
	young rear in natal stream (a couple months to 4 years)													Rearing habitat consists of well oxygenated water with large wood debris, undercut banks, instream and overstream vegetation for cover. Overwintering habitat consists of large deep pools, wetlands and lakes.
Juvenile / Immature	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 an out of rivers, lakes and tributaries.
Adult / Mature	Migration to spawning sites									111				Move from the ocean and/or rivers and migrate to natal streams.
1.00.00	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, VON 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	0	N	D	Habitat Requirements
	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.
Egg / Fry	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 sid 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.
	Migration to spawning sites													Move from the ocean back to natal freshwater streams.
Adult / Mature	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



Kokanne 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 gravely 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). Mountian 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 gravely 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.

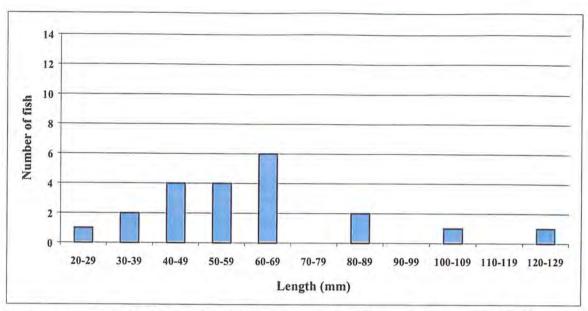


Figure 4. Length frequency distribution for prickly sculpin captured in the study area (n=21).

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.

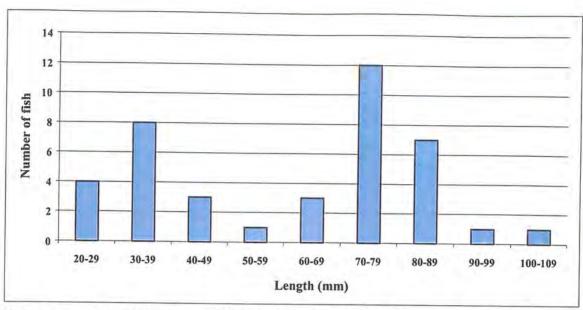


Figure 5. Length frequency distribution for redside shiner captured in the study area (n=40).

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	0	N	D	Dates
Chinook				D.									June 15 to July 31
Coho													July 1 to August 31
Pink													May 15 to August 15
Sockeye													June 15 to July 15
Kokanee									0				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.

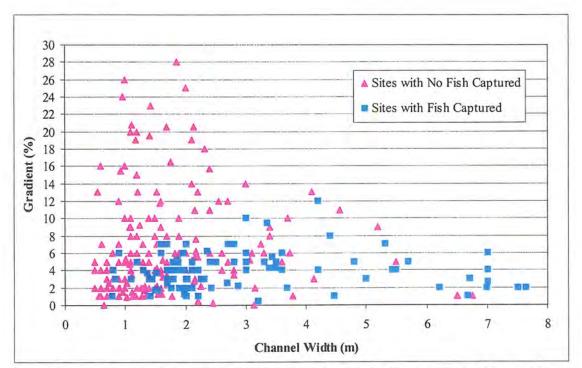


Figure 6. Gradient vs width relationship for sampled streams in the study area (n=298).

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	r	FSB			Historical Feature. Sub surface flows.
2311	1110		1.575			Historical Feature, Culvert does no
A11	1440	f.	CV	0.5	7	impede fish passage.
						Historical Feature. Excellent culver structure provides access at all
A12	1441	3	CV	2.5	20	flows.
A12	1441	1		2.2	21/	Historical Feature. Culvert does no
A14	1447	1	CV	0.8	20	impede fish passage.
A14	1447	1		77,0		Historical Feature, Beaver dam
A19	1754	2	BD	1,2	20	creates pond.
WIA	17.54	-	DD	112		Historical Feature. Culvert does no
A114	1739	2	CV	1	20	impede fish passage.
A114	1.7.59	- 4	CV		4217	Historical Feature. Falls are a
A115	1732	3	E			barrier to upstream fish migration.
A113	1752		1.0			Historical Feature. Culvert does no
ATI6	1737	3	CV	1.2	20	impede fish passage.
AIIO	1737	-,		7.6		Historical Feature. Falls are a
A117	1737	2	F	30	20	barrier to upstream fish migration.
AII/	1.131		- K	200	2.0	Historical Feature. Culvert does no
A117	1737	2	CV	1.8	25	impede fish passage.
A117	1131	4		3.0		Historical Feature. Culvert does no
6110	1800	1	CV	1.2	20	impede fish passage.
A118	1800	1	CV	1.4	20	Historical Feature. Sub surface
1110	1279	3	FSB			flows.
A119	1279	2	155			Historical Feature. Culvert does n
A 121	1283	2	CV	0.4	15	impede fish passage.
A121	1203	£	CV	17.4	1.0	Historical Feature. Culvert does n
A123	1289	2	CV	0.6	12	impede fish passage.
A123	1207	-	CY	(1.17)		Historical Feature. Culvert does n
1126	1794	1	CV	0.6	15	impede fish passage.
A126	1/94	1		0.0	1.8	Historical Feature. Sub surface
4126	1794	2	FSB			flows.
A126	1794		130			Historical Feature. Sub surface
1137	1795	1	FSB			flows.
A127	1.135		130			Historical Feature, Sub surface
A129	1747	1	FSB			flows.
A129	1747	1	1.00			Historical Feature. Culvert does n
A130	1743	2	CV	Y	20	impede fish passage.
-A130	1743	-	1			Historical Feature. Culvert does n
A195	1114	1	CV	0.6	10	impede fish passage.
ATY	.1119	1		1/41/		Historical Feature. Culvert does r
A 106	1112	5	CV	0,6	10	impede fish passage.
A196 A199	2066	2	BD	1	5	Historical Feature. Beaver dam.
WIN	2000	-	Dix			Historical Feature. Falls located
						m upstream from the confluence
						with ILP 1968 are a barrier to
A1102	2290	5	j.	3.2	The state of	upstream fish migration.
A1102	2290	-		3.5		Historical Feature. Falls are a
A1108	2032	- 1	F	2	1	barrier to fish passage.

Table 7. Features within the study area.

Site ILP		Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
						Historical Feature. Oval culvert
A1108	2032	1	CV	1.4	10	does not impede fish passage.
						Historical Feature. Culvert does not
A1109	2029	1	CV	1.4	8	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.
						Wooden bridge crosses stream at
B170	1537	4	BR	1	12	downstream portion of reach.
B172	1710	2	CV	0.5	10	Historical Feature. Culvert.
B173	1520	2	CV	0.4	15	Historical Feature. Culvert.
						Historical Feature. Wooden box
B174	1524	2	CV	1.6	9	culvert 4 m x 10 m.
						Historical Feature. Culvert does not
B175	1524	3	CV	0.4	8	impede fish passage.
						Historical Feature. Wooden box
						culvert - poor condition, sediment
B187	1335	3	CV	1	12	introduction.
						Historical Feature. Falls are a
B188	1335	2	F	2.1	0.5	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.
						Historical Feature. Downstream side
B1505	2174	3	CV	2		of culvert is perched 1.0 m.
					-	Historical Feature. Bedrock chute is
B1507	2178	1	C	12	20	a barrier to upstream fish migration.
B1508	2151	7	BR	1.5		Historical Feature. Bridge.
D1200	2101	-	5.0			Historical Feature. 3 x 600 mm
B1510	1883	2	CV	0.6		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.
DIDIO	2210					
B1520	2350	10	C	2		Historical Feature. Bedrock chute.
B1524	2151	10	BD	0.8		Historical Feature. Beaver dam.
D1324	2101	10				Historical Feature, Culvert is
						perched 0.6 m and is a partial barrie
B1530	1892	2	CV	2		to upstream fish migration.
B1535	2350	5	CV	1.2		Historical Feature. Culvert.
B1536	2278	2	CV	0.6		Historical Feature. Culvert.
D1330	2210	-		0.50		Historical Feature. Collapsed
B1543	1361	2	BR	1.9	2	bridge.
B1545	2151	1	BD	1.2		Historical Feature. Beaver dam.
B1571	1905	5	CV	1		Historical Feature. Culvert.

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Table 7. Features within the study area.

Site	ILP	Reach	Feature Type	Feature Height (m)	Feature Length (m)	Comments
						Historical Feature. Culvert is
Salvara .	1000					perched 1.0 m and is a barrier to
B1612	1883	1	CV	0.6	8	upstream fish migration.
						Historical Feature. Washed out road
20203				0.0		crossing is a barrier to fish
B1612	1883		BR	1.4	2	migration.
						Was the balance
B1614	1885	1	C	n do	2	Historical Feature. Bedrock chute is
D1014	1992	1	(-	0,58	2	a barrier to upstream fish migration.
B1615	1888	3	17	20	20	Historical Feature. Falls are a
D101.)	1000	- 2	- 1	20	30	barrier to upstream fish migration. Historical Feature. 1.5 m x 4 m
B1616	1866	3	CV	1.5	18	
D1010	1800	- 3	CV	1.5	10	concrete box culvert.
						Historical Feature. Cascades are a
B1618	1866	4	Č	30	80	barrier to upstream fish migration.
D1010	1800			317	-00	Historical Feature. Falls are a
B1619	1537	5	F	1.5	0.5	barrier to upstream fish migration.
B1620	1537	8	BD	1.2	15	Historical Feature. Beaver dam.
D1020	1557	0	Diz	1,52	13	Historical Feature. Falls are a
B1702	2174	4	F	6	1	barrier to upstream fish migration.
DIME	2174	4		0	1	Historical Feature. Box culvert
B1704	1347	3	CV	2	15	provides good fish access.
DINO	1547			-		Historical Feature. Falls are a
B1705	1347	4	F	2	0.4	barrier to upstream fish migration.
G. P. P. C.					0,1	Historical Feature. Falls are a
B1710	1520	4	F	6	1	barrier to upstream fish migration.
						Historical Feature. Beaver dam is a
			1			temporary barrier and limits
B1712	1349	4	BD	2	30	upstream fish migration.
C11007	1470	11	BR			Historical Feature. Bridge.
C11012	1486	1	BD			Historical Feature. Beaver dam.
C11016	1775	1 1	BD			Historical Feature. Beaver dam.
C11019	1771	3	BD			Historical Feature. Beaver dam.
C11022	1742	8	BD			Historical Feature. Beaver dam.
C11024	1809		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	7 11		Historical Feature. Beaver dam.
C12007	1394	2	BD			Historical Feature. Beaver dam.
C12008	1313		BD			Historical Feature. Beaver dam.
C12011	1400	1 = 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	Zengin (iii)	Historical Feature. Culvert.
C12017	1594	2	BD			Historical Feature. Beaver dam.
C12024	1764	2	F	-		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. Historical Feature. Flattened culver
						needs to be replaced. Water flows
E167	1618	4	CV	0.45	10	over the road.
						Historical Feature. Cascade is
E181	1642	7	C	2	1	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.
						Historical Feature. Cascade is a
E1602	1676	2	C	1.6	1	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 origina stream bed.
Distance.	1000		200			Historical Feature. Downstream side
F1528	2299	2	CV	0.6		of culvert perched 0.5 m.
F1547	1406	9	BR	1.9		Historical Feature. Bridge.
LUCIO I			-80	1		Historical Feature. Collapsed
F1548	1416	3	BR	1.7		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.
11022	1400	,	T.	3	1	Historical Feature. Culvert. Not a
F1627	2304	1	CV	0.8	10	barrier to fish migration.
P.C00 - Houston MOF	1892	2	F	.5		Falls are a barrier to upstream fish migration.
SKR-01-						SKR Consultants Ltd. 2001. Refer
NOBA-45	1530	1	C	0.7	1.5	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.
	2307		DK			Perched culvert 0.2 m ~6% grade,
7	2358	2	CV	1.2	16	full barrier to fish.
	2330	-		1.2	10	Culvert perched 10 cm, partial
8	2251	2	CV	1.5	16	barrier to juveniles.
	220.			1.0		Culvert perched ~1.4 m, full barries
8	2251	2	CV	1.2	20	to all fish species.
	LLU.		- 0,	1.2	20	Cascade is barrier to upstream fish
8	2251	- 1:	C	1	0.5	migration.
-	2231				0.0	Cascade, not a barrier to upstream
8	2251	i	C	1.2	1.5	fish migration.
	2231				1.0	Cascade, not a barrier to upstream
8	2251	1	C	1.4	1	fish migration.
-	2231				-	Arch culvert - embedded material
						eroded by footings. Not a barrier t
11	1942	1	CV	2.1	24	upstream fish migration.
-	17,2					Oval culvert perched 15 cm is a
13	1944	1	CV	1.4	18	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
-	7.00					Partially collapsed wooden box
15	1948	1	CV	1	25	culvert.
						Falls are a barrier to upstream fish
19	2009	2	F	3	1	migration.
19	2009	1	CV	2	20	3 m wide arch culvert.
					7.	Cascade / gradient section blocks
20	2253	2	C	50	60	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 - 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.
20	1727	-		0.0	20	Culvert. Not a barrier to fish
39	1404	5	CV	0.8	16	migration.
65	2127	5	С	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.
						Culvert. Not a barrier to fish
74	1769	1	CV	1.6	16	migration.
						Falls are a barrier to upstream fish
356	1332	1	F	10	5	migration. Top of Falls 63%.
						Cascade bedrock (37%) is a barrier
358	1231	2	C	16	22	to upstream fish migration.
						Bedrock Falls are a barrier to
359	1232	1	F	2.5	0	upstream fish migration.
						Beaver dam at Lake outlet. Not a
361	1204	1	BD	1.5		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 barries
						Falls are a barrier to upstream fish
371	1863	2	F	15	1	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.
	1					Culvert partial barrier at low flows,
373	1594	5	CV	1	15	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.
			100 NO.	777		Culvert slightly perched ~5 cm.
576	1808	3	CV	0.8	10	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 confluenc with tributary ILP 1158.
642	1750	0	P.	15		Falls are a barrier to upstream fish
642	1750 Dam	8 C = Cascade	F	1.5 F = Falls		migration. X = debris jam

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.

20/21/20		Map		Stream	CVS	specs.	STATE OF THE STATE OF	D.	D		To the second se		
Priority	Site	ILP	Reach	Number	Species	Class	Dia (m)	Length (m)	Description of Problem	to fish	Potential Habitat Upstream	Habitat / Stream Channel /Fish Comments	Recommendations
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 downse
Н	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 downse
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 downse 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 downse 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 confirmed / 2.4 km inferred)	Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within site.	Replace and downse 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 downser or backwater with weirs.

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

1		1000	Map	1 A	Stream	CV	specs.		Barrier	Potential Habitat	Habitat / Stream Channel /Fish	Salar Salar	
Priority	Site	ILP	Reach	Number	Species	Class	Dia (m)	Length (m)	Description of Problem	to fish	Upstream	Comments	Recommendations
L	11	1942	2.0	093K.091	NFC	S3*	2.1	24	Arch CV - embedded material eroded by footings -passes fish.	по	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	\$3*	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.

	F 150		100	Мар		Stream	CV Specs.			Barrier	Potential Habitat	Televisia Company		
Priority	Site	ILP	Reach	Number	Species	Class	Dia (m)	Length (m)	Description of Problem	to fish	Upstream	Habitat / Stream Channel /Fish Comments	Recommendations	
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 downse	
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 maintai flows.	
Ĺ	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 downse 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.

	Map		Stream	CV Specs.			Domine	Potential Habitat	at Habitat / Stream Channel /Fish	Sign Silver			
Priority	Site	ILP	Reach	Number	Species	Class	Dia (m)	Length (m)	Description of Problem	to fish	Upstream	Comments	Recommendations
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	\$3*	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	\$4*	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 CC = pea	578	1792	1.0	093N.001	NFC	\$6*	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

H = high

* = inferred stream class na = not applicable

NFC = no fish captured NVC = no visible channel M = moderate L = low

NI = no impact

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. Historical Site. Excellent
A17	1752	0	4.2	4	RB	S3-	n	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. Historical Site. Rainbow trout
A.110	1484	T	2.0	2	RB	S3	n	captured.
A112	2002	-1	1.1	4	NFC	S4/S6	n	Historical Site. Lower 100 m classified S4 based on access. Historical Site. Lower 30 m
A.120	1283	1	0.9	6	RB	S4/S6	n	classified S4 based on access.
A122	1295	Ī	0.6	6	NS	\$4/\$6		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 scepage (NVC). Stream is S4 downstream of block. S6 next to block and NVC within block.
A123	1289	2	0.5	8	NS	S4 S6		Historical Site. Inferred fish bearing in lower portion downstream of road crossing based on access.
A124	1289	1	(1.9	2	NFC	S4		Historical Site. Possible fish access, no barriers observed.
A130	1743	2	1.6	6	RB	.S3		Historical Site. Good rearing and spawning habitat. Rainbow trout captured.
A192	F117	1	1.0	3	NFC"	S4	an-	Historical Site. No barriers observed from downstream fish bearing water. Poor spawning habitat and limited rearing. Fish bearing based on access. Historical Site. Fish bearing
_A193	1116	1	0.7	2	NFC —	S4		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
							or n)	Historical Site. Gradient barner (>20%) 150 m downstream of road crossing. Section downstream of barrier S4 based on access. Poor spawning and
A196	1112	4	0.8	13	NS	S4/S6	n	rearing habitat. Historical Site. Rainbow trout
A199	2066	2	1.9	2	RB	83	n	captured.
A1100	2043	2		10	NFC	S4	n	Historical Site. S4 stream based on access. This reach flows into a fish bearing stream. Historical Site. Falls (3.2 m) at
A1102	2290	5	3.0	10	RB.	S3/S5	n	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	0	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	j	1.2	5	NEC	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	\$4*/\$6	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		2.0	-	RSC	53	n	Historical Site. No spawning habitat. Poor rearing habitat. Pools present. Redside shiner captured.
B135	2354		6,2	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	ÑS	S4/S6	ñ	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		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		RB	S3		Historical Site. Excellent rearing habitat. Good flows, cover and pools. Fair spawning habitat. Rainbow trout
B171	1541	2	0.9	2	NS	- 53 - S4*	n n	captured. Historical Site. Poor rearing and poor spawning habitat. S4 based on access. Historical Site. Good rearing
B173	1520	2	3.4	9	NFC	S3*	n	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. Historical Site. Excellent rearing habitat: LWD present
B175	1524	3	1.6	7	ŔB	S3	n	and abundant cover. Poor spawning habitat. Rainbow trout captured.
B188	1335	2	1.9	8	NFC	\$3*/\$6	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	\$2	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.()	4	RB-	\$3	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	,	NS	\$3*		Historical Site. Rearing habitat fair during winter flows. Spawning habitat fair to poor.
B1515	2314	- 2	2.5	4	85	27.	n	Fish stream based on access. Historical Site. Excellent
B1516	2354	4	5.7	5	RB	S2	n	rearing habitat. Rainbow trout eaptured.
B1517	2354	5	5.5	4	RB.	52	n	Historical Site. Good rearing habitat. Rainbow trout captured.
B1519	2210		2.2	4	RB	S3	n	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
B1524	215)	10	1.2	5	ŔB	S4	ñ	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1530	1892	.2	2.8	4	NFČ	\$3	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. Historical Site. Excellent rearing habitat. Rainbow trout
B1535	2350	5	2,()	7.	RB-	S3	11	captured. Historical Site. Poor habitat
B1540	1349	3	2.1	Š.	RB	S3	n	quality. Fine sediment covers cobble within the stream bed. Reach has been logged to the stream bank. Rainbow trout captured. Good rearing and spawning
B1543	1361	2	3.3	5	RB	S3	n	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		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		Historical Site. No Visible
B1567	2151	1	NS 0.8	NS 4	RB	S4	n	Channel. Not a stream. Historical Site. Fish access from lake is possible. Poor habitat quality. Rainbow trout captured.
B1568	2140	1	2.0	5	NS	\$3*	n	Historical Site. Ephemeral stream. Pools were not deep enough to shock. S3 stream based on access. Historical Site. Excellent rearing and spawning habitat.
B1576	1242	1	3,5	5	RB	S3	n	Rainbow trout captured.
B1580	1349	8	1,1	9	NFC	S4**	n	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.
D1200	1347	Ω	Ja I	7	IND	94		Historical Site. Additional
B1585	2213	2	1:0	5	NS	S4*	n	sampling in Reach I indicate that fish can access this reach therefore this reach is fish bearing based on access. Rainbow trout captured downstream in Reach I of this stream. Historical Site. Moderate
B1602	1242	6	1.4	3	RB	S4		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 Thistorical site. Subsurface
B1612	1883	-1	2.6	4	NFC	S3*/S6		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		chute 0.58 m high (without an adequate plunge pool depth to atrain 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	11.	Historical Site. Excellent spawning habitat, poor overwintering habitat, and fair rearing habitat. Rainbow trout eaptured.
B1618	1866	4	2.7	12	NFC	\$3/\$6	Th.	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)	
B1619	1537	5	2,5	16	RB	\$3/\$6	n	Flistorical 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	\$2	-0	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
B1702	2174	4	7.0	6	RB	S2/S5	n	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	16	NFC	\$3*	ñ	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-	Ð∀	\$3	n	Historical Site. Good spawning habitat, poor rearing habitat, and no overwintering habitat. Dolly Varden captured.
B1705	1347	4	4.2	12	DV	\$3/\$5	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		L5	8	NFC	\$3	0 11)	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	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.	п	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.
								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
B1713	[349	6	2.0	4	NFC	S3**	11	flows. Historical Site. Good spawning
B(719	2213	6	2.7	7	RB NFC	S3 S4	n	and rearing habitat. Overwintering habitat present. Rainbow trout captured. Historical Site. Channel complexity indicates habitat capabilities. Potential fish access.
C10172		0		+			11	Historical Site. Rainbow trout
C11001	1495		4.5		RB	S3	n.	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
Č11006	1181		1.3	I	NFC	S4	or n)	Historical Site. Poor habitat conditions. Rainbow frout captured upstream in ILP 1182 Reach 1 (site T02-ST2).
C11007	1450	12	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	NS	NS	NS	NVC	n	Historical Site. No Visible Channel. Habitat available. Potential Fisheries Sensitive Zone.
- C11012	1486	i i	NS	NS	NS	NVC	п	Historical Site. No Visible Channel. Wetland with heavy beaver activity. Potential Fisheries Sensitive Zone.
C11014	1495	1	12.7	· ·	RB. RSC; CC, SU	S2	n	Historical Site. Rainbow trout, red sided shiner, sculpin (general) and sucker (general) captured. Historical Site. No Visible
C11015	1775	2	NS	NS	NS	NVC	n	Channel. Potential Fisheries Sensitive Zone.
C11016	1775	9	4.1	3	NFC	S3	n	Historical Site. Moderate rating for habitat quality. Fish bearing based on potential access.
C11018	1778		2.1	2	RB	S3.	11	Historical Site, Rainbow frout captured.
C11019	1771	3	0.6	I	NFC	S4	ń	Historical Site. Limited habitat potential. Fish bearing based on access.
C11020	1771	į.	2.0	2	RB, RSC	S3	0	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	i7	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C11024	1810	1	1.0	ij	NFC	\$4	_ n	Historical Site. No habitat potential. Fish bearing based on access.
C11025	1801	4	15.0	3	RB. KO.	S2	'n	Historical Site: Rainbow and northern pikeminnow captured and kokanec observed.
C11026	2114	Ĭ.	NS	ŃS	NS	NVC	in -	Historical Site. No Visible Channel. Potential Fisheries Sensītīve 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	tent.	192	Len		1.027			Historical Site. Rainbow trout
C11027	1801	15	1(),9		RB	S2	11 - 11	captured. Historical Site: No Visible
								Channel, Rainbow trout
C11028	2075	1	NS	NS	RB	NVC	n	captured.
557 (1100)	4000		1.34.3	. 1.0	-1812	14.4.6	11	Historical Site Rainbow trout
C11029	2104	2	2.1	2	RB, RSC	S3	ii	and redside shiner captured.
								Historical Site. Rainbow trout
C11035	1742	10	7.()	2	RB	S2	n	captured.
								Historical Site. No Visible
8000	40.00		6750		704			Channel. Potential Fisheries
C11036	2004	I	NS.	NS	NS	NVC	-In	Sensitive Zone.
								Historical Site. No habitat
C11037	2005	3	0.6	7	NS	S4		potential upstream of site. Potential fish access.
V-111/57	2002		0.0	1.	189	154	- IT	Historical Site. No Visible
								Channel. Fisheries sensitive
								zone as stream approaches ILP
C11038	2073	t	NS	NS-	NS	NVC	n	1801.
								Historical Site. Rainbow trout
C11041	1801	13	18.4	0	RB	S2	n	captured.
					1			Historical Site. Rainbow trout
C11042	2290	4	2.3	3	RB	S3	п	captured.
CLIMA	1074				0.00	00		Historical Site. Rainbow trout
C11043	1276	3	5.4	4	RB	S2		captured. Historical Site. Rainbow trout
C11044	1455	T.	3.7	2	RB.	S3		captured.
C11(/44	(420)		2+1	4	IVD.	33		Historical Site. Limited habitat.
C11047	1465	t	1:1	T	NEC	S4.		potential fish access.
					1005			Historical Site. Rainbow trout
C11051	1933		2.1	4	RB	S2	n.	captured.
								Historical Site. Rainbow trout
C11090	1485	1	2,()	4	RB	S3	iř.	captured.
	V. 100 h	2.0						Historical Site. Rainbow trout
C12002	1495	27	4,5	1	RB	53	n	captured. Historical Site. Rainbow trout,
								red sided shiner, prickly
					RB. RSC.			sculpin, sucker (general),
			1		CC SU			northern pike minnow and
C12004	1495	16	7.6	2	NSC, KO	S2		kokanee captured.
							/	Historical Site. Fish bearing
A-0.1								based on access and no barriers
C12005	1123	1.	3.3	7	NEC	S3	n	observed.
								115
C12///2	1201	2	2.0	1	X11924	0.3		Historical Site. Limited habitat
C12007	1394	- 4	3.8		NFC	S3		available. Potential fish access. Historical Site. Dewatered.
								Poor substrate limits habitat
								capabilities. Potential Fisheries
C12008	1313	1	NS	NS	NS.	NVC		Sensitive Zone.
	47.01							Historical Site. Some habitat
								potential. Fish bearing based or
C12009	1398	- 5	3.7	6	NFC	S3	n	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	4.0	11	NFC	S.3	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. Historical Site. Rainbow trout
C12015	1452	2	0.8	1	RB	\$4	n-	captured.
C12016	1585	Ī	1.9	28	NFC'	S3	n	Historical Site. Limited habitat available. Potential fish access. Historical Site. Rainbow trout
C12017	1594	2	2.2	1	RB	S3	n-	captured.
C12022	1743	3	2.3	7	NS	S4*		Historical Site. Poor fish habitat. Rainbow trout captured downstream in Reach 2. Historical Site. Rainbow trout
C12023	1744	1	1.5	3	RB	S4	n	captured. Historical Site. Limited habitat
C12024	1764	2	1.2	13.	NEC	\$4	n	and high gradient (13%).
C12030	1742		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	4	RB	52		Historical Site. Rainbow trout captured.
C12033	2052		2,()	3	RB	83		Historical Site. Rainbow trout captured.
C12034	2127	2	5,3	7	RB	S2		Historical Site. Rainbow trout captured.
C12035	1948	2	3,4	11	NS	S3		Historical Site. Poor habitat quality rating. Rainbow trout captured downstream in Reach I (site 15). Inferred fish bearing.
C12036	1949		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,
C12041	2250	2	2.4	Ó	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		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	\$3	n	Historical Site. Good habitat potential. Potential fish access. Historical Site. Rainbow trout
C12046	1455	1	3.7	2	RB.	S3	n	captured. (cambow front
C12049	1803	12	NS	NS	NS	NVC	n	Historical Site. Wetland - No Visible Channel. Potential Fisheries Sensitive Zone, Historical Site. Dewatered.
C12050	1914	1	1.0	0	NS	S4*		Spring run-off channel. Inferred fish bearing. Historical Site. Poor habitat
C12051	2291	1	2.2	3	NFC	S3*	ń	quality rating. Inferred fish bearing.
C12052	2308	4	3.2	2	NFC	\$3	- Ü .	Historical Site. Limited habitat potential. Potential fish access.
C12113	2256	2	NS	NS	NS	NVC	ñ	Historical Site. No Visible Channel. Potential Fisheries Sensitive Zone.
C12114	2316	-1	0.8	3	RB	S4	ñ	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	i	1.3	Ź	NFC	S4	n	Historical Site. Poor habitat quality. Rainbow trout captured in downstream mainstem ILP 1276.
C[2]]9	1276	8	NS	NS	NS	NVC		Historical Site. Beaver dams potentially limit upstream migration. Inferred fish bearing.
								Historical Site. Rainbow trout
C12120	1276	7	0.3	3	RB NS	\$3 \$4		captured. Historical Site. Dewatered. Fish may use lower 10 m. Inferred fish bearing based on access.
C13047	1732		0.5	29	NS	\$4		Historical Site. Fish may use lower 50 m at lake. Inferred fish bearing based on access.
E153	1666	2	NS	NS	NS	NVC		Historical Site. No Visible Channel Dry wetland, Potential Fisherics Sensitive Zone.
E155	1686	1	[,]	3	RB	84		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	ň.	Historical Site. Poor rearing and limited spawning habitat. Fish bearing based on access.
E163	1611	5	5.0	3	RB	53	- 13	Historical Site. Excellent spawning and rearing habitat for rambow trout. Rainbow trout captured. Historical Site. Poor fish
E167	1618	4	1.2	5	NFC	S4*/S6	-n-	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. Historical Site. Cascade (2 m x
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	r	1.3	4'	RB	S4	н	Historical Site. Poor spawning habitat, poor rearing habitat, and no overwintering habitat. Rainbow trout captured.
E1605	1632	1	1.0	3	NFC	S4/S6	11	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	Comments
E1609	1618	4	1.3	4	NFC	\$4*/\$6	or 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.
								Historical Site. Moderate rearing habitat and poor spawning habitat. No barriers to upstream fish migration were observed. Fish stream based on
F1301	2304	4	0.7	,5	NFC.	S4*	n	access. Historical Site. Good rearing
F1302	2298	5	4.4	8	ŔB	S3	n	and spawning habitat. Rainbow trout captured.
F1527	2298	2	4.8	5	RB	S3	n	Historical Site. Rainbow trout captured.
E1520	2204		17		NEC	S3*		Historical Site. Moderate rearing and spawning potential. No barriers to upstream fish migration were observed. Fish
F1529 F1545	2304	5	1.7	5	NFC NFC	\$3* \$4*	n n	stream based on access. Historical Site. Subsurface flows between isolated pools. Fish access possible during higher flows. Inferred fish bearing.
F1547	1406	9	1.3	5	NFC	\$4.\$6	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.
					10000			Historical Site. Rainbow trout
F1548	1416	3	2.8	7	RB	53	n	captured. Historical Site. Fish were
F1565	1412	3	1.5	4	NFC	S3	n	captured upstream in Reach 4. Fish stream based on seasonal use. Historical Site. Poor rearing, good spawning and no
F1610_	1412	20	1.8	3	RB	S3	n	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	\$3/\$6		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. Historical Site. Excellent
F1627	2304	1	2.6	6	NFC	S3*	n	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 frout captured.
T02-ST2	1183		3.2	1	RB	\$3	n	Historical Site, Perennial stream. Rainbow trout captured. Historical Site. Wetland - No
T02-ST3	1181	2	NS	NS.	NS	WNVČ	n	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	î-	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. Ar 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		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. Dry/Intermittent. Poor rearing,
11 12	1942 1944	2	2.2 NS	6 NS	NFC NFC	S3* NS	n	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. 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 () or n)	Comments
13	1944	2	1.1	21	NFC	S4*/S6	ň	Dry/Intermittent. High gradien (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	I	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 18	1950 2009	1	1.5 NS	20 NS	NS RB	S3*/S6 NS		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. Fish only sampling site.

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

Site	TÜP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (or n)	
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. Cascade section (50 m x 60 m)
20	2253	2	2.4	16	NFC	S3*/S6	n	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*	у	Moderate rearing, moderate spawning and no overwintering habitat observed within site. N barriers to upstream fish migration were located. Inferred fish bearing.
24	1966	I	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	TLP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling (or n)	
27	1979	2	1.8	4	NS	S3*	у	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 upstrean 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	ì	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	í	RB, PCC	S3		Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout and peamouth chub captured.
33	1290	Î.	1.4	i	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	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.

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

Site	ILP	Reach	Width (m)	Gradient (%)	Species	Stream Class	Follow-up Sampling () or n)	Comments
35	1394	4	1.6	i	NFC	83*	у	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. Dry/Intermittent. Poor rearing,
39	1404	5	1.1	2	NFC	S4*	n	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 my 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. Poor rearing, poor spawning
55	1181	3	1.3	1	NFC	S4*		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	ň	Moderate rearing, poor spawning and no overwintering habitat observed within site. Rainbow trout captured. Poor rearing, poor spawning
58	1173	6	1.5	4	NFC	S3*	n	and no overwintering habitat observed within site. Poor connection to downstream wetland could limit fish access to this reach. Inferred fish bearing.
59	1018	Ĩ	1.3	2	NFC	S4*	п	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	i	1.8	I	NFC	S3*	n	Moderate rearing, no spawning and overwintering (present) habitat observed within site. N barriers to fish migration were observed. Inferred fish bearing
62	1022	8	1.6	1	NFC	S3*	у	Moderate rearing, poor spawning and overwintering (present) habitat observed within site. Extensive beaver activity my 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*		Poor rearing, poor spawning and no overwintering habitat observed within site. Disturbances on mainstem may limit fish access to this reach. Inferred fish bearing.

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

Site	IILP	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	\$3	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*	у	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*		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 = redside 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 statu of this reach. The downstream wetland should be minnow trapped.
62	1022	- 8	093M.039	1.6	1	NFC	S3*		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.
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.

3501			Width	Gradient	Ctores	15 6 6		Elect	rofishing	Specifica	ations	- 139	Other	Methods	
Site	ILP	Reach	(m)	(%)	Stream Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
AH	1440	Ĭ	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	T	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	I.	C	8.2	NA	NA over	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. 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
A19	1754	2	1.3	2	S6	9 13 98	140	238	70	L	('	9	MT		captured.
AH	1466	1	NS	NS	NVC	9 13 98	NA	NA -	NA	NA	NA	NA	NA	NA.	Historical Site. No Visible Channel. Not a stream Historical Site. Lower 100 m classified S4 based
A112	2002	1	1.1	4	S4/S6	9 13/98	150	211	80	ī.	ē	8	-NA	NA	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
AH4	1739	2	1.1	20	S6	9 14 98	150	104	70	I.	Č	0.5	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	М	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	М	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	М	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	Т	0.8	3	S6	9/14/98	NA 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		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.

>			Width	Gradient	Stream		6	Elec	trofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
A120	1283	Ī	0.9	6	\$4/\$6	9.15.98	400	467	85	1.	C	9	NA	NA	Historical Site. Gradient harrier (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	0	54/\$6	0:15:98	NA	NA -	-NA	NA.	NA	ÑA	NA	ÑA	Historical Site. Lower 30 m classified S4 based of 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 habita 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.
														17	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and
A126	1794	3	0,4	5	-S6	9 16 98	NA	NA	NA:	NA .	NA	NA	NA	NA.	28% for 30 m) downstream. Historical Site. Stream dry and subsurface flows
A127	1795	I.	0.4	6-	Sto	9 16-98	NA.	NA.	NA	NA.	NA	NA	NA	NA .	(discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A128	1746	T	NS-	NS	NVC	9-16-98	NA.	NA.	NA	NA.	NA	NA	NA	NA.	Historical Site. No Visible Channel. Not a stream
1129	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	1450	1	0.6	2	Str	9-13-98	NA	NA.	110	1	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. Historical Site. Overnight minnow traps set in
A132	1460	1.	0.7	-1	S6	9.13-98	NA	NA.	110	L.	C	7.6	MT	over night set	downstream wetland resulted in no fish captured. Non fish hearing based on second pass sampling. No fish habitat. Historical Site. Should be classed as a wetland.
A133	1455	4	6.5	1	\$6	9 13/98	NA	NA	90	M	C	8.2	МТ		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.

	1		Width	Gradient	Stream			Elect	rofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
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		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 (ish migration. 300 m upstream of road crossing gradient increases close to 20%. No perennial fish habitat present.
A196	1.112	4	0.8	13	\$4/\$6	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.
Δ19 7	1504	4	0.8	14	S6	9 27 98	NA	NΛ	NA.	- NA	NA	NA.	ŇĀ	- 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		0.4	15	S ₀	0 27 98	NA.	NA.	NA	NA	NA	NA	NA.	NA.	Historical Site. Falls (30 m) downstream on mainstem II P 1737 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
															Historical Site. Falls (3.2 m) downstream on mainstem ILP 2290 Reach 5 block fish access. No
ALIBE -	1.690	1 -	1.0	- fx	56	9 28 98	250	154	1)7	L	("	T.	NA	NA.	fish caught upstream of falls. Historical Site. Falls (3.2 m) at the bottom of this
A1102	2290	5	3.0	10	S3.S5	9 28 98	350	249	103	1	C	6.5	NA	NA.	Reach are a barrier to upstream fish migration. Rambow trout captured downstream of the falls. No fish captured upstream of the falls.
A1103	1968		0.7	34:	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.
	1 - 1											1471	361	SINIX	perennal morate
A1104	2200	-1-	NS	NS	NVC	9 28 98	NA	NA	NA	NA	NA	NA	NA	NA.	Historical Site. No Visible Channel. Not a stream Historical Site. High gradient (21%) within reach.
A1106	2032	1	1.0	7	\$6 \$4/\$6	9 28 98 9 28 98	200	236	92	L	C C	5.6	NA NA	NA NA	No fish captured. Historical Site. Subsurface flows and no connection to fish bearing water (discontinuous throughout). The portion of stream above the road crossing is \$6. The remainder of stream below the road crossing is \$4 based on potential access. No fish captured.
A1108	2034	-1-	1.5	10	S6	9.28.98	180	201	86	М	c	6.2	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 tish passage. No fish captured upstream of barriers.

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

3			Width	Gradient	Stream			Elect	rofishing	Specific	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
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	\$4*/\$6	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 remainde of the reach prevents upstream fish migration.
B130	2355	1	0.5	3	So	9.17.98	NA	NA.	NA	NA.	NA	NA	NΛ	NA	Historical Site. No fish habitat. Channel has no connectivity to downstream fish-bearing waters.
B137	2354	15	0.7	15 21	S4/S6 S6	9.26/98	NA NA	NA NA	NA NA	NA NA	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. Historical Site. No fish habitat. Average gradient is 21% over 100 m, limiting fish access to this reach.
B140	2400	T	NS	NS	NVC	9 26 98	NA-	NA:	NA	NA	NA.	NΛ	NA	NA NA	Historical Site. No Visible Channel. Not a stream
BHE	1377	5	1.4	34	S6	9.26.98	NA	NA.	NĀ	NA.	NA.	NA	NA	NA.	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicate that this stream is not fish barring.
B142	2415	F	0.0	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
[3] 44	2229	1	0.8	17	So	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.
8149	2223	í	1.4	16	S6	9 19/98	NA	NA	NA	N/A	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	\$6	9/19/98	150	277	152	L	e	9.1	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.

		V	Width	Gradient	Stream		8	Elect	rofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.		Cond.	Stage	Turb.	Temp.	Туре	Method	Comments
							(m)	Time (s)	(uS)	(vis)	(vis)	(°C)	-71	0 0 0 0	
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	l l	S6 (wetland)	9 20 98	285	328	.85	Н	e e	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% gradien 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	1806	6	1.0	5	.So	0.20.98	140	150	81	Ī.	e	7.2	NA	NA.	Historical Site. Subsurface flows. A 30% gradien 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.
B101	1719	7	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	í.I	Ú-	S6	9.24.98	NA .	NA.	NΛ	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 (15 m) downstream on mainstem ILP 1863 Reach 2 are a barrier to upstream fish migration. No fish captured upstream of falls.
B176	2265	÷	1.6	4	S6	9/24/98	250	250	71	1.	(*	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	Lo-	4	.S6	9.25/98	100	120	224	ī.	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	3()	S6	9/25/98	NA	NA	NA	NΛ	NA	NA	NΛ	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.

			Width	Gradient	Stream			Elect	trofishing	Specific	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
B179	1520	5	1.2	8	S6	9,25/98	150	234	124	L	(')	6.4	NA	NA	Historical Site. Good rearing potential. Falls (6 n 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	15(4)	ı	t.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 II.P 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	L6	20	S6	9 26 98	NA	NA .	NA	-NA	NA	NΛ	NA	NA	Historical Site. Poor rearing and spawning habitat Falls (2.1 m) in Reach 2 are a barrier to upstream lish 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	1.	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 fall resulted in no fish captured and confirms non fish bearing status. Inferred fish bearing downstream falls.
B189	1336	3	1.0-	20	Sü	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	0.39	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	М	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 hearing status.
B1502	2189	ī.	0.6	16	S6	9:15:98	100	68	40	L	(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.

-	7		Width	Gradient	Stream			Elect	trofishing	Specifica	ations	->	Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond.	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
B1503	2174	6	5.5	5	.S5	9.15.98	250	276	30	М	e-	6	NA	NA.	Historical Site. Falls (6 m) in Reach 4 are a barri to upstream fish migration. Second pass samplin upstream of falls resulted in no fish captured and confirms non fish bearing status. No fish capture
131504	2185	4	0.7	4	S6	9 15 98	100	200	60	l.	С	8	NA	NA.	Historical Site. Falls (6 m) on ILP 2174 (Reach- are a barrier to upstream fish migration. Second pass sampling upstream of falls resulted in no fish captured and confirms non fish bearing status. Historical Site. No fish habitat. Ephemeral streat
B1506	2178	2	0.5	5	\$6	9 16 98	NA	NA.	NA	NA	NA	NA	NA	NA	Cascades (12 x 20 m) in Reach 1 are a barrier to upstream fish migration. No fish captured upstream of the cascades.
131507	2178	1	1:0	5	S6	9 10 98	150	650	130	I.	L	ij	NA.	NA.	Historical Site. Cascade (12 m x 20 m) prevents upstream fish migration. No fish captured upstream of cascade.
111500	1903	7	1.0	7	S6	9 16 98	NA.	NA	N.V.	ÑA	NA	NA	NA	NA .	Historical Site. Poor habitat quality. Falls (6 m) on ILP 2174 Reach 4 are a barrier to upstream fis migration. Second pass sampling upstream of fal confirms non fish bearing status.
B1510	1883	2	1.0	Ťr.	\$6-	9 16 98	250	353	90	1.	C.	8	NA	NA	Historical Site. Second pass sampling in Reach 1 confirms non fish bearing status. No fish capture
131511	1885	3	2.0	7	86	9 10:98	200	200	80	1	C	7	NA	NA.	Historical Site. Excellent spawning and rearing, bedrock chute 0.58 m high (without an adequate plunge pool depth to attain leap) located in Reach is a barrier to upstream migration. Second pass sampling at 2 locations above this barrier indicate that this stream is non fish bearing above the chut No fish captured.
B1512	1888	3	1.0	-n	S6-	9 16 98	NA.	NA	NΛ	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 non fish bearing reach.
B15[3	2375	4	0.8	3	S6-	7.3.99	NA	NA	NA	NA	NA	NA	NA	NΛ	Historical Site. Poor habitat due to ephemeral nature. Second pass sampling confirms non fish bearing status.
815[4	2379	2	2.7	5	S6-	9 17.98	100	75	80	1	C	8	NA.	NA NA	historical Site. Second pass sampling confirms non fish bearing status of this stream. No fish captured.
B1518	2214		2.8	5	S6	9/18/98	NA.	NA	NΛ	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.

	1		Width	Gradient	Stream			Elect	trofishing	Specifica	ations	- 21	Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
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	Ī	1.0	5	S6	9.18/98	NA	NA	NA	NA	NA	NA.	NΛ	NA.	Historical Site. Second pass sampling and gradie (20%) in downstream ILP 2350 Reach 9 indicate this reach is non fish bearing.
181522	2215	3	NS.	NS	NVC	9.18.98	NA	NA	NA	NA.	NA	ÑA	NA	NA.	Historical Site. No Visible Channel. Not a stream
B1523	2350	14	0,4	5	S0 S6	9.19.98	NA 200	NA 261	NA 29	NA M	NA C	NA 5	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 sectio Historical Site. Moderate spawning and rearing. Falls (6 m) downstream in Reach 4 are a partier to upstream fish migration. Second pass sampling confirms non fish hearing status upstream of falls. No fish captured.
B1526	2265	-1	1.8	ă	S6-	3) 10 08	200	240	20	М	TC-	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	3	-NS	NS-	NVC	9-1X-9X	N.Y	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	ÑΑ	NΆ	NA	NA	NA	NA.	NA		Historical Site: Good rearing and spawning habitat. Falls (5 m) in downstream H P 1892. Reach 2 are a barrier to upstream fish migration. I wo (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status. Historical Site. Moderate rearing habitat. A falls
B1533	1892	7	0.9	ō	S6	9.21.98	150	72	30	М	Č	7.	NA-	- NA	(5 m) in downstream ILP [892 Reach 2 are: a sharrier to upstream fish migration. Two (2) sampling sites conducted upstream of the barrier resulted in no fish captured and confirms non fish bearing status.
131534	1900	i de	1:0	16	\$6	9/21/98	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 lish captured and confirms non fish bearing status.
81536	2278	2	0.6	8	S6	9:18:98	NA	NA	NA	NA	NΑ	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.

			Width	Gradient	Stream			Elect		Specifica	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
(81537	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 portio of stream above the falls is non-fish bearing. No fish captured.
B1538	1376	2	NS	NS	NVC	9.22.98	NA	NΛ	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	So.	0.23.98	NA.	NΛ	NA	NA	NA	NA	NA	NA -	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicat that this stream is non fish bearing.
B1542	1347	4	2.5	5	Sh Sh	0.23.98	250 NA	97 NA	40	L.	(°	8 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 streat above the barrier is non fish bearing. No fish captured. Historical Site. Gradient (21% over 100 m) prevents upstream fish migration.
B1549	1532		NS	NS	NVC	9.23.98	NA	NA.	NA	NA	NA	NA	N.A.	NA -	
B1551	1530	- 1	1.2	5	S6	9.26-98	NA.	NA.	NA.	NA.	NA.	NA	- NA	NA NA	Historical Site, No Visible Channel, Not a streat Historical Site, Classified S6 by SKR 401.
B1552	1875 1875	2	3.1	14	-S6 -S5	9 26 98	NA NA	NA NA	NA NA	NA NA	-NA	NA NA	NA NA	NA NA	Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status. Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is barrier to upstream fish migration. Second pass sampling upstream of gradient confirms non fish bearing status.
B1554	1877	8	NS	NS	NVC	0.26.98	NA-	NA	-NA	NA.	NA	NΛ	NA	NA	Historical Site. No Visible Channel. Not a stream
B1559	1358	T	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	\$5	9.26.98	400	406	30°	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 not fish bearing. No fish captured.

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

			Width	Gradient	Stream	5.		Elect	rofishing	Specifica	ations	_ n	Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
B1561	1347	8	0.7		So	9.26/98	100	131	80	M	(vis)	(c)	NA	NA	Historical Site. Falls (2 m) in Reach 4 are a barrie 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.
131562	1245	9	1.5	4	S6	9.26.98	100	166	1.00	Н	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 lish access to this reach.
B1569	2356	3	NS	NS	NVC	9.3=98	NA	NA.	NA	NA.	NA	NA.	NA	- NA	Historical Site. No Visible Channel. Not a stream
B1570	1901	Ť	0.7	4	S6	9.27.98	150	245	40	М	C	- 11	- NA	N ₂ V	Historical Site. Moderate habitat quality. Falls (6 nt) 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	0.27.98	200	194	60	1.	- XI	# ·	NA	NΛ	Historical Site. Falls (6 m) in downstream II P 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of fall, indicate that the portion of stream upstream of the falls is non-fish bearing. No fish captured.
B1572	1905	2	1.0	ā	\$6	0.27.98	150	340	40	L	C	10	NA.	NA	Historical Site. Falls (6 m) in downstream II P 2174 Reach 4 are a barrier to upstream fish migration. Second pass sampling upstream of fall indicate that the portion of stream above the falls non fish bearing. No fish captured.
B1573	1907	1	NS	NS	NVC	9.27.98	NA:	NA.	-NA	-NA	NA	NA.	- NA	NA	Historical Site. No Visible Channel. Not a stream
B1574	1901	г	3.0	14	S6	9.27.98	400	306	60	L	ζ.	8	NA	NA	Historical Site. Falls (6 m) in downstream H.P 2174 Reach 4 are a harrier 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 0.4	NS 16	NVC S6	9/28/98	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	Historical Site. No Visible Channel. Not a stream Historical Site. Falls (10 m) downstream are a barrier to upstream fish migration. Channel width 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.

			and the	0 11	0			Elect	rofishing	Specifica	tions		Other	Methods	
Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Dist.	Time (s)	Cond.	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
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	Ġ.	S6	9 28 98	100	218	80	М	C	6	NA	NA	Historical Site. An average gradient of 25% in Reach 5 prevents access to this reach. Second pas sampling confirms non fish bearing status upstreat 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	So	9.28/98	200	418	60	1.	C	6	Nλ	NA	Historical Site. Falls (6 m) downstream in Reach 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	L#	4	S3#:S6	T 1.99	1000	1060	-40	M	C	8	NA	NA.	Historical Site. Subsurface flows, sediment wedges and a braided channel near Babine Lake limit lish access to this reach. An old road crossin 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 [3)9	400	1051	40	М	C	x	NA	NA -	Historical Site. A bedrock chute 0.58 in 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.

			meta	C T				Elect	rofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	Width (m)	Gradient (%)	Stream Class	Date	Dist. (m)	Time (s)	Cond.	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
B1614	1885	2	1.6	12	86	9/16/98	200	238	50	М	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 Reac 1 is a barrier to upstream fish migration. Second pass sampling at 2 locations above this harrier 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	М	C	x	NA	NA.	Historical Site. No overwintering habitat, no spawning habitat, and poor rearing habitat. A 20 falls in the lower portion of this reach prevents upstream access. Second pass sampling within the reach confirms non-fish bearing status. No fish captured.
B1617	1860	5	2.0	fr	S6	7 2 99	1000	683	60	M	C	*	NA	N.A.	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 statut No fish captured.
B1618	1866	4	2.7	12	\$3/\$6	7 2 99	680	362	60	М	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	\$3/\$6	7-2-99	130	216	60	NS	C	8	NA	NA	Historical Site. Good rearing and fair spewning 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	М	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.

			Width	Gradient	Stream			Elect	rofishing	Specifica	ations	1-3-6	Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
B1621	1335	2	1.6	7	\$3*/\$6	9 26 98	300	538	-60	М	C	ů.	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 fal confirms non fish bearing status. No fish capture Historical Site. No spawning habitat, no
B1623	2375	-3	1.0	2	S6	73'99	200	241	40	М	-(*	7	NA	NA	overwintering habitat, and poor rearing habitat, ephemeral. Second pass sampling confirms non fish bearing status. No fish captured. Historical Site. No rearing or overwintering
B1624	2379	-1	1.4	- 5	S6	73.99	200	207	50	М	C	7	NA	ÑΛ	habitat. Poor spawning habitat. Second pass sampling confirms non fish bearing status. No fi- captured.
B1626	2350	13	1.2	20	S6	7 4 99	200	301	60	M	(-	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.
81702	2174	4	7.0	6	S2:S5	6-29-99	800	853	80	П	L	X	NA .	N/A	Historical Site. Good spawning, rearing and overwintering habitat. Falls to 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.
13 (705	1347	4	4.2	12	\$3-\$5	9 23 98	800	911	-90	11	C	8	NΛ	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	B	· (°	8	NA	NA	Historical Site. No spawning, rearing, or overwintering habitat present. Second pass sampling confirms non-fish bearing status. No fis captured.
B1707	1359		0.5	13	S6	7 [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	Н	L	9	NΛ	NΛ	Historical Site. Poor spawning and rearing habita No overwintering habitat. Second pass sampling confirms non fish bearing status. No fish capture
B1710	1520	4	3.4	8 =	\$3*/\$5	7/2/99	1000	1555	80	Я	C	3)	NA-	NA	Historical Site. Good rearing, spawning and overwintering habital. 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.

			Width	Gradient	Ctronni	1		Elect	rofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	(m)	(%)	Stream Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
							(iii)	Time (s)	(45)	(VIS)	(VIS)	(0)			Historical Site. No overwintering habitat. Limite spawning and rearing habitat. An average gradien of 25% over 100 m prevents upstream fish migration. Second pass sampling upstream of gradient section confirms non fish bearing status.
B1711	1521	5	2.0	25	-S6	7.7.99	900	831	120	-11-	C	6	NA	NA	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.
81717	2253	3	2.1	13	S6	9 19 98	1200	X04	60	-11	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	f	2.4	11	S6	23.99	917	1815	70	-11	(*	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.
														over	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
BI-L1	2265	6	NA NA	NA NA	NA NA	9 27 98	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	GN GN	over	lake confirms non fish bearing status of stream. 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.
-TV ((())			0.2		079	0.30.03		0.0	X11	***		***			Historical Site. Limited habitat potential. Inferred
C11002 C11003	1127	2	0.4 NS	4.5 NS	S6* NVC	8.30.97 8.30.97	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	non fish bearing.
C11003	1306	1	NS	NS NS	NVC.	8/30/97	NA NA	NA NA	NA.	NA NA	NA NA	NA.	NA NA	NA NA	Historical Site. No Visible Channel. 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.
C.11010	1489	1	NS	NS	NVC	8/30/97	NA.	NA.	NA	NA .	NA.	NA	NA	NA	Historical Site. No Visible Channel.
CHOH	2007		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 H.P 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	NΛ	NA.	NA	NA	NA	NA.	NA.	NA	Historical Site. No Visible Channel.

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

			Width	Gradient	Stream			Elect	rofishing	Specifica	ations	-	Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
										(115)					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 no
C11031	2127	6	1.9	1.0	S6	9.2.97	100	361	50	L	C	8.9	NA	- NA	fish bearing status.
C11032	1955	Tol	1.0	24	S6	9497	100	144	110	M	C	10	NA	NA	Historical Site. High gradient (24% over 100 m). No fish captured.
C11033	1954	T.	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	NΛ	Historical Site. High gradient (25% over 100 m). No discernible channel in areas.
(*11039	2055	1	1.0	3	S6	9.3.97	NA	NA	NΛ	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. Historical Site. High gradient (>20% over 100 m)
WILLIAM FOR	2012		70.1	20	- Ci	0.3.07	SIX	A/X	NEA	- XLX	NIA	NIA	- NIX	NO	blocks upstream access. No perennial habitat
C11040	2042		0.4	20	So-	9 3 97	NA.	NA NA	NA -	NA NA	NA.	-NA	NA.	NA.	upstream of gradient section.
CT1045	1507		NS .	NS.	NVC_	9 4 97	NA.	NA.	NA.	NA	-NA	NA.	NA.	NA	Historical Site. No Visible Channel. Historical Site. Non fish bearing based on second
C11046	1459		0.6	-0	S6.	9.4.97	100	450	80			9	NA.	NA	pass sampling. No fish captured.
C11053	1910		NS	NS	NVC	9.3/97	NA	NA	NA	NA	NA	NA	NA.	NA.	Historical Site. No Visible Channel.
X 4 10/03/	3.210	-	5.8.5	240	1117		1122	1,0.1	1.03	1	23.4	1	1072	1	Historical Site. Subsurface gully drainage.
£12006	1127	1	0.4	14	S6#	8 30 97	NA	NA	NA	NA	NA	NA	NA	NA	Inferred non tish bearing.
											71				Historical Site. No Visible Channel. No
C12014	1429	2	NS.	NS	NVC	8 31 97	NA.	NA	NA	NA	NA	NA.	NA	NA.	discernible channel above or below culvert.
1													-		Historical Site. No Visible Channel. No
C12018	1610	T.	NS	NS	NYC	9.1-97	NA.	NA	NA	NA	NA	NA.	NA	NA	discernible channel.
					2562				11.7		12.7	1			Historical Site. No Visible Channel. No
(*12019	1603	P	NS.	NS.	NVC*	9 1 97	NA.	NA NA	NA	NA.	NA	NA.	NA	NA	discernible channel.
C12020	1794	1	0.9	10	S6*	0.1-07	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 II.P 1792 Reach 1 likely limits upstrean lish migration. Limited fish habitat.
17 = 7													-		Historical Site. No Visible Channel. No alluvial.
(*12021	1748	1	NS	NS .	NVC-	9 1 97	NA.	NA.	NA.	NA:	NA	NA.	NA.	NA.	channel.
C12025	1735	2.612	NS .	NS	NVC	9.1.97	NA	NA	NA	NA.	NA	NA.	NA	NA	Historical Site. No Visible Channel.
C12026	1805	11/11/2	NS	NS	NVC	0.2.07	NA.	NA NA	NA	NA.	NA NA	NA.	NA	NA NA	Historical Site. No Visible Channel.
C12027	1806	- 0.13	NS	NS	NVC	0 2 97	NA	NA.	NA	NA_	NA	NA	NA-	- NA	Historical Site. No Visible Channel. High gradient (25%), no perennial habitat
C12028	1804	2	2.4	18	S6	9 2 97	NA	NA	NA	NA	NA	NA	NA	NA	observed.
C12029	1804	1	NS	NS	NVC	9297	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 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.

- 3	- 3		Width	Gradient	Stream			Elect	rofishing	Specifica	itions		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.		Cond.	Stage	Turb.	Temp.	Туре	Method	Comments
							(m)	Time (s)		(vis)	(vis)	(°C)			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 fis
(*[2038]	1960	1	1.0	3	S6	9.3/97	NA	NA .	NA	NA	. NA	NA	NA	NA.	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	М	C	9	NA	NA	Historical Site. Cascade (1 m x 0.5 m) at the top- 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.
C12043	- 1700	2	NS NS	NS NS	NVC	9.4.97	NA.	NA NA	NA -	NA	NA.	NA	NA.	NA	Historical Site. No Visible Channel.
(*12053	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	[3	S6	9.21:97	100	200	60	L	С	-10	NA .	NA	Historical Site. Falls (30 m) downstream in React 2 is a barrier to upstream fish migration. No fish caught upstream of falls confirms non fish bearing status.
(12118	12X4	1	NS-	NS	NVC	9.21.97	NA	NA	NA	NA	NA.	NA	NA	NA	Historical Site. No Visible Channel. 32% gradien
C13045	1800	1	0,7	0	S6	9.4.97	NA	NA.	NA	NA	NA	NA.	NΑ	NA.	Historical Site. No perennial habitat, gradient barrier—falls at lake blocks upstream access. Second pass sampling continus non fish bearing status.
12154	1678	3	0.9	9	S6	9 20 98	NA	NA	NA	NĀ	NA	NA	NA	NA	Historical Site. Spawning and rearing habitat is poor. A cascade (1.6 m x 1 m) located downstrear on mainstem II.P 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	So	9.21.98	150	227	219	M	Č	6.9	NA	NA	Historical Site. Cascade (1.6 m x 1 m) in Reach 2 of this stream is a barrier to lish migration. Secon 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		NA	NA	NA	NA	Historical Site. Cascade (1.6 m v 1 m) in Reach 2 of this stream is a barrier to lish migration. Secon pass sampling confirms non-fish bearing status. No fish captured upstream of cascade.
E162	1681	7	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.

1		Pt 3	WEJAL	Gradient	Ctrons			Elect	rofishing	Specifica	ations	1 3	Other	Methods	
Site	ILP	Reach	Width (m)	(%)	Stream Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
E164	1069	3	Ē0	26	S6	9/22/98	100	199	114	L	· (·	6.1	NA	NΛ	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.
1:166	1024	1	0.5	7.	-S6	9.22/98	NA.	NA 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. Historical Site. Poor fish habitat, Second pass
E167	1618	4	1.2	5.	S4* S6	9.22 98	400	109	114	М	_ (°	6.5	NA	NA.	sampling and habitat characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No Jish captured. Inferred fish bearing downstream.
1-109	1633	3	LI	1	S6	9 23 98	NA	NA	NA	NA	NA	NA	NA	NA	Historical Site. Second pass sampling confirms non fish bearing status
E182	1642	- 8	1.8	4	-S3/S6 -S6	9 25 98	100	256	109	L.	L.	5.5	NA NA	NA NA	Historical Site. Cascade (2 m x 1 m) within this reach is a barrier to upstream fish migration. No tish captured upstream of barrier. Fish stream below barrier. 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.
CERT	1611	-11	NS	NS	NVC	9.25.98	NA	NA	NA	NA	NA.	NA	NA.	NA	Historical Site. No Visible (hannel. Not a stream.
F183	1643	7	0.6	1	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.
E1002	[676	es.	1.0	5	S6	9/21/98	450	1272	90	М	C	7.5	NA	NA	Historical Site. A caseade (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 caseade. No fish captured.
E1603	1676	5	0.6	1	S6	9/21/98	350	515	90	М	NA	NA.	NA	NA	Historical Site. A cascade (1.6 m.x.l 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.

	1000		Width	Gradient	Stream			Elect	rofishing	Specifica	tions		Other	Methods	
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.	T' ()	Cond.	Stage	Turb.	Temp.	Type	Method	Comments
1:1604	1678		0.5	7	S6	6-26-99	(m)	781	(uS)	(vis)	(vis)	(°C)	NΛ	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.
1:1605	1632		1:0		S4'S6	6 29 99	300	363	70	M	C	8	NA.	NA NA	Historical Site. Non fish bearing based on secon pass sampling. The lower portion of this stream offers fair spawning and poor rearing habitat. Fi bearing based on access in lower portion of reach No fish captured.
1:1606	1633	1	0.9	3	S6-	6-30-99	300	243	70	М	e	8	NA	NA.	Historical Site. No spawning, rearing or overwintering habitat. Second pass sampling confirms that fish do not utilize this reach. No fi captured.
1:160°	1043	3-	0.9	5	So	6 30 39	300	314	70	M	C	6	NA NA	NA -	Instorical Site. Poor rearing, no spawning and no overwintering habitat. Small cuscades and 15% gradient prevent fish access. Second pass sampli 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. N fish captured.
E1009	1618	1	7.1	4	\$4*.\$6	9 22 98	400	789	-00	M	C	9	NA	NA	Historical Site. The lower 200 m of this can be classified as fish bearing based on access. Secon pass sampling in two separate seasons and habita characteristics indicate that the portion of stream above the lower 200 m is non fish bearing. No fi captured.
E1620	1637		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 separa seasons.
F146	2298	13	2.0)	6	\$6	9 19 98	400	384	62	M	С	5	NA	NA	Historical Site. Second pass sampling in Reach indicates that this reach is non fish bearing. No fish captured.
F147	2298	-11	2.7	5	So	9-19-98	775	207	65	М	C	5	NA	NA	Historical Site. Second poss sampling in Reach indicates that this reach is non fish bearing. No fish captured.
F148	2230		1.2	15	S6	9/19/98	50	40	38		C	6	NA	NA	Historical Site. Small chutes and cascades preve fish access. No fish habitat. Second pass sampli 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 React are a barrier to upstream lish migration. Second pass sampling upstream of falls confirms non fish bearing status. No lish captured upstream of fall

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

- 3			Widel	Gradient	Ctronn			Elect	rofishing	Specifica	ations		Other	Methods	
Site	ILP	Reach	Width (m)	(%)	Stream Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
F1528	2299	2	0.4	3	S6.	9/19/98	NA-	NA	NΛ	NΛ	NA	NA	NA	NA	Historical Site. No Visible Channel 100 m belor sample site prevents upstream fish access.
F1547	1406	9	1.3	5	S4:S6	-9/24-98	250	378	50	M	Ċ	Ž-	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.
1-102T	1400	9	2.0	3	\$3/86	7 3-00	-300	010	50.	М	t.	9	NA.	NA .	Historical Site. Falls (3 m) are a barrier to upstream fish migration. Second pass sampling upstream of falls confirms non lish bearing statu Rainbow trout were captured downstream of fall Historical Site. Second pass sampling in best
171625	2298	-()	3.3	δ.	-56-	73.00	400	741	50	М	С	7	NA	NΔ	possible habitat indicates this is not a fish bearir reach. No fish captured.
11025	2278		200	- 0	500	2.77	400	-3-41	307	- M			13/3	14.4	Historical Site. Non fish bearing based on secon
102-811	1,50%	2	1.4	ī	80	=11.02	237	240	NA	L	T	10	NA	NA	pass sampling conducted during 1:20K inventory 2002 (site 305);
102-817	1181	3	153	Ĭ.	S6	2 11/02	150	180	NA.	(3)	C	10	NA	NA .	Historical Site. Ephemeral stream. No connecti to downstream fish bearing waters. Approximat 30 m below proposed road crossing the stream f through a non-channelized wetland for over 200
102-813	1180	-1	NS	N8	WNVC	7 11 02	NA.	NA	N.Y	NA	NA-	NA.	N.X.	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 fis access (potential Fisheries Sensitive Zone).
4	2373	3	2.1	20.50	\$3*/\$6	8/27/02	200	306	90	L	C	9	NA	NA	Dry/Intermittent. Poor rearing, poor spawning a no overwintering habitat observed within site. Sections of high gradient (20% over 100 m) blow upstream fish migration. Inferred fish bearing downstream of high gradient section. No fish captured.
5	2370	5	2.5	12.00	\$3*/\$6	8/27/02	300	301	60	L	С	9	NA	NA	Dry/Intermittent. Poor rearing, no spawning an 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. In fish captured.
6	2370	6	NS	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	Ĺ	С	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 cascaderesulted in no fish captured and confirms non fish bearing status.

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

10 72 15 1	No.	E51	Width	h Gradient	Stream	14.7%	S. T.	Elec	trofishing	Specific	ations	L	Other	Methods	E TO WAR WAS A STREET OF
Site	ILP	Reach	(m)	(%)	Class	Date	Dist.	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Type	Method	Comments
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	\$4*/\$6	8/28/02	100	89	60	L	С	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	С	8	NA	NA	Dry/Intermittent. High gradient (24%) ~100 m upstream of the confluence with ILP 1944 prever 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	С	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	ī	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 habits observed within site. Inferred fish bearing downstream of high gradient section. No fish captured.
19	2009	2	2.1	5.50	\$3*/\$6	8/28/02	400	513	60	Ĺ	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	Ĺ.	С	8	NA	NA	Cascade section (50 m x 60 m) blocks upstream fish migration. Below cascade section inferred fi bearing. Poor rearing, no spawning and no overwintering habitat observed within site. No fi 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	Dist.	建	cond.	Stage	Turb.	Тептр.	Other	Methods Method	Commoents
21	2009	3	1.6	3.75	\$6	8/28/02	300	Time (s)	(uS)	(vis)	(vis)	(°C)	NA 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.
	1066	2	7.4	23,00	S4*/S6	8/29/02	100	96	70		С	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	1966	3	NS NS	NS	NVC NVC	8/30/02	NA.	NA.	NA.	NA	NA.	NA	NA NA	NA NA	No Visible Channel. No potential fish habitat.
40	1400	-	110	140	ive	6/30/02	Inn	INA	IMA	146	IN.	INA.	Ita	INA	No Visible Channel. No potential fish habitat. N
56	1181	5	NS	1.25	NVC	9/28/02	NA	NA	NA	NA	NA.	NA	NA	NA	access through this Reach.
64	2131	1	1.8	16.50	S6	9/29/02	300	368	40	М	С	.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. 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
65	2052	2	2.1	5.25	\$6 \$6	9/29/02	300	326	60	M L	С	5	NA NA	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. Falls (2.4 m) located downstream on mainstem IL
68	2055	1	1,1	4.75	S6	9/29/02	200	261	60	L	С	7	NA .	NA	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. 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
69 74	2052	3	1.6	5.25	\$6 \$3*/\$6	9/29/02	200	231	70	L	С	7	NA NA	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.

	Circ. II D. Pasch		Width	Gradient	Stream		Mary.	Elect		Specific	_	100	Other	Methods	
Site	Site II P Reach I	(m) (%)	Class	Date	Dist.	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments		
355	1332	4	1.7	2.38	S6	9/26/02	209	338	40	М	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	\$6	9/26/02	200	236	60	L	С	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	\$6	9/26/02	220	312	70	NA	E	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	МТ	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.

	1000	Width Gradient Stream Electrofishing Specifications				5.49	Other	Methods							
Site	'ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
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.
										-		150		over	The state of the s
368	1332	- 5	NA.	NA	NA	10/7/02	NA	NA	NA	NA	NA	NA	MT	night set	Fish only sampling site.
370	1863	5	NA	NA	NA	10/8/02	NA	STA	1	100	274		1.00	over	
370	1003	3	NA	INA	NA	10/8/02	NA	NA	NA	NA	NA	NA	MT	night set	Fish only sampling site. (Lake) Falls (15 m) in the lower portion of this reach are
371	1863	2	1.8	6.00	\$6	10/7/02	260	312	100	L	C	6	NA	NA	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	С	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. A bedrock cascade (16 m x 22 m) within this
617	1231	3	1.8	3.00	\$6	9/26/02	220	510	80	М	С	6	NA	NA.	Reach is a barrier to upstream fish migration. For (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	М	c	6	NA	NA	A bedrock cascade (16 m x 22 m) within this Reach is a barrier to upstream fish migration. Fou (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	\$6	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	\$6	9/28/02	180	310	210	М	С	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	С	6	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.

- th			Widel	Width Gradient	Stream		Electrofishing Specifications Other Methods								
Site	ILP	Reach	(m)	(%)	Class	Date	Dist. (m)	Time (s)	Cond. (uS)	Stage (vis)	Turb. (vis)	Temp.	Туре	Method	Comments
644	1844	ī	NS	NS	NS	9/29/02	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 = H

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 posses 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
AII	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	[.Z	4	RB	S3-	Historical Site. Fair spawning and rearing habitat. Culvert structure provides access at all flows. Rainbow trout captured.
A13	1448	T	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream. Historical Site. Moderate rearing and fair
A14	1447	η_	093M.020	1.9	4	RB .	S3	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. Historical Site. Vegetated seepage. No fish
A16	1590	Υ	093M,010	().5	4	NS	S6	habitat. Historical Site. Excellent spawning and rearing
A17	1752	6	093N.001	4,2	4	RB	S3	habitat. Rainbow trout captured. Historical Site. Lower 400 m of this stream classified S4 based on access. Upstream of 400 m mark, habitat becomes subsurface flow and
A18	1750		093N.001	1,2	G	NFC	S4*/S6	discontinuous. No fish captured. 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
A110	1754	2	093N.001 093M.020	2.0	2 2	NFC RB	S6 S3	eaptured. Historical Site. Rainbow trout captured.
AIII	1466	Ţ	093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A112	2002		093K,091	I,I	4	NFC	\$4/\$6	Historical Site. Lower 100 m classified S4 based on access. Upstream of 400 m mark channel becomes discontinuous. No fish captured.
A.012	200.1	4	TOTAL STATE	100	310	\$100	10.00	Historical Site. No Visible Channel. Not a
A114	2004	2	093R.091	NS L.I	NS 20	NS NFC	NVC So	Historical Site. Gradient barrier downstream (21%) prevents fish from accessing this reach. No fish captured.
A115	1732	i	093N.001	2.2	13	NEC	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	Tr.	NFC	S6	Historical Site. Falls (30 m) in Reach 2 are a harrier to upstream migration. No fish were captured upstream of falls (second season sampling).
A118	1800		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	(279	3	093M-030	()_(i	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
								Historical Site. Gradient barrier (25%) 100 m upstream from confluence. No fish caught above barrier. Excellent spawning and rearing habitat is lower 100 m of reach. Fish captured downstream of barrier, S4 downstream of barrier, S6
A120	1283	_1_	093M.030	0.9	0	RB	\$4.50	upstream,
A.121	1.283	2	093M.030	0.7	.8	NS	·S6	Historical Site. Gradient barrier (25%) in Reach 1 prevents fish access to this reach. Historical Site. Lower 30 m classified S4 based
A122	1295	de s	093M.030	0,0	6	NS	\$4/\$6	on access. A gradient barrier (>20%) 30 m into reach prevents upstream fish access. After 180 n stream becomes a seepage (NVC). Stream is \$4 downstream of block, \$6 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	F-	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	Υ	093N.001	0.4	0	NS NS	S6	Historical Site. Stream dry and subsurface flows (discontinuities). High gradient (23% for 50 m and 28% for 30 m) downstream.
A128	1746		093N.001	NS	NS	NS	NVC	Historical Site. No Visible Channel. Not a stream.
A129	1747	T	093N.001	0.5	77	NS	S6	Historical Site. No connection to fish bearing waters and no perennial fish habitat.
	7,347		1					Historical Site. Good rearing and spawning
A130	1743	2	093N.001	1.6	()	RB	\$3	habitat. Rainbow trout captured.
A131_	1459	Y	003M,020	0.6	ź	NFC	\$6	Historical Site. Overnight minnow traps set in downstream wetland resulted in no fish captured. Non fish bearing based on second pass sampling.
A132	1460		093M.020	0.7	7	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	,	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		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 or access.
A193	1116	T.	093M.029	0.7	2	NFC	\$4	Historical Site. Fish bearing stream based on access. Poor spawning and poor rearing habitat.
A.194	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
								Historical Site. High gradient (30%) at lake is a barrier to upstream fish migration. 300 m upstream of road crossing gradient increases closs
A195	1114	. 1	093M.029	0.8	6	NS	S6	to 20%. No perennial fish habitat present.
								Historical Site. Gradient barrier (>20%) 150 m downstream of road crossing. Section downstream of barrier S4 based on access. Poor
A196	1112	4	093M.029	0.8	13	NS	S4 S6	spawning and rearing habitat.
								Historical Site. Falls (30 m) downstream on mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured
A197	1504	I	093N.011	0.8	14	NS	S6	upstream of falls. Historical Site. Falls (30 m) downstream on
								mainstem ILP 1737 Reach 2 are a barrier to upstream fish migration. No fish captured
A198 A199	1505 2066	2	093N.011 093K.092	1.9	15	NS RB	S6 S3	upstream of falls. Historical Site. Rainbow trout captured.
A1100	2043	2	093K.092	Li	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		093K.091	0.9	7	NFC	\$6	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	C.6.	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
A1106	2034		0938.091	1.2	10	NPC	S6	upstream of barriers.
A1109	2029	j	093K.092	1.2	5	NFC	S4	Historical Site. S4 stream based on access. This reach flows directly into a fish bearing stream. Historical Site. No fish habitat. Falls (2.4 m)
A1110	2052	4	093K.092	1.1	5	NFC	S6	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	\$4*/\$6	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	T	093K,071	2,0	1	RSC	53	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	52	Historical Site. Good spawning and rearing habitat. Rainbow from redside shiner, white sucker and prickly sempin captured.
B136	2355	i	093K.071	0.5	3	NS	S6	Historical Site. No fish habitat. Channel has no connectivity to downstream fish-bearing waters. Historical Site. Poor habitat. Dry channel.
B137	2354	15	093K.072	1.0	15	NS	\$4/\$6	Lower 50 m of reach offers some seasonal habita 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. fimiting fish access to this reach.
B139	2406	1	093K.072	2.3	3.	C'AS	S3	Historical Site. Good rearing habitat: good cover and pools. Poor spawning habitat: no gravel present. Prickly sculpin captured. Historical Site, No Visible Channel, Not.a
B140	2400	. 1	093K.072	NS	NS	NS	NVC	stream.
B141	237-7	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	()93K.()72	(),3)	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		093K.081	0.8	17	NS	\$6	Historical Site. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B145	2225	3	093K.081	0.7	5	NS	Só	Historical Site. Poor spawning and rearing habitat. Second pass sampling (downstream ILP 2358 Reach 4) confirms non fish bearing status.
B149	2223	ř	093K.081	Tet	16	NS.	Sh	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. t	19	NEC	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	So	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	Yn d	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	Só	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	15	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.
Corre	1000	111		TO THE		The Carlo		Historical Site. No Visible Channel: Not a
B161	1719	2	093M.010	NS	NS	NS	NVC	Historical Site. Excellent rearing habitat. Good
B170	1537	4	093M.010	3.6	(i	RB	\$3	flows, cover and pools. Fair spawning habitat Rainbow trout captured.
B171	1541	2	093M.010	0.0	2	NS	S4*	Historical Site. Poor rearing and poor spawning habitat. S4 based on access.
B172	1710	2	_093M.010	[:E	6	NS	S6	Historical Site. Poor spawning and rearing habitat. Channel disturbed by previous logging. No connection to fish hearing waters. A falls (15 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	53-	Historical Site. Excellent rearing habitat: LWD present and abundant cover. Poor spawning habitat. Rainbow trout captured.
B176	2265	3	093K.091	1.6	Ä	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	.\$6	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. Historical Site. No fish habitat. High gradient
B178	1566	2	093M.010	0.7	30	NS.	.56	(30% average over 100 m) prevents upstream fish migration.
B179	1520	5	093M.010	1.2	8	NIC	50	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. Historical Site. Poor spawning habitat. Fair to poor rearing habitat. Falls (1.5 m) in downstream
B184	1560	-6-	093M.010	l.l.	è	NFC	S6	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. Historical Site, No Visible Channel. Not a
B185	1331	ì	093M.019	NS	NS	NS	NVC	stream

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
DISC	1222		San Sugar	102		Tuber!	10000	Historical Site. No Visible Channel. Not a
B186	1333	3	093M,019	NS 1.6	NS 20	NS NS	NVC So-	Stream. 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	1.0	8	NFC	S3*/S6	Historical Site. Good rearing and spawning habitat. Falls (2.1 m) are a harrier to upstream fish migration. Second pass sampling apstream of falls resulted in no fish captured and confirms non fish bearing status. Inferred fish bearing downstream of falls. Historical Site. No fish habitat. High gradient (20% over 100 m) prevents upstream fish
B1S9	1336	2	093M.019	1.0	20	NS	S6	migration.
B190	1340	3.	093M.019	0.9	14	NS	56	Historical Site. No fish habitat. Ephemeral Stream. Gradients of >20% within reach.
B191	1343	2	093M.019	0.6	ò	NS	\$6	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	ij	NEC	\$5	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	E	093L.090	0.6	46-	NFC	Sá	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 fis captured and confirms non fish bearing status. Historical Site. Falls (6 m) in Reach 4 are a
B1503	2174	6	093L.090	5.5	5	NFC	S5	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	\$6	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	1	()93L.()9()	6.7	3	RB	ŚZ	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:	Sh	Historical Site. No fish habitat. Ephemeral stream. Cascades (12 x 20 m) in Reach I are a barrier to upstream fish migration. No fish captured upstream of the cascades.
B1507	2178	1	.0931000	1.0	5	NFC	\$6	Historical Site. Cascade (12 m x 20 m) prevents tipstream fish migration. No fish captured upstream of cascade,
B1508	2151	7	0931,.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
								Historical Site. Poor habitat quality. Falls (6 m on ILP 2174 Reach 4 are a barrier to upstream lish migration. Second pass sampling upstream
B1509	1903	2	-0931090	0.6	7	NS	So.	of falls confirms non fish bearing status.
								Historical Site. Second pass sampling in Reach
B1510	1883	2	093L.100	1.9	6	NEC	S6	confirms non fish hearing 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) locate 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	4.0		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 the reach and lack of adequate habitat indicate this is a non fish bearing reach.
2 2	11.00							Historical Site. Poor habital due to ephemeral
B1513	2375	4	093K.071	0.8	3	NS	S6	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	1	NS	S3**	Historical Site. Rearing habitat fair during winte flows. Spawning habitat fair to poor. Fish stream based on access.
DIEW	2251		WY212-WE1	1.361	117,7		2.2	Historical Site. Excellent rearing habitat.
B1516	2354	- 4	093K.071	5.7	5	RB	82	Rainbow trout captured. Historical Site. Good rearing habitat. Rainbow
B1517	2354	5	093K.071	5.5	4	RB	52	trout captured.
B1518	2214	1.	093K.081	2.8	5	NS	\$6	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	235()	10	093K.081	0.0	34	NS	So	Historical Site. Gradient (34%) is a barrier to fis passage.
B1521	2216	1	093K.081	1.0	5	NS	S6	Historical Site. Second pass sampling and gradient (20%) in downstream ILP 2350 Reach (indicate this reach is non fish bearing.
		1	1 - 7 - 6					Historical Site, No Visible Channel. Not a
B1522	2215	3	093K.081	NS	NS	NS	NVC	stream. Historical Site. No fish habitat. Downstream
B1523	2350	14	093K.081	0.4	5	NS	So.	gradient of 34% in Reach 10 prevent fish access. No fish captured upstream of high gradient section.
B1524	2151	1 (1	093K.081	1.2	- 3	RB	S4	Historical Site. Excellent rearing habitat. Rainbow trout captured.
B1525	2174	14	093K.091	1.4	3	NFC	\$6	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
								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 fis
B1526	2265	10	003K.091	- L.S	5	NFC	56	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	0931,.090	NS	NS	NS	NVC	Historical Site, No Visible Channel, Not a stream.
B1532	1895	ĺ	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	ń	NFC	\$6	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. Historical Site. Falls (6 m) in downstream ILP
B1534	1900	1	-093L-100	1.0	fr	NFC	\$6	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. Historical Site. Excellent rearing habitat.
B1535	2350	5	093K.081	2.0	7	RB	S3	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		093M.019	0.5	19	NS	So	Historical Site. Second pass sampling confirms this stream is non fish bearing.
B1540	1349	3	093M.019	2.1	5	RB	83	Historical Site. Poor habitat quality. Fine sediment covers cobble within the stream bed. Reach has been logged to the stream bank. Rainbow trout cuptured.
B1541	1359	2	093M.019	0.6	g	NS	\$6	Historical Site. Ephemeral stream. Second pass sampling and lack of adequate fish habitat indicate that this stream is non fish hearing.
B1542	1347	4	093M.019	2.5	5	NFC	\$6	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
	7.0	1 000						Historical Site. Good rearing and spawning
B1543	(36)	2	093M.019	3.3	5	RB.	53	habital. Rambow trout captured.
								Historical Site. Reach has been logged to the
			F-10					stream banks. Moderate fish habitat. Rainbow
B1544	1361	3	. 093M,019	1.8	. 5	RB	53	trout captured.
		7 7 7			1			Historical Site. Gradient (21% over 100 m)
B1546	1492	3	093M.020	8.0	21	NS	S6	prevents upstream fish migration.
W. C.		11 3 1	A		70.00	7.7		Historical Site: No Visible Channel. Not a
B1549	1532	1 - 1	093M.009	NS-	NS.	NS	NVC	stream.
								Historical Site. Fish access to reach is possible.
								Inferred fish hearing based on access. Second
21420	1-36		Anna Carron	10.10	4.0	X10	0.18	pass sampling conducted by SKR Consultants
B1550	1529		093M.009	0.9	10	NS-	S4*	Ltd. classified stream as S4.
B1551	1530		093M.000	1.2	5	NS	S4	Historical Site. Classified S6 by SKR -01.
								Historical Site. Moderate rearing habitat. Downstream 30% gradient section (80 m long) is
								a barrier to upstream fish migration. Second pas
								sampling upstream of gradient confirms non fish
B1552	1875	2	00234 010	1.1	14	NS	S6	bearing status.
DIJJZ	10/3	- 4	093M.010	- 1.1	14	IND	50	Historical Site. Moderate rearing habitat.
					n 1			Downstream 30% gradient section (80 m long) is
								a barrier to upstream fish migration. Second pas
								sampling upstream of gradient confirms non fish
B1553	1875	1	093M.010	3.1	10	NS	\$5	bearing status.
01333	1.0 //2	- 1	0723W13710	277.15	10	21,3	22	Historical Site. No Visible Channel. Not a
B1554	1877	8	093M.010	NS.	NS	NS.	NVC	stream.
Dist	1027		11/25/11/1/11	1,10	1,52	7,147	11.10	Historical Site. No Visible Channel. Not a
B1559	1358	- (093M.019	NS.	NS	NS.	NVC	stream.
B1560	1347	5	093M.019	3.6	5.	NFC*	S5	Historical Site. Good rearing habitat. Falls (2 min 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 harrier 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.
								moderate rearing habitat. Second pass sampling
								indicate this reach is non fish bearing. No fish
B1562	1245	9	093M.019	1.5	4	NFC	S6	captured.
D1302	1245	- 2	023141.0.19	1.5	4	INCL	30	Historical Site. Downstream gradient (>20%) in
B1563	1326	4	093M_019	0.4	18	NS	So	Reach 3 prevents fish access to this reach.
0.7505	1.224		Washing C.		1.5	110	130	Historical Site. Good rearing habitat. A beaver
B1564	1349	6	093M.020	1.0	6	NFC	S3*	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.
								Historical Site. No Visible Channel. Not a
B1566	2166	1	093L.090	NS	NS	NS	NVC	stream.
			2000					Historical Site. Fish access from lake is possible
B1567	2151	1	()93L.()9()	0.8	4	RB	- S4	Poor habitat quality. Rainbow trout captured.
								Historical Site. Ephemeral stream. Pools were
777.1			10000	+				not deep enough to shock. S3 stream based on
B1568	2140	1	003L.000	2.0	5	NS.	S3*	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	0931100	0.7	4	. NFC	\$6	Historical Site. Moderate habitat quality. Falls (m) in downstream ILP 2174 Reach 4 are a barrie to upstream fish migration. Second pass sampling upstream of barrier resulted in no fish captured and confirms non fish bearing status.
B1571	1905 _	5.	0931.100	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. Historical Site. Falls (6 m) in downstream ILP
B1572	1905	2	093L.100	1.0	5	NFC	S6	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	ı	093L.100	3.0	14	NFC	S6	Historical Site. Falls (6 m) in downstream ILP 2174 Reach 4 are a harrier 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		093M.029	3.5	5	RB	\$3	Historical Site. Excellent rearing and spawning habitat. Rainbow from 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	\$6	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. Historical Site. No fish habitat, ephemeral.
B1579	1349	9	093M.020	0.4	13	NS	\$6	Gradient (>20%) and lack of perennial habitat confirm non fish bearing status.
B1580	1349	8	093M.020	Li	0	NFC	84*	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	093MJ010	0.5	4	ŃS	56	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.001	1.4	(7	NFC	Sõ	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. Historical Site. Additional sampling in Reach 1
B1585	2213	2	093K.08T	0.0	5	NS	S4*	indicate that fish can access this reach therefore this reach is fish bearing based on access. Rainbow trout captured downstream in Reach I of this stream.
B160)	2350	- 11	093K.081	NS	NS	NS	NVC	Historical Site. No Visible Channel. Stream goes sub-surface.
B1602	1242	-6	093M.019	1.4	j	RB	\$4	Historical Site. Moderate rearing habitat and poor spawning habitat. Fines are dominant substrate. Rainbow trout captured.
B1612	1883	-1	093L:100	2.6	¥	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	ĭ	(1931100)	1.8	7	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 fishwere 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. Historical Site. No overwintering habitat, no spawning habitat, and poor rearing habitat. A 20
B1615	1888	3	0931,100	(),()	12	NEC	Str	m falls in the lower portion of this reach prevents upstream access. Second pass sampling within this reach confirms non lish bearing status. No fish captured. Historical Site. Excellent spawning habitat, poor
B1616	1866	3	093L,100	2.8		RB	S3	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	ā	093M.010	2,0	0.	NFC	80	Historical Sife. 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	NPC	\$3/\$6	Historical Site. No overwintering or spawning habitat. Poor rearing habitat. A 30% gradient section 80 m long immediately above Reach 4 is 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	\$6	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	1.66	7	NFC	\$3*\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	(.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		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	ŋ	093K.081	1,2	20	NFC	S6	Historical Site. No spawning, rearing or overwintering habital. Second pass sampling and gradient (>20% over 100 m) confirm non fish bearing status. No lish captured.
B1701	2174	J	(931()90)	7.0	4	RB	\$2	Historical Site. Good spawning and rearing habitat. Overwintering habitat present. Rainbow trout captured.
B1702	2174	4	093L.090	7.0	0	RB	\$2/85	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 hearing 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	0931100	3.7	10	NFC	\$3#	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.
								Historical Site. Good spawning habitat, poor
B1704	1347	3	09384,019	3.0	6	DV	S3	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 barner to upstream fish migration. Second pass sampling upstream of falls confirms non fish hearing 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.
D1700	(50.5		W931813719	11.0	3	MEC	50	Historical Site. No spawning, rearing, or
B1707	1359	1	093M.019	0.5	1.3	NS	Só	overwintering habitat. Second pass sampling confirms non fish bearing status.
B1708	2278	2	093K.081	0.5	4	NFC	So	Historical Site. Poor spawning and rearing habitat. No overwintering habitat. Second pass sampling confirms non fish hearing status. No fish captured. Historical Site. No overwintering habitat.
B1709_	1520	- di	093M.009	1.5	S	NFC	S3	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	\$3*\\$5	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	00234 610	2.0	7.5	\$072°	or.	Historical Site. No overwintering habitat. Limited spawning and rearing habitat. An average gradient of 25% over 100 m prevents apstream lish migration. Second pass sampling apstream of gradient section confirms non fish
DI/II	1321	2	093ML019	2.0	25	NFC	S6	hearing status. No fish captured. Historical Site. Limited spawning and
B1712	1340	4	.093M.020	2.1	4	RB	.53	overwintering habitat. Rearing habitat is good. Rainbow front captured.
B1713	1349	ts.	093M.020	2.0	ď	NFC	\$3*	Historical Site. Adequate rearing habitat, limited spawning habitat and no overwintering habitat. No permanent harriers 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	S0	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
								Historical Site. Second Pass sampling above high
								gradient section view from the air with small
en eur			La reconstruction			A. marin		cascades confirms non fish bearing status. No
B1716	2358	4	093K,081	4.1	13	NEC	\$5	fish captured.
								Historical Site. Good rearing habitat, limited
								spawning and potential overwintering habitat. Second pass sampling confirms non fish bearing
B1717	2253	3	093K.081	2.1	14	NEC	50	status. No fish captured.
DIVII	34443	- 1	393K.30.1-	2.1	14	INTX	20	Historical Site. Subsurface flows and lack of
					11 (0.41)			connectivity to Babine lake. Ephemeral stream.
								Second pass sampling confirms non fish bearing
B1718	2214	Ĭ	093K.081	2.4	11	NEC	Ś6	status. No fish captured.
					1			Historical Site. Good spawning and rearing
			7 10 10 10		107.11			habitat. Overwintering habitat present. Rainbow
B1719	2213		093K.081	2.7	7	RB	S3	trout captured.
					1 1111			Marie Las Vivinia William R. William
								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
D144	1901	4	093L.100	NA	NA	NFC	NA	lake confirms non fish bearing status of stream.
BI-LI	1901	4	093L.100	IN.A.	INA	INC	1854	Historical Site. Lake sampling site. Falls (6 m)
								downstream on mainstem ILP 2174 Reach 4 are
		B - A I						barrier to upstream fish migration. No fish
		11						captured at this lake confirms non fish bearing
BI-L2	2265	6	093K.091	NA.	NA	NFC	NA.	status of stream.
								Historical Site. Channel complexity indicates
C10172	1394	6	093M.030	1.3	4	NFC	S4	habitat capabilities. Potential fish access.
C11001	1495	1,54	()93M.02()	4.5	c = d = c	RB	S3	Historical Site. Rainbow trout captured.
								Historical Site. Limited habitat potential.
C11002	1127	_	093M.029	(),4	5	NS	S6*	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	NS NS	NVC	Historical Site. No Visible Channel. Historical Site. No Visible Channel.
C11005	1309		093M.030	NS.	N2	N2	17.1.1.	Historical Site. Poor habitat conditions. Rainboy
								trout captured upstream in 1LP 1182 Reach 1 (sit
C11006	1181	1	093M.029	1.3	7	NFC	54	T02-ST2).
2114/0	1101			112				Historical Site. Channel receives little water as
								culvert diverts flow along ditchline at upstream
C11007	1450	12	093M.020	2.1	2	CC	S3	end. Sculpin (general) captured.
5-5-3	100							Historical Site. No Visible Channel. Habitat
C11008	1453	. 3	093M.020	NS	NS	NS:	- NVC	available. Potential Fisheries Sensitive Zone.
C11010	1489		093M.020	NS	NS	NS	NVC	Historical Site. No Visible Channel.
								Historical Site. Poor habitat quality rating. Falls (2.4 m) in downstream mainstem ILP 2052 Reac
								2 block upstream fish access. No fish captured
CHOLL	2007		093K.091	0.5	13	NFC	S6	upstream of falls.
C11011	2007		0958.091	0.5	15	is ex-	.50	Historical Site. No Visible Channel, Wetland
					16.0			with heavy beaver activity. Potential Fisheries
C11012	1486	Y	093M.020	NS	NS	NS	NVC	Sensitive Zone.
,	1.320		3-411111Herit	1				Historical Site. Non fish bearing based on secon
C11013	1455	ıy	093N.011	(),9	2	NEC	S6	pass sampling. No fish captured.
						RB, RSC.		Historical Site. Rainbow trout, red sided shiner,
C11014	1495	1111	093M.020	12.7		CC. SL	S2	sculpin (general) and sucker (general) captured.
3	0.00		Marie Ti	1		7.0.1	Charles	Historical Site, No Visible Channel, Potential
C11015	1775	2	093N.001	NS	NS.	NS .	NVC	Fisheries Sensitive Zone.
								Historical Site. Moderate rating for habitat
m. 2.5.//2.	1,200	171	naser nar	1000	3	Sirving.	577	mistorical Site, wioterate rating for natital
C11016	1775	i i	093N.001	4.1	3	NEC	S3	quality. Fish hearing based on potential acces

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
C11017	1779	11	093N,001	NS	NS .	NS:	NVC	Historical Site. No Visible Channel.
C11018	1778		093N.00T	2.1	2.	RB	53	Historical Site. Rainbow trout captured.
								Historical Site. Limited habitat potential. Fish
C11010	1771	3	093N.001	().()		NFC	\$4	bearing based on access,
								Historical Site. Rainbow trout and red sided
C11020	1771	1:	093N,001	2.0	2	RB. RSC	633	shiner captured.
Date M								Historical Site, Rainbow trout and prickly
C11021	1742	.3	093N.001	7.5	2	RB, CAS	S2	sculpin captured.
			71 -			harra A		Historical Site. No Visible Channel. Potential
-C11022	1742	- 8	093N,001	- NS	NS	NS	NVC	Fisheries Sensitive Zone:
200000	V4.5			100				Historical Site. No habitat potential. Fish
C11024	1810		093N,001	1.1	()	NEC	S4	bearing based on access.
of tilas	1000					RB. NSC.		Historical Site. Rainbow and northern
C11025	1801	4	-093N:001	15.0	3	-KO	\$2	pikeminnow captured and kokance observed.
CILIDA	200		and the line of	200	7,00	- 1NF 1		Historical Site, No Visible Channel. Potential
C11026	2114	1.5	093K,092	NS	NS	NS	NVC	Fisheries Sensitive Zone.
C11027	1801	15	093K,092	10.0	-	RB	S2	Historical Site. Rainbow trout captured.
CHAR	2025	Y	MOSH NAS	100	1100	-	2005	Historical Site. No Visible Channel. Rainbow
C11028	2075		()93K.()92	NS	NS	RB	NVC	trout captured.
C11029	2104	2	nuas nna	2.1		nn nce		Historical Site. Rainbow trout and redside shiner
C11029	2332	3	093K.092	2.1	2	RB, RSC	S3.	captured.
C11020	4332	3	093K.092	NS	NS	N5	NVC	Historical Site. No Visible Channel.
				1				Historical Site. Cascade (2 m x 2 m) downstream
								(Reach 5) are a barrier to upstream fish
C11031	2127	0	093K.092	1.9	10	NFC	ex-	migration. No fish captured upstream of cascade
A_11001	212/	0.	1773 K. 092	1,3	10	INFL	S6	confirms non fish bearing status. Historical Site. High gradient (24% over 100 m).
C11032	1955	0.1	093K.091	1.0	24	NEC	\$6	No fish captured.
C11033	1954		093K.091	NS	NS NS	NS.	NVC	Historical Site. No Visible Channel.
	1627		1/25/15/02/	14.2	17.0	140	TVVC	Historical Site. High gradient (25% over 100 m).
C11034	1939	1	093K.091	3.7	25	NS	S5	No discernible channel in areas.
C11035	1742	10	093K,091	7.()	2	RB	S2	Historical Site. Rainbow trout captured.
			79214(02)	750		702	.02	Historical Site. No Visible Channel. Potential
C11036	2004	1 1	093K.091	NS'	NS	NS	NVC	Fisheries Sensitive Zone.
						- 0.00	150.0	Historical Site. No habitat potential upstream of
C11037	2005	3	093K.091	0.6	7	NS	\$4	site. Potential fish access.
								Historical Site. No Visible Channel. Fisheries
C11038	2073		093K.092	NS	NS.	NS	NVC	sensitive zone as stream approaches ILP 1801.
								Historical Site. Falls (2.4 m) located downstream
						1		on mainstem ILP 2052 Reach 2 are a barrier to
								upstream fish migration. No fish captured
								upstream of falls confirms non fish bearing
C11039	2055	1	093K.092	1.0	3	NS.	S6	status.
								Historical Site. High gradient (>20% over 100
			7700.74					m) blocks upstream access. No perennial habitat
C11040	2042	1	093K.092	().4	20	NS	S6.	upstream of gradient section.
C11041	1801	13	093K.092	18.4	()	RB	S2	Historical Site. Rainbow trout captured.
C11042	2290		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		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.
e111/1/17	177.50	V II	2001233			Commo III	10.11	Historical Site. Non fish hearing based on second
C11046	1459		-093M,020	0.0	0.	NEC	S6	pass sampling. No fish captured.
vis vared	Vaca		200311111		100	Control I		Historical Site. Limited habitat, potential fish
C11047	1465		093M.020	1.1	J	NEC	- 54	access.
C11051	1933	1	093K.091	2.1	4	RB	S2	Historical Site. Rainbow trout captured.
C11053	1910	1_0	0931,.100	NS	NS	NS	NVC	Historical Site. No Visible Channel.
C11090	1485		093M.020	2.0	4	RB	S3	Historical Site. Rainbow trout captured.
C12002	1495	27	093M.039	4.5	1	RB	5.3	Historical Site. Rainbow trout captured.

Comments	Stream	Species	Gradient (%)	(m)	qsM redmuM	Resch	II.P	əti2
Historical Site, Limited habitat available, S2		SHIV		5.7	093M:029	Ę	0511	C15003
grildmis 8901 notiff no based	75	JS8 88	1	8.0	6700MC675	10	0011	200~1 ×
Historical Site. Rainbow frout, red sided shiner,		RB. RSC.						
priekly sculpin, sucker (general), northern pike		115 3.3	6	3.7	020, IAE00	91	2041	C12004
minnow and kokanee captured.	75	NZC KO	7	9.7	AZONALICAN	2).1	CALL	Longia
Historical Site. Fish bearing based on access and	ES	MEC	- 5	X, E	093M.029		1123	C.15005
no barriers observed. Historical Site. Subsurface gully drainage.	1*2*	23.00			V =/lense		1	
Inferred non fish bearing.		SN	FIL	F,0	093M,029	1	1127	C15006
Historical Site, Limited habitat available.				130	1.52			
Potential lish access.		OHN.		8,5	0£0,M£00	7	1304	700212
Historical Site. Dewatered. Poor substrate limit								
nabitat capabilities. Potential Fisheries Sensitive								
Zone.	0.000	SN	SN	SN	0.50.44.590	1	616)	80071
Historical Site, Some habitat potential. Fish		1	100 - 100	110.0				11-
rearing based on access.		NEC	()	7.5	050,M£00	5	8081	600712
Historical Site. Limited habital potential.				V			4	
its) 4 daes Hin meatten baruras mou wodnins								
303).		NEC	11	9.4·	050,M590	3	8681	010713
Fistorical Site. Rainbow front captured.	7S	RB	€	0.7	020.ME90		1400	110713
distorical Site. Rainbow frout, red sided shiner,		22.00						
sucker (general) and mountain whitefish		RB, RSC,		7.51			2011	210012
apmicd.		MW'05	7	9.51	020'W£60	+	5671	E10713
distorical Site. No Visible Channel. No		7.5	40.5	5.1	20071000	- 25	W.C.	FIVERS
liscernible channel above or helow culvert.		SN	SN	SN	050.ME90	7	1450	212014
-listorical Site. Rainbow front captured.		ВЯ	1	8.0	050.M£00		1425	\$10713
distortical Site, Limited habital available,		Jain	95	0.1	010.M£90		2821	-910712
Potential firsh access.		RB	87	6.1	010.ME90	7	1204	210712
-listorical Site. Rainbow front captured. Historical Site. No Visible Channel. No		- av		717	Almaza	-	1.604	21/01/2
liscornible channel.		SN	SN	SN	010.IVE90	1	0191	\$1071.
fistorical Site. No Visible Channel. No		F(k.)	CAL	(0.1	NI TOTAL COM		112.04	Of the same
		SN	SN	SN	010.M£00	- T	£001	610712
liscernible channel. Tistorical Site. Dewatered. High gradient (23%	344	FIAT	CAL	- 000	MATTER		147000	11000
or 50 m and 28% for 30 m) downsucam in								
namerom ILP 1792 Reach 1 likely limits								
ipstream fish migration. Limited fish habitat.		SN	(II)	0.0	100°N£60	1	F6Z1	07071
psucan usu mgradon: cunned nan naonar. Historical Site. No Visible Channel. No alluvial		CTP 1	int.	210	Linnieleza		1 2 7 7 7	0.000
Hannel.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SN	SN	SN	100.NE90	T	8441	17071
distorical Site. Poor fish habitat. Rainbow trout		0.0	- 60	2023	(mac		B. 1	1
apunced downstream in Reach 2.		SN	1	2.3	100.N£60	.£	E471	212021
Historical Site. Rainbow front captured.		8A	٤	5.1	100.NE90	1. 1. 6	1741	112023
fistorical Site. Limited habitat and high gradien								
.(%£1		NEC.	13	1.2	100.NE90	7	1921	12021
listorical Site. No Visible Channel.		SN	SN	SN	100'NE60		1735	117075
Historical Site. No Visible Channel.		SN	SN	SN	100.NE00	- 1	5081	97071.
fistorical Site. No Visible Channel.		SN	SN	SN	100.NE90	1	9081	17071
figh gradient (25%), no perennial habitat	1					15/22		63.36.0
bserved.		SN	-81	7.2	100.VE90	7	1804	87071.
distorical Site. No Visible Channel. Gully run-	1	1 22 6						
W		SN	SN.	SN	100,NE00	1	1081	670712
distorical Site. Rainbow from and prickly	1						15,000	
culpin captured.		RB, CAS	7	6.0	100 NE60		77:21	.15030
listorical Site. Rainbow front captured.		EB	7	7.4	110 NE60	1-1-	00\$1	15031
distorical Site. Rainbow trout captured.		RB	in decided	7.0	093K-092	01	1081	75031
listorical Site: Rainbow front captured.		1813	3	5.0	093K 092	4.5	7027	15033

Table 12. Stream sampling summary for the study area.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
								Historical Site. Poor habitat quality rating.
C12035	1948	2						Rainbow trout captured downstream in Reach 1
C12033	1948	2	093K.091	3.4	11	NS.	S3	(site 15). Inferred fish bearing.
								Historical Site. Channel becomes undefined in
								sections. Rainbow trout captured downstream in
C12036	1949		00212 001	100				mainstem ILP 1948 Reach 1 (site 15). Inferred
C12030	1949		093K.091	().7	25	NS	S4	fish bearing.
								Historical Site. Falls (3 m) downstream in Reach
C12037	2009		00217 001	4.	1.	2000		2 are a barrier to upstream fish migration. No
C12037	2009	6	093K.091	3.1	()	NFC	S5	fish captured upstream of falls.
								Historical Site. Falls (3 m) downstream on
								mainstem ILP 2009 Reach 2 are a barrier to
								upstream fish migration. Intermittent and
C12038	1960	9	093K.091	1.0	2	100	m.	subsurface flows and no perennial habitat. No
C120/36	1200	- 1	0938,091	1.0	3	NS	S6	fish captured upstream of falls.
C12039	2010	1	093K.081	1.75	1.0	110	C 1	Historical Site. Poorly defined channel. Inferred
C 12039	2010	1	073K.081	1.0	14	NS	S4	fish hearing based on access.
								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
C12040	2251	2	093K.081	2.6		NEC	0.5	the cascade resulted in no fish captured and
C12(/4()	2431		093K.081	3.6	6	NFC	S5	confirms non tish bearing status.
C12041	2250	2	093K.081	2.1		NIEG	0.2	Historical Site. Poor habitat quality rating.
C12041	2230	- 4	093K.061	2.4	6	NFC	S3	Inferred fish bearing.
								Historical Size Books
C12042	2248	1	093K.081	1.6	5	NS	CO	Historical Site. Possibly some spawning potentia
CIZUTE	2240	- 1	093K.061	1.0	3	IND	S3	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.
	22,1		07510.001	1.07	10	IND	33	Historical Site. Good habitat potential. Potential
C12044	2308	- 3	093K.082	1.1	6	NFC	S3	fish access.
	2000		W757C.W02	1.1	(/	INIC	5.5	Historical Site. No Visible Channel. Wetland
C12045	1390	5	093M.019	NS	NS	NS	NVC	outlet.
C12046	1455		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.
	7 1 3 5 5		3321.0010	110	(112)	113	1111	Historical Site. Wetland - No Visible Channel.
C12049	1803	12	093M.010	NS	NS	NS	NVC	Potential Fisheries Sensitive Zone.
				,,,,	110	110	13.1.0	Historical Site. Dewatered. Spring run-off
C12050	1914	1	0931.100	1.0	0	NS	S4*	channel. Inferred fish bearing.
						110		Historical Site. Poor habitat quality rating.
C12051	2291	1	093K.082	2.2	3	NFC	S3*	Inferred fish bearing.
								Historical Site. Limited habitat potential.
C12052	2308	4	093K.082	3.2	2	NFC	S3	Potential fish access.
C12053	2329	3	093K.082	NS	NS	NS	NVC	Historical Site. No Visible Channel.
								Historical Site. No Visible Channel. Potential
C12113	2256	2	093K.081	NS	NS	NS	NVC	Fisheries Sensitive Zone.
C12114	2316	1	093K.082	0.8	3	RB	S4	Historical Site. Rainbow trout captured.
								Historical Site. Dewatered. Limited habitat
								availability. Inferred fish bearing based on
C12115	1987	1	093K.091	1.1	3	NS	S4	potential access.
						1.00		Historical Site. Falls (30 m) downstream in
								Reach 2 is a barrier to upstream fish migration.
								No fish caught upstream of falls confirms non
C12116	1737	4	093N.001	1.5	13	NFC	S6	fish bearing status.
					-			Historical Site. Poor habitat quality. Rainbow
							M	trout captured in downstream mainstem ILP
C12117	1278	T.	093M.030	1.3	2	NFC	S4	1276.
						17.11.4		Historical Site. No Visible Channel, 32%
	1284		093M.030	NS	NS	NS	NVC	gradient.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
012110	(34.		71		A 199 A 1			Historical Site. Beaver dams potentially limit
C12119 C12120	1276	8	093M.030	NS	- NS	- NS	NVC	upstream migration. Inferred fish bearing.
C121211	1276	/	093M.030	1.7	3	RB	S3	Historical Site. Rainbow trout captured.
C13045	1800	T .	093N.001	0.7	()	NS	\$6	Historical Site. No perennial habitat, gradient barrier / falls at lake blocks upstream access. Second pass sampling confirms non fish bearing status.
E1/2011	Vester							Historical Site. Dewatered. Fish may use lower
C13046	1737	(1)	093N.001	0.3	. 5	NS	S4	10 m. Inferred fish bearing based on access.
C13047	1732	T.	093N.001	0.5	29	NS	S4	Historical Site. Fish may use lower 50 m at lake Inferred fish hearing based on access.
E153	1666	2	00784.010	- MC	NIC	210	XIVICA	Historical Site. No Visible Channel. Dry
E133	1000	2	093M.010	NS	NS	NS	NVC	wetland. Potential Fisheries Sensitive Zone. Historical Site. Spawning and rearing habitat is
E154	1678	3	093M,010	0.9	9	NS	.S6	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.
						-		Historical Site. Excellent rearing habitat and
E155	1686	11	093M.010	1.1	3	RB	S4	moderate spawning habitat. Rainbow trout captured.
E156	1686	2	093M.010	0.7	5	NS	\$4	Historical Site. Poor rearing and limited spawning habitat. Fish bearing based on access.
E159	1676	3	093M.010	1.3	Ť	NFC	\$6	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	7	00251010	NS	NS	NS	Alve	Historical Site. No Visible Channel. Not a
E163	1611	5	093M:010 093M:010	5.0	3	RB-	NVC S3	stream. Historical Site. Excellent spawning and rearing babitat for rambow trout. Rambow trout captured.
E164	1669	3	093M.010	0,1	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.
A	1000		W0.21 (********	1750	7.5		1000	Historical Site. No Visible Channel. Not a
E165	1690	5	093M.010	NS.	NS	NS	NVC	Stream.
E166	1624	1	093M.010	0.5	7	NS	56	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
						7		Historical Site. Poor to fair rearing habitat, Poor
E168	1625	2	093M.010	1.0	5	NEC	84	spawning habitat - lack of substrate. Fish bearing based on access.
		1		7.00		70.5	13-7	Historical Site. Second pass sampling confirms
E169	1633	-3	093M.010	101	4	NS	S6-	non fish bearing status.
	1 3							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
E181	1642	7	093M.010	1.8	-4	RB	\$3/\$6	below harrier.
								Historical Site. Cascade (2 m x 1 m) downstrean in Reach 7 is a barrier to upstream lish migration.
								No fish captured at this site confirms non fish
E182	1642	8	.093M.010	1.6	6	NFC	S6	bearing status.
E183	1611	-1)	093M.010	NS	NS	NS.	NVC	Historical Site. No Visible Channel. Not a stream.
			37-22-71-67-45		110	110		Historical Site. Second pass sampling in the best
								possible habital indicates that fish do not use this
								stream. Cascades and gradients (15%) in Reach I prevent fish from accessing this reach. No fish
								captured upstream of cascade and high gradient
E1556	1643	2	.093M.010	0.6	4.	NFC	S6.	section.
E1557	1642	2	-093M.010	3,0	5	RB	S3	Historical Site. Excellent spawning and rearing habitat. Rainbow trout captured.
21007	1042		- 072(VI.0)()	23.0		1515	22	Historical Site. Poor spawning habitat, poor
n.v.o.								rearing habitat, and no overwintering habitat.
E1601	1676		093M.010	1.3	4	RB	S4	Rainbow trout captured. 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
E1602	1676	3.	093M.010	1.0	5	NFC	S6	confirms fish absence upstream of cascade. No fish captured.
15 (00/2)	1070	- 5/	W221W1.W1W	1.0	-	INIT	20	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
E1603	1676	5	093M:010	0.6	j	NFC	S6	captured.
		4			1 1			
								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
ever	L/ mr		2014 (2010	Vi e	1	2763	- AC	sampling above cascade confirms that this stream
E1604	1678		093M,010	0.5	2	NEC	So	is non fish bearing. No fish captured. Historical Site. Non fish bearing based on second
								pass sampling. The lower portion of this stream
								offers fair spawning and poor rearing habitat.
E1605	1632	1	093M.010	1.0.	3	NEC	S4/S6	Fish bearing based on access in lower portion of reach. No tish captured.
21002	1000		165515104114	137	- 1	14150	24,30	Historical Site. No spawning, rearing or
								overwintering habitat. Second pass sampling
E1606	1633	3	093M.010	().0	3	NFC	56	confirms that fish do not utilize this reach. No fish captured.
210.00	11/33		SOME WINE	M. Y		341.0	- 10.	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
FLICE	7.042		ning-1 con	100		196.5	Na N	stream. The lower 30 m offers some salmonid
E1607	1643	1	093M.010	(1,1)	5	NFC	S6	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
É1608	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	1	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. Historical Site. Stream is classified non fish
E1620	1637	1	093M.010	1.0	3	NS	\$6	bearing based on second pass sampling in separate seasons.
F146	2298	13	093K.081	2.0	6	SIEC	ć.	Historical Site. Second pass sampling in Reach 10 indicates that this reach is non lish bearing.
F147	2298	11	093K.081	2.7	5	NFC NFC	\$6 \$6	No fish captured. Historical Site. Second pass sampling in Reach 10 indicates that this reach is non fish bearing. No fish captured.
F148	2239	4	093K,081	1.2	15	NFC	S6	Historical Site. Small chutes and cascades prevent fish access. No fish habitat. Second passampling in downstream ILP 2298 Reach 10 confirms non fish bearing status. No fish captured.
F180	1406	[3	093M.010	1.6	2	NFC	S0:	Historical Site, Falls (3 m) downstream in Reac 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	53	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 belov 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. Historical Site. Subsurface flows between
F1545	1412	5	-093M,020	1.1	5	NFC	S4*	isolated pools. Fish access possible during higher flows. Inferred fish bearing.
F1547	1406	9	093M.020	1.3	5	NFC	\$4/\$6	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. Historical Site. Fish were captured upstream in
F1565	1412	3	093M.020	1.5	4	NFC	\$3	Reach 4. Fish stream based on seasonal use. Historical Site. Poor rearing, good spawning and
E1610	1412	1	093M.020	1.8	3	RB	53	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	ž	093M.020	3.0	4	RB	.S3	Historical Site. Moderate spawning, rearing, and overwintering habitat. Rainbow trout captured. Historical Site. Falls (3 m) are a barrier to
F1622	1406	9	093M.020	2.0	3	RB	\$3/\$6	upstream fish migration. Second pass sampling upstream of falls confirms non fish bearing status. Rainbow trout were captured downstream of falls. Historical Site. Second pass sampling in best
F1625	2298	.9	093K.081	3.3	6	NFC	S6-	possible habitat indicates this is not a fish bearing reach. No fish captured.
F1627	2304	ı	093K.082	2.6	Ó	NEC	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	(530)	í	093M,009	1.3	6	NS	S6	SKR Consultants Ltd. 2001, Refer to SKR NOBA 45 reference,
SKR-01- NOBA45- AG2	1529		093M.009	1.2	10	N5	\$4	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01- NOBA45- AW3 - NCD-W3	1536	T)	093M.009	NS	NS	NS	NCD	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01- NOBA45- AW4	1536	1	093M.000	1.3	5	NS.	S4	SKR Consultants Ltd. 2001. Refer to SKR NOBA 45 reference.
SKR-01- NOBA45- AW5	1536		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	\$6	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	i i	RB	83	Historical Site, Perennial stream. Rainbow trout captured.
T02-ST3	118)	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	Ţ	NFC"	\$6	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	ı	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
	2350		007V 071	12		NEC	SA#	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
3	2359	5	093K.071	1.2	1	NFC	S4*	Dry/Intermittent. Poor rearing, poor spawning
4	2373	3	093K.071	2.1	21	NFC	S3*/S6	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.
	2330			2.3		THE C, RE		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
8	2251	2	093K.081	2.2	2	NFC	S6	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 12	1942 1944	2	093K.091	2.2 NS	6 NS	NFC NFC	S3* NS	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. Fish only sampling site.
12	1944	1	0938.091	No	149	INFC	140	Tish 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. Dry/Intermittent. High gradient (24%) ~100 m
14	1945	1	093K.091	1.4	20	NFC	S4*/S6	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	ī	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	Ü.P	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Conuncits
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. Dry/Intermittent. High gradient break (20%+
17 18	1950 2009	1 1	093K.091 093K.081	1.5 NS	20 NS	NS RB	S3*/S6 NS	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. Fish only sampling site.
							Wasi.	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
20	2009	2	093K.081	2.1	6	NFC	S3*/S6 S3*/S6	and confirms non fish bearing status. 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.
							9.	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
21	2009 2251	3	093K.081 093K.081	1.6 NS	4 NS	NFC RB	S6 NS	captured and confirms non fish bearing status. Fish only sampling site.
23	2308	3	093K.082	2.8	4	NFC	\$3*	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. Dry/Intermittent. Poor rearing, no spawning and
26	1975	1	093K.091	1.5	3	NS	S4*	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
				3 387,10			37.00	Poor rearing, poor spawning and no
29	1995	2	093K.091	1.5	2	NFC	S3*	overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
			0031/ 001			ĮΠ		Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within si No barriers to upstream fish migration were
30	1993	1	093K.091	1.0	2	NFC RB	S4*	observed. Inferred fish bearing. Dry/Intermittent. Poor rearing, poor spawning and no overwintering habitat observed within si 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		NFC	S4*	Moderate rearing, moderate spawning and no overwintering habitat observed within site. Beaver activity downstream may prevent fish
34	1394	6	093M.030	1.6	2	NFC	S3*	access to this reach. Inferred fish bearing. Poor rearing, poor spawning and no overwintering habitat observed within site. Wetland downstream may limit upstream fish migration. Inferred fish bearing.
					2			Moderate rearing, poor spawning and no overwintering habitat observed within site. Lower wetland may limit upstream fish
35	1394	4	093M.030	1.6	-1(-	NFC	S3*	migration. Inferred fish bearing. Moderate rearing, moderate spawning and no
36	1119	3	093M.029	1.7	3	RB	S3	overwintering habitat observed within site. Rainbow trout captured. Dry/Intermittent. Poor rearing, poor spawning
37	1123	1	093M.029	1.7	5	NFC	S3*	and no overwintering habitat observed within si No barriers to fish migration were observed. Inferred fish bearing.
38	1429	2	093M.020	1.4	Ī	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 si 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 my 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 si Inferred fish bearing based on potential access.
54	1101	3	00234 020	1.2	5	NEC	0.4#	Poor rearing, poor spawning and no overwintering observed within site. Stream is n mapped correctly and flows into beaver pond II 1186. Beaver activity may temporarily restrict fish access. Inferred fish bearing based on
55	1181	12.2.7.1	093M.029	1.3		NFC	S4*	potential access. No Visible Channel. No potential fish habitat.
56	1181	5	093M.029	NS	1	NS	NVC	No access through this Reach. Moderate rearing, poor spawning and no overwintering habitat observed within site.
57	1296	3	093M.029	1.5	4	RB	S3	Rainbow trout captured.

Table 12. Stream sampling summary for the study area.

Site	ILP	Reach	Map Number	Width (m)	Gradient (%)	Species	Stream Class	Comments
								Poor rearing, poor spawning and no overwintering habitat observed within site. Poor connection to downstream wetland could limit
58	1173	6	093M.039	1.5	4	NFC	S3*	Fish access to this reach. Inferred fish bearing. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were
59	1018	1	093M.039	1.3	2	NFC	S4*	observed. Inferred fish bearing. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were
60	1015	1	093M.039	1.4	3	NFC	S4*	observed. Inferred fish bearing. Moderate rearing, no spawning and overwintering (present) habitat observed within site. No
61	1091	1	093M.039	1.8	1	NFC	S3*	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 my 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	\$6	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.
								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 fis
66	2052	2	093K.092 093K.092	2.1 NS	5 NS	NFC RB	S6 NS	captured and confirms non fish bearing status. 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	ĭ	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.
250	1222		00314.000			Nune.	-	Dry/Intermittent. Falls (2.5 m) located ~60 m downstream of site are a barrier to upstream fish
359	1232	1	093M.029	1.3	9	NFC	S6	migration. No fish captured upstream of falls. Poor rearing, poor spawning and no overwintering habitat observed within site. No barriers to upstream fish migration were
360	1206	1	093M.029 093M.029	2.9	2	NFC RB, SU	S4*	observed. Inferred fish bearing. 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 lak confirms non fish bearing status upstream.
365	1308	2	093M.030	NS	NS	NFC	NS	Fish only sampling site. Second pass sampling a 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	00214 020	20		nn.	62	Good rearing, good spawning and poor overwintering habitat observed within site.
368	1332	5	093M.020 093M.019	2.0 NS	NS	RB	S3	Rainbow trout captured.
369	1520	1	093M.019	NS	NS	NFC DV	NS NS	Fish only sampling site. Fish only sampling site.
370	1863	5	093M.010	NS	NS	NFC	NS	Fish only sampling site. (Lake)
								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
371	1863	2	093L.100	1.8	6	NFC	S6	habitat observed within site. Good rearing, good spawning and poor overwintering habitat observed within site. Culvert (1.4 m x 25 m) are perched 0.5 m and ar a full barrier to fish migration at low and
372	1877	2	093L.100	3.4	6	RB	S3	moderate flows. Rainbow trout captured.
373	1594	5	093M.010	1.9	5	ŔB	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. Inferre- 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	T.					NVC	No Visible Channel. Flooded wetland / pond. Potential Fisheries Sensitive Zone.
578	1792	Ĺ	093N.001	0.9	NS	NS 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	1221	2	00234 020	1.0	2	NEC	96	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
617	1231	2	093M.029	2.2	6	NFC NFC	\$6 \$6	non fish bearing status. 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	ſ	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	i	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. Wetland - No Visible Channel. Seasonally
630	1155	6	093M.029	NS	NS	NS	WNVC	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 fis bearing.
632	1022	4	093M.039	NS	NS	RB	NS	Fish only sampling site.
633	1056	ì	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 section of piping. Potential fish access from downstrear 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 gradien 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 habitatobserved within site. Overwintering habitat present. No barriers to fish migration were observed. Fish bearing based on access. Falls (1.5 m) downstream within this reach are a
642	1750	8	093N.002	1.4	10	NFC	S6	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	Ĭ	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.

CAS = prickly sculpin

CC = slimy sculpin

DV = Dolly Varden

KO = kokanee LKC = lake chub NSC = Northern pikeminnow

PCC = peamouth chub

RB = rainbow trout

RSC = redside 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

Reach # ILP Map #

ILP#

2.0

093K.071

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Gazetted Name:			L	ocal Name:					
Watershed Code: 000-000000-0	0000-00000-0000-0000-0	00-000-000-	-000-000-000	ILP	Map #: 093K.0	71	ILP	#:	2366
		R	EACH		i je		10%	3. 3	1 - 11
Reach #: 2.0 Length (km): .60	UTM(Zone/East/I		17039.6071163 Magnitude:	1		Sample T		Biase	d
Gradient (%): 0.0 US Elev (m): 800	Confinement: Unconfin		Order: 1			pen wate		-25	
	onal Mid-channel	Span	Braid	Landuse: No					
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The Market Control of the Control of		MORP	HOLOGY	100 E		100 7		30	
Bed Material: Dominant: Fines Subdominant: Grave	D95 (cm): 10		Bars: Non	✓ Side	Diagonal	Mid-ch	annel		an 🔲
Channel Pattern: Sinuous Coupling: Decoupled	Islands: No	197	STURBANCE NDICATORS	O1 B1	B2 B3	D1 D2	2 D3		
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Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

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Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

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093K.071

2366

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

FDIS Fish Card

Tochcha Lake Planning Area

Reach #

ILP Map #

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Watershed Code:

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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

Reach # ILP Map #

ILP#

3.0

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Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0 093K.071 2359 2 PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): BABINE RIVER Project Code: 5271 WATERSHED Gazetted Name: Local Name: 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 Avg Avg Mtd width Gadient % Mtd Channel Width (m): MS 1.10 0.90 1.20 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 No Vis.Ch.: Intermittent: 🗸 Wb Depth: .3 .2 Stage: L M H H Avg: 0.30 Method: MS Dw: Tribs.: COVER Total: A CROWN CLOSURE Type: SWD LWD В U DP OV IV Amount S D 1-20% N Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: E LB SHP: O Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F G C B R A RIP: M RIP: C STG: MF STG: MF WATER EMS: Req #: Temp: 9 Method: T4 Cond.: 80 Method: S3 pH: 7.8 Method: P2 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY 01 **B**1 B2 D1 D2 D3 Bed Material: Dominant: G Subdom: C Morph: RP D95: 12.0 D (cm): 3.00 DISTURBANCE **INDICATORS** Pattern: SI C3 S1 S2 **S**3 54 **S5** Islands: N Coupling: DC Confinement: OC NV DIAG MID Bars: SIDE SPAN BR FSZ: FEATURES NID Map NID Type Hgt Method Lg Method Photo AirPhoto UTM (Z/E/N) Method 88001 BR 093K.071 3.0 GE 10 GE F: 3A 10.315137.6071383 GIS Comments: Bridge over stream HABITAT QUALITY Name Comments OverWinter Habitat None. Spawning Habitat Poor - seasonal flows, shallow.

Poor - intermittent flow, shallow, limited pools.

Rearing Habitat

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

3.0 093K.071

2359

	2.8	10 11 C = -	104				PHOTOS						
	Photo Foc Lg Dir		Dir	Comments									
R:	1	F:	3A	ST	TD U		Upstream photo of bridge crossing.						
R:	1	F:	4A	ST	TD	U	Upstream photo of LWD in channel.						
R:	1	F:	5A	ST	TD OT	D	Downstream photo of overstream vegetation.						
W-3	- 5	151		CL. IS	estar Ne		COMMENTS						
	4	Sec	ction				Comments						
	CHANNEL Dry secti		Dry sections ups	ry sections upstream and downstream of site.									
	CHANNEL Interm			Intermittent Flow	ntermittent Flows								
	CHANNEL S4*			S4*									

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

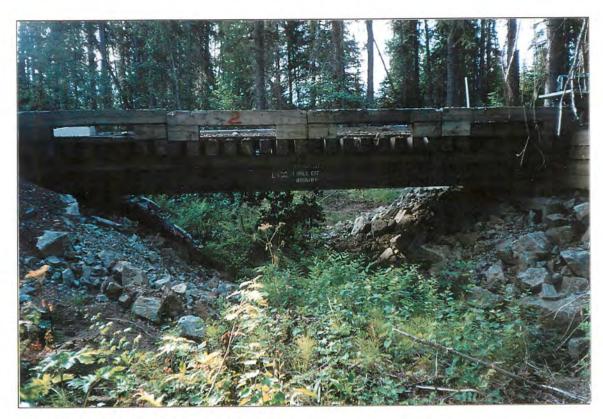
Watershed Code:

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

3.0

093K.071

WS Co Waterbody	de: 480-000 de: 000-000 ID: ID: 5271				000-000-	000-000		Loca	al:				
Fish Permi	#: 14526					тар #: О	93K.07	71 Lake/Str	eam:	ILP#:	2359 Lake F	Reach #:	3 -
ill in "		9	Date: 2	002/08/27	To	: 2002/0	08/27	Age	ency: 0	0172	Crew: SG/J	D Resa	mple:
	ALC THE	1100	1.51 -		SITE	/ M E	TH	OD	11			STUTE :	
Site# NID Ma	p NID#	UTM:	Zone/East/	North/Mthd	MTD	NO T	emp	Cond	Turbi	id	(Comment	
2 093K.0	71 40002			GPI	U EF	1	8.5	80	C				
		100,000	1925	M.A.	GEA	RSE	TT	INGS					
Site# MTD/N	O H/P	Date In	Time In	Date Out	Time	Out			Sold P. Spills	C	omment		200
2 EF	1 1 20	002/08/27	09:39	2002/08/27	10:	12							
Walter St.	ED SELLER		C. EL	ECTRO	FISI	HER	SPE	CIFI	CAT	TONS			
Site# MTI	D/NO	H/P	Encl	Sec	Length	l v	Vidth	Volt	age	Frequency	Pulse	Make	Mode
2 EF	1	1	0	130	200.0	die.	0.7	50	00	60	6	SMITH ROOT	12B
			2111	7 - F	ISH	SUM	MA	RY					
Site# MTI	D/NO I	I/P Sp	ecies S	stage A	ge	Total #	Lgt	th (Min/M	ax)	FishAct		Comment	
2 EF	1 1	1 N	FC			0							
- KS (4)4 7	(12)			10 × 15	CO	MME	NTS		3	- 12°		*	
Section	1	1	-		Toronto VI			Comm	ents	· · · · · · · · · · · · · · · · · · ·	eles bis		



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

Triton Environmental Consultants Ltd.



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP# 2359

5.0

093K.071

STREAM REFERENCING **Gazetted Name:** Local Name: 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: 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 ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified Bars: None V Side 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: Avg Min Max # Min Avg Max # Dewatered: Channel Width (m): Tribs.: 1.17 0.9 1.4 6 Gradient %: 1.00 4 Wetted Width (m): 0.73 0.600 0.9 6 Pool Depth (m): 0.12 0.100 0.200 6 Low V Stage: Bankfull Depth (m): 0.33 0.3 0.4 3 Med Turbidity .: Turbid Low High Temp (C): 9 pH: 7.8 Conductivity: 80 Moderate Clear V MORPHOLOGY Bed Material: Dominant: Fines D95 (cm): 14.00 Bars: Non 🗸 Side _ Diagonal ___ Mid-channel Subdominant: Cobble D (cm): 2.00 Braid Channel Pattern: Sinuous Islands: None DISTURBANCE INDICATORS Coupling: Decoupled Confinement: Occasionally Confine C2 C4 C5 S1 S2 **S**3 Morphology: RP Riffle Pool COVER Total Cover: Abundant Type SWD LWD В DP OV IV Amount N S N D T LWD: Few Location: P/S/O: ~ LWD Dist: Evenly Distributed FSZ: Shape: Overhangi Texture: Fines V Gravel Cobble Boulder Rock Manmade Right Bank: Crown Closure Left Bank: Shape: Overhangi Texture: Fines V 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 Туре Hgt Method Lg Method Photo AirPhoto UTM (Z/E/N) 093K.071 88002 BR 2.0 GE 8 GE F: 6A 10.315604.6070 #: Comments: Temporary bridge over culvert. FISH Site Number Capture Number of Length fished Total Voltage **Species** Total Minimum Maximum Method **Events** (m) Time Fish Length (mm) Length (mm) EF 3 200 213 sec 500 NFC 0

Tochcha Lake Planning Area

Reach #

ILP#

Site

093K.071 2359

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	zetted Name ershed Code ILP Map#	: 000-00			00-0000 LP #: 2:			000-000 ap #: 09			Lo ID#: 40	cal Name		ch #:	5.0	Site	#:3
V 22/39/3	UTM (Z.E.N)	: 10.315	596.607	0082		Method:					Site Le ef. Name	9 :		Metho		Access: V	
	Da	te: 200	2/08/27		Time: 10	:34		Agency:			Crew:	SG/JD		Fish	h Crd?:	Incom	plete:
in la	5,5							STATE OF THE PARTY	ANN		17 - 17	1	- H7	36	2000		
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	el Width (m): ed Width (m):		1.20	0.80	0.70	0.90	0.80	0.90	-	-			0.73		thod II: 1.0		1.00
	ol Depth (m):		0.10	0.10	0.20	0.10	0.10	0.10	-				0.13	Me	1.0	1 1.0 1	
	Wb Depth:	.3	.4	.3	1 000	g: 0.33		Method:	MS		nan I	C M			Vis.Ch.:	Intermittent Tribs.	
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-	Туре	SWE	1 11	ND I	В	U	DF	- T	ov T	IV	1 CR	OWN CL	OSLIRE				
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	LWD LB SHP Texture RIP STG	: O : F 🗸	G 🗀	c 🗆	ST: E	R 🗌 A						RB SHP Texture RIP STG	F 🗸	G 🗍	С 🗆 В 🗀	R 🗆 A	
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	EMS:							18.45				eq #:					00
	Temp:							od: T4				ond.: 80				Method:	S3
	Flood Signs:	7.8 None						od: P2 od: GE			1	urb.: T	ПМ	L	C 🗸	Method:	GE
W ×		ti.		W. 3			N	ORF	ноп	OGY	561			Lan		- 1 - 2 7	
	Bed Material:		Dominar			Subdom					01	B1	B2 1	33 D	1 D2 I	03	
		14.0 SI N): 2.00		Morph			DISTUR INDICA	BANCE ATORS	C1	C2	C3 (C4 C	5 S1 S	\$2 \$3	\$4 \$5
(Confinement: FSZ:	oc							E	Bars:	NV	SIDI		DIAG	MID	SPAN	BR
	er i spe m		Traff.				7/10	FEA	TUR	ES	AK L		= 100 = u =	6			
NID Map	NID :	Туре	Hgt	Metho	d I	g N	lethod	I	Photo		Surfamo	AirPl	hoto	1	UTM (Z/E/N)	Method
093K.071		BR	2.0	GE	_		GE	R: 1	F:	6A I	4		#:		10,31560	4.6070064	GIS
Comme	nts: Tempora	ry bridg	e over c	ulvert.													
	5V 2	1				il Person	HA	BITA	TQ	UALI	TY			33/1	311		- Idille
	Name									(Commen	ts					
	Winter Habit	-	None														
	wning Habitat			high %				not finne	_								
Re	aring Habitat		Poor -	low flow	s, shall	w poors,	abunda	ant lines									

Tochcha Lake Planning Area

Reach# ILP Map #

ILP#

Site

5.0 093K.071 2359

3113					PHOTOS								
P	hoto		Foc Lg	Dir	Comments								
R: 1	F:	6A	STD	U	Upstream photo of bridge.								
₹: 1	F:	7A	STD	U	Upstream photo of channel.								
R: 1	F:	8A	STD	D Downstream photo of channel.									
		10 S		W 字字 *	COMMENTS								
	Se	ction			Comments								
	CHA	NNEL	Bridge and fi	Il underneath is a	barrier to fish - old culvert and logs beneath bridge block upstream fish migration.								
	CHA	NNEL	S4*										

Tochcha Lake Planning Area

Reach #

ILP Map #

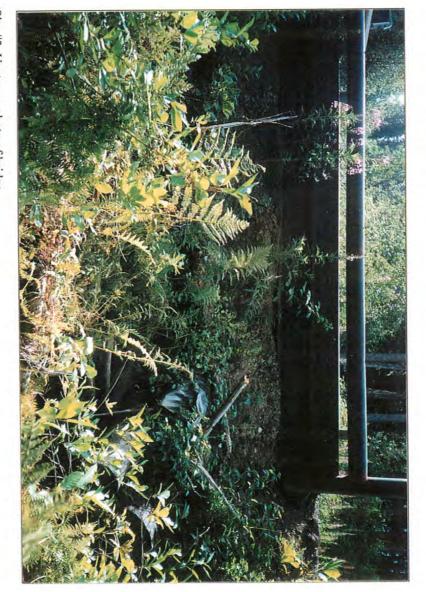
ILP#

Watershed Code:

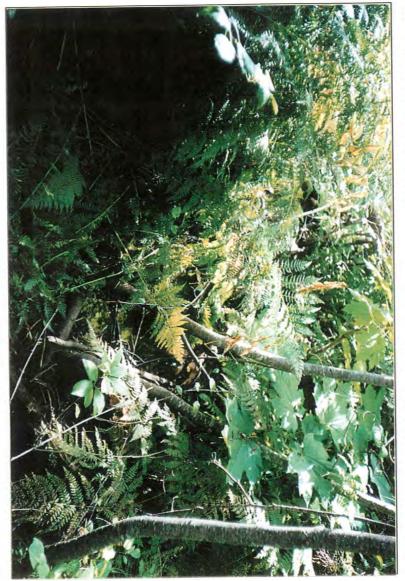
5.0

093K.071

	- 1 - 1 - 1 - 1 - 1		gran ()				WA:	TER	BOD	Y				D. Williams	
Gaz	zetted Name	:								Loc	al:				
F	Project Code	480-0	000000-0	0000-00000-	0000-0000	-000-00	00-000-	000-000	0-0						
	WS Code	000-0	000000-0	0000-00000-	0000-0000	-000-00	00-000-	000-000	000-0						
W	aterbody ID						ILP M	Map #: 0	93K.0	71		ILP#:	2359	Reach #:	5 -
	Project ID	5271								Lake/St	ream:	S	Lake	From Date:	
F	ish Permit #:	14	5269	Date	: 2002/08/	27	To:	: 2002	08/27	Age	ency:	C172	Crew: SG/	JD Re	esample:
1.78			- 21		- 1	S	ITE	/ M	ETH	O D	View		#I		
Site#	NID Map	NID	#	UTM:Zone/E	ast/North/M	1thd	MTD	/NO	Гетр	Cond	Turt	oid		Comment	
3	093K.071	400	03			GPU	EF	1	8.5	80	С				
						A.	GEA	R S	ETT	INGS	A s		7.7	11/200	The Paris
Site#	MTD/NO	H/P	Date	In Time	In Date	Out	Time	Out				C	comment		
3	EF 1	1	2002/0			/08/27	11:0								
6.			-7/2 (6)	C.	ELEC.	TRO	FISI	HER	SPI	CIFI	CA	TIONS			
Site#	MTD/N	10	H/P	Encl	Sec	- 1	ength	- 1	Vidth	Vol	tage	Frequency	Pulse	Make	Mode
3	EF	1	1	0	The state of the s						SMITH ROOT				
1000	31.11			4	A	F	ISH	SUN	AMA	RY	10	10	2011		
Site#	MTD/N	10	H/P	Species	Stage	Ag	е	Total #	Lg	th (Min/M	ax)	FishAct		Comment	
3	EF	1	1.1	NFC	COL			0							



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0

093K.071

(A)	The Indian		STR	EAM	REF	EREN	CING		* J	3 V - 3	
Gazetted Na	me:					L	ocal Name:				
Watershed C	ode: 000-00	0000-00000-00	000-0000-0000-00	0-000-0	00-000-	000-000	ILI	P Map #: 093K.0	71	ILP#:	2373
	Ē		Air ni Air		REA	CH		×			1000 1100
Reach #: 3 Length (km) Gradient (%) US Elev (m) Bars: None	: .78 : 22.7 : 1189	Confin	UTM(Zone/East/Noupling: Coupled lement: Frequently slands: NONE		Ma Rij	gnitude: Order: 1	1	C	Sample Typ BGC Zon Open water:	e: SBS	sed
Carlotte June	E. JE.	744 TU-		4-16-5	SIT	E		WHITE !	TEBA.	grici (t.)	
Site #:			M 10.319053.6074 M 10.319000.6074			1 7	y: C172 cy Name: Trit	Crew: JD. on Environmenta		te: 2002/0 s (Terrace)	-
				C	HAN	NEL	The state of the s		1000	100 - 1 L	
No Vis.Ch.: Dewatered: Stage: Low	Tr ✔	ibs.: C	hannel Width (m): Wetted Width (m): ankfull Depth (m):		Min 1.8 0.600 0.4	2.400 1.3 0.5	6 6 3	Gradient %: Pool Depth (m):	Avg Mi 20.50 1 0.20 0.1	7 24 00 0.300	-
Med [High [emp (C): 9	pH: 7.7		- 00.0	Conductivity		Turbi	dity.: Turi Modera		Low _ Clear ✓
	1 16	11 = 200 - 200		MOR	PHC	LOGY		58/35/1	187.5	18 h.	
Bed Material:	Dominant:		D95 (cm): 35 D (cm): 15			Bars: Non	Side	Diagonal _	Mid-char		Span [
Coup	oling: Couple ment: Confine		Islands: No	ne		RBANCE CATORS C2 C3	O1 B1	B2 B3 25 S1 S2	D1 D2 S3 S4	D3 S5	
				1	COV	ER	VI COL		An area of	01,000	
Total Cover: A	Abundant		Type: Amount: Location: P/S/O:	SWD T	LWI D) B S	U	DP O	V IV	FS	z: 🗌
Right Bank: Left Bank: Right Bank: Left Bank:	Shape: Si Shape: Si Rip.Veg: Ci Rip.Veg:	loping (g Text	ure: Fines Gra Stag	avel 🗸 avel 🗸 e: Matur e: Matur	e forest		er Rock	Manmade Manmade Manmade Manmade Manmade	∖lgae		40%
			Pra Sad	15.00	FIS		41.75				- 6 8 - 5 - 6 8 8
Site Number	Capture	Number of Events	Length fished (m)	Tota		Voltage	Species	Total Fish	Minimum Length (mm		imum th (mm)
	Method	Events	(in)	11111	5 -			1.1911	Longer (mm	Leng	(

Tochcha Lake Planning Area

Reach # ILP

ILP Map #

ILP#

Site

Months - Marie -	in the	100			3.2	PR	OJE	CT.		+ 07		1300			
Project N Stream Name (Project Watershed	gaz.): B	BABINE R			00-0000	-000-000)-000-00	0-000-00	00	ſ	Project C	ode:		5271	
(A)	NATION	T VS	1.755//E			WAT	ERS	HED	Rain	: 10 Th	1 11				
Gazetted Name: Watershed Code: 00 ILP Map#: 09		0-00000-0	0000-0000 ILP#: 2			000-000- ap #: 09			Lo ID#: 4	ocal Nam	e: Read	ch #:	3.0	Site #	t: 4
Field UTM (Z.E.N): 10 GIS UTM (Z.E.N): 10	.319000.	6074664		Method:			Sheet		ef. Nam			Method:		Access: V	
	2002/08/	127	Time: 12	2:08		Agency:			rew:	JD/SG		Fish (Crd?: ✓	Incomp	olete: 🔲
Na Water	- 'E			w _{el} s	100		ANN	and the same	V. 100		. 1 - 1	d- d	1 195 -1		
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Type: S	SWD	LWD	В	U	DP		ov	IV	CR	OWN CL	OSURE				
Amount:	T	D	S	T	N	I F	T	N	2		1-40%				
Loc: P/S/O:		V	V	V					INS	STREAM	VEG:	N V A	\square M \square	V	
RIP: C STG: MF										RIP					
	16 10	400	West and	146		W	ATE	R			الأعداد				
EMS: Temp: 9 pH: 7.7 Flood Signs: Sec		edges			Metho	od: T4 od: P2 od: GE			C	Req #: Cond.: 90 Turb.: T	_ M	_ L _	c 🔽	Method:	
					M	ORP	HOL	OGY				-1-	,		
Bed Material: D95; 35. Pattern: IR Islands: N Coupling: CO	.0 D	inant: C (cm): 15.0	00	Subdom			DISTURE INDICA		01 C1	B1 C2		33 D1 C4 C5		93 22 S3 S	S4 S5
Confinement: CO							Ва	ars:	N	SIDI		DIAG	MID	SPAN	BR
The state of the s				47.47	HAI	BITA	TQL	JALI.	TY		one confe				
Name								C	ommer	nts					
OverWinter Habitat		ne.		10.4											
Spawning Habitat Rearing Habitat			ets of grave ade pool ha				low flow	S.		_					
rearing riabitat	150	oi - casca	ide pool 18	abitat Will	TIOW IIO		ото	S	(A)+1	754	71		50947		
Photo	Foc Lg	# 2000 T)ir		1-150012			100		Commer	te.	April State of the		
R: 1 F: 10A	STD			Dir D	Dow	nstream	photo o	of cascad	le/pool		Confiner	113			
R: 1 F: 9A	STD			U				ascade s					_		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0

093K.071

2373

	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#

Watershed Code:

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

3.0

093K.071

100		701			07/2	14.40	WA	TERI	3 O D	Υ					9X
Gaz	zetted Nam	e:								Loc	al:				
F	Project Cod	e: 480-	000000-	00000-00	000-000	0-000-000-0	00-000-0	000-000	-0						
	WS Cod	e: 000-	000000-	00000-00	000-000	0-000-000-0	00-000-0	000-000	-000						
W	Vaterbody II):					ILP M	lap #: 0	93K.07	71		ILP#:	2373	Reach #:	3 -
	Project II	D: 5271	b-							Lake/St	ream:	S	Lake	From Date:	
F	ish Permit	#: 14	5269		Date: 2	002/08/27	To:	2002/	08/27	Age	ency: (C172	Crew: SG/	JD Res	sample:
· Fr	1965						ITE	/ M I	ETH	O D		ELT COME	H-1		
Site#	NID Map	NIE)#	UTM:Zo	ne/East/	North/Mthd	MTD/	NO T	emp	Cond	Turb	id		Comment	
4	093K.07	400	04			GPU	EF	1	9	90	С				
			7-4	11/10/11	4200	Α.,	GEA	RSI	ETT	INGS	i v		(A-2-a)(S-)	× 78.55	"Land
Site#	MTD/NC	H/P	Date	e In	Time In	Date Out	Time	Out				C	omment		
4	EF 1	1	2002/0	08/27	12:08	2002/08/27	12:3	35							
		W	- 100	12.00	C. EL	LECTRO	FISH	HER	SPE	CIFI	CAI	TONS	板上加料	11/6	Jac
Site#	MTD	NO	H/P	E	ncl	Sec	Length	V	Vidth	Vol	tage	Frequency	Pulse	Make	Mode
4	EF 1 1 0 306						200.0	4	1.0	4	00	60	6 SMITH ROOT		12B
			10 TO 10 S	13.3/3	91.	F	ISH	SUN	MA	RY	570			1 1 2 2 7 1	
Site#	MTD	NO	H/P	Spec	es S	Stage Ag	ge	Total #	Lgi	h (Min/M	ax)	FishAct		Comment	
4	EF I	1	1	NFC				0	1						



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

5.0

093K.071

and the property of	11		STR	EAM	REF	EREN	CING	The second			P. 11	1-3-1
Gazetted Name:						L	ocal Name:					
Watershed Code:	000-000	000-00000-000	000-0000-0000-00	0-000-00	00-000-	000-000	ILF	Map #: 093K.0	71	IL	P#:	2370
	400	Complete Section			REA	СН	Marine 5	(4. %) - E.		1 1		
Reach #: 5.0 Length (km): .71 Gradient (%): 14.1 US Elev (m): 102 Bars: None	0	Co Confin	JTM(Zone/East/Noupling: Coupled ement: Frequently slands: NONE	Confin	Ma	gnitude: Order: 2 parian Veg	5	ed C/D	Sample BGC 2	Zone:		ed
				To 8 4, 1	SIT	E	TOTAL THE	AT A STATE OF		11/1/20		-40
Site #: 5 Site Length (m):	300	1.555.5.10	1 10.318374.6074 M 10.318370.6074	770			y: C172 cy Name: Trite	Crew: So on Environment	G/JD al Consult		2002/08 errace)	3/27
		₩,n		C	HAN	NEL						
No Vis.Ch.:	Intermitte		hannel Width (m):	Avg 2.55	Min 2.1	Max 3	#	Gradient %	Avg 12.00	Min 10	Max 14	#
Stage: Low	. 1111		Wetted Width (m):	0.85	0.400	1.200	6	Pool Depth (m)		0.100	0.300	6
Med High	Te	mp (C): 9	pH: 7.6	0.60	0.5	0.7 Conductivity	3 y: 60	Turb		Turbid derate		Low
	11_13	, and the same	经验到金属的	MOR	PHC	LOGY	27.44				197	199- 100
2.42.102.151.007	ominant: C ominant: E	2327	D95 (cm): 35.			Bars: Non	✓ Side	Diagonal	Mid-c	channel		pan []
Channel Pattern: Coupling: Confinement: Morphology:	Coupled Confined	l Cascade Pool	Islands: Nor	ne [RBANCE CATORS C2 C3	01 B1	B2 B3 5 S1 S2	D1 [02 D S4	S5	
		1 - 1			OV	ER		nd the state	310-10			
Total Cover: Abun LWD: Abun LWD Dist: Clum	dant		Type: Amount: Location: P/S/O:	SWD T	LWI	B S	U T		s .	IV N	FSZ	z: 🗌
Left Bank: S Right Bank: Rig	hape: V - hape: V - o.Veg: Mix o.Veg:	shape Text	ure: Fines Gra	avel 🗸 (avel 🗸 e: Mature e: Mature	Cobble forest	✓ Boulde	er Rock	Manmade Manmade	Algae		own Clos 1-20	
	9 (P)	ra _k	100		FIS	H	The second	3.8.16.3	7.0	757		
Site Number Ca	pture	Number of	Length fished	Tota		Voltage	Species	Total	Minim			mum
M	ethod	Events	(m)	Time	2			Fish	Length	(mm)	Lengti	n (mm)

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

10,381		100	PRO.	JECT			
Project Nar Stream Name (ga Project Watershed Co		ER .	000-000-000-00	0-000-000-0		ect Code:	5271
		The state of the s	WATER	RSHED	We Think I have		Sales and the
Gazetted Name: Watershed Code: 000-0 ILP Map#: 093K Field UTM (Z.E.N): 10.31 GIS UTM (Z.E.N): 20.31	.071 8374.6074929 8370.6074876		000-000-000-000 ID Map #: 093K.0	-000 071 N	Local Name: IID #: 40005 Site Lg: 300 ef. Name: Crew: SG/JD	Reach #: 5.0 Method: HC Fish Crd?:	Site #: 5 Access: V4 ✓ Incomplete: □
	323 233	F	CHAI	INEL			
Mtd	width width	width width w		dth width	width width	Avg G	adient % Mtd Avg
Channel Width (m): T Wetted Width (m): T Pool Depth (m): T	2.60 2.80 1.00 0.90 0.30 0.20	2.10 2.50 3 1.20 0.60 1	.00 2.30		2	2.55 Method I: 12 0.85 Method II: 10 0.22 No Vis.Ch.:	.0 14.0 C 12.00
			Wediod. Wic	,	tage. L V III		1 110011 🗀
Type: SW Amount: T Loc: P/S/O:	D LWD	B U S T	DP OV T S	IV N	CROWN CLOS 1 1-20 INSTREAM VE		□ v □
LB SHP: V Texture: F RIP: M STG: MF	_ G ∨ C ∨	B R A			RB SHP: V Texture: RIP: M STG: M	F G G C G B	RA
Secretary and the second			WA	TER	CHR TO SE	-1	
EMS: Temp: 9 pH: 7.6 Flood Signs: Rafter	d debris		Method: T4 Method: P2 Method: GE		Req #: Cond.: 60 Turb.: T	M	Method: S3 Method: GE
	VI 9 2 8	Sugar Sur	MORPH	OLOGY	(training)	11/02 11/02 11/02	En Ewin Land
Bed Material: D95: 35.0 Pattern: SI Islands: N Coupling: CO Confinement: CO FSZ:	Dominant: C D (cm): 12.00	Subdom: B 0 Morph: C	P DIS	TURBANCE DICATORS Bars:	O1 B1 B C1 C2 C	3 C4 C5 S1	\$2 \$3 \$4 \$5
The state of the s	1 1/18/14		HABITAT	QUALI	TY		- W. C.
Name					Comments		
OverWinter Habitat	None.						
Spawning Habitat		substrates, low flows					
Rearing Habitat	Poor - high gr	radient, disturbed cha					
			РНО	TOS			
Photo	Foc Lg	Dir			Co	mments	
R: 1 F: 11A	STD	U	Upstream photo				
R: 1 F: 12A	STD	D	Downstream ph				
R: 1 F: 13A	STD	U	20% gradient u	pstream of s	ite.		

Tochcha Lake Planning Area

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

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

5.0

093K.071

		Pro-	3/1	惟		7.1		WA	TER	BOD	Υ			1 100				
1.33		de:					0-0000-000-0				Loc	al:						
W	/aterbody Project		5271					ILP N	Иар #: (93K.0	71 Lake/St	ream:	ILP#: S		Reach #: 5	5 -		
F	ish Perm	t#:	14	5269	Da	ite: 20	002/08/27	То	: 2002	08/27	Ag	ency:	C172	Crew: SG/JI	D Resar	mple:		
N. H.	See Egg				3 / E		S	ITE	I M	ETH	O D		756	3-0	Market			
Site#	NID M	ар	NID	#	UTM:Zone	/East/	North/Mthd	MTD	/NO	Temp	Cond	Turb	id	C	Comment			
5	093K.0	71	4000	05			GPL	EF	1	9	60	С						
No.	" Number	SO			THE ST		Α.	GEA	RS	ETT	INGS	1-75	e higher	The state of		0,10		
Site#	MTD/N	0	H/P	Date	In Tin	ne In	Date Out	Time	Out				C	omment				
5	EF	1	1	2002/0	8/27 12	2:45	2002/08/27	13:	15									
	TELES		63		C	EL	ECTRO	FIS	HER	SPE	ECIFI	CA	TIONS	77-		-100 gi -		
Site#	MT	D/N	0	H/P	End		Sec	Length		Width	Vol	tage	Frequency	Pulse	Make	Model		
5	EF		1	1	0		301	300.0		1.0	4	00	60	6 SMITH 12E				
	3/1.1	200		(- Type	, " - 3)	313	F	ISH	SUI	AMA	RY	- 1	Wood -	3 4 6 4				
Site#	MT	D/N	0	H/P	Species	S	tage Ag	je	Total #	Lg	th (Min/M	lax)	FishAct		Comment			
5	EF	T	1	- 31	NFC				0									



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

Reach#

ILP Map #

ILP#

TRIM

093K.071

1983

6.0

093K.071

		PROJECT		
Stream Name (gaz.	•	000-0000-000-000-000-000	Project Code: 9	5271
	- San Maria	WATERSHEI		
Reach Watershed Code ILP Map #: 093K.071 Air Photos LINE: BCB910236_ #: 0	e: 000-000000-00000-00000-0 ILP #: 2370 Gaz.: Local:	000-0000-000-000-000-000 Reach #: 6.0 Names	-000 NID Map #: 093K.071	NID #: 13082 UTM(Zone/East/North/Method) 10.318473.6075268 GIS Sample Type: B Wetland:
		SURVEY INF	0	
Date: 2002/08/26		Agency: C172		Crew: SG/JD
		ATTRIBUTE	S	The second of the second
Length (km): .30 DS Elev.: 1020 US Elev: 1095	Gradient: 25 Order: 2 Magnitude: 6 BGC Zone: SBS	Setting: Vi Open water: A Confinement: FC Coupling: CC	INDICATORS C1 C2	O1 B1 B2 B3 D1 D2 D3 C3 C4 C5 S1 S2 S3 S4 S5
Valley Flat: N Active Floodplain Visibl Channel Pattern: SI	C/D: le:	Bars:	Islands: N N SIDE DIAC Mass Movement: M Riparian Veg.: M	G MID SPAN BR Exposed/Eroded: NS Landuse: NS
M X	APS			
Map Type M	ap# Year			

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

6.0

093K.071

	个事情!		""		= 1017 2014		WATE	RBO	Y		The state of the s	la San		
P		e: 480-0 e: 000-0		00000-00000 00000-00000				000-000	Loc 071 Lake/St		ILP#:	2370 Lake I	Reach #: From Date:	6 -
F	ish Permit	: 14	5269	Date	: 2002/0	8/27	To: 20	02/08/27	Ag	ency: 0	0172	Crew: SG/	JD Res	ample:
185	36. 2-3C	\$ A	Transfer of	13 //	The state of	S	ITE /	METI	IOD		Margarita W	in the second		- W
Site#	NID Map	NID	#	UTM:Zone/E	ast/North/	Mthd	MTD/NO	Temp	Cond	Turbi	d		Comment	
6	093K.071	400	06			GPU	EF 1	9	60	С				
7300	-00/200		12/10			A. (SEAR	SETI	INGS	AND T	a magnet			
Site#	MTD/NO	H/P	Date	In Time	In Da	te Out	Time Out	The same of the sa	. 11 12 20 20 20 20	100	C	omment	14.	
6	EF 1	1	2002/0	8/27 13:1	5 200	2/08/27	13:40			8				
1.07		1		C.	ELEC	TRO	FISHE	RSP	ECIFI	CAT	IONS	\\ - \\ \ - \	7.00	
Site#	MTD/	NO	H/P	Encl	Sec	L	ength	Width	Vol	tage	Frequency	Pulse	Make	Mode
6	EF	1	1	0	109		150.0	1.0	5	00	60	6	SMITH ROOT	12B
	10 miles	(D 55)				F	ISH SU	MM	RY				100	×,
Site#	MTD/	NO	H/P	Species	Stage	Age	Tota	1# L	gth (Min/M	ax)	FishAct		Comment	
6	EF	1	1	NFC				0			-14			
803			70				COMM	ENT	S		5 4 数	100		
	Section	ASSESSED III			-20000000000000000000000000000000000000				Comm	ents		on the later of th		- Commission
	VATERBOI	ΟY	Ele	ctrofished hig	ah gradien	t section.								

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.071

Gazetted Nar	ne:					Lo	cal Name:				
Watershed C	ode: 000-000	000-00000-00	000-0000-0000-00	0-000-000	-000-000-0	000	ILP	Map #: 093h	C.071	ILP#:	2358
	1505			R	EACH	1900					
Reach #: 2.0 Length (km): Gradient (%): US Elev (m): Bars: None	1.06 8.8 914	Confin	UTM(Zone/East/Noupling: Partially Comment: Occasional Stands: NONE	ouple	Magnitu Or Riparia	ide: 8 der: 3 n Vege	tation: Mixe		Sample Ty BGC Zo Open water	ne: SBS	ased
1.7			en 30 30 16	= 19.3	SITE			Wasan	A Company	30,2	
Site #:		Field UTM GIS UT	И M 10.315726.6074	695		Agency: Agency			SG/JD [ntal Consultar	Date: 2002 nts (Terrace	
	Vicinity II	Alteria	1 51 1	CH	ANNE	L	4			- 1-10 m	
No Vis.Ch.: Dewatered: Low Med High	Tri	ibs.:	hannel Width (m): Wetted Width (m): ankfull Depth (m): pH: 7.8	2.35 1.17 0.63	Min M: 1.9 2. 1 1. 0.6 0.	3	3	Gradient Pool Depth (%: 6.25 m): 0.42 0 urbidity.: T	Min Ma 5 7 0.300 0.60 urbid erate	4
111911		Simp (O), o	p11.11.0	1100	HOLO			50050000000	11100	ordio [Olou, (F
Confinen		onally Confine Cascade Pool			C1 C2	C3	C4 C5	S1 5	S2 S3	S4 S5	
15 1/2		7		C	OVER	15.2	1	-160 1	The Act		
Total Cover: A LWD: F LWD Dist: C	ew Clumped		Type: Amount: Location: P/S/O:			B T	U S Rock	DP T	T I	V N Crown C	FSZ:
Right Bank: Left Bank: Right Bank: Left Bank:		verhangi Text	ture: Fines 🗸 Gra Stage		obble I	Boulder	Rock Rock	Manmade			1-20% /ascular [
Com, N	-		Last An	1	W. W. St.	TUR	ES	- Jr	. 5°E		
093K.071 8	NID Type 88003 CV perched culv	1.2	Method Lg GE 16 grade, full barrier t	Method GE o fish.	R: 1	Photo F:	14A L:	AirP	Photo #:		UTM (Z/E/ 315693.60
- 15 - 25	The state of the s	5app = 15			FISH	-1 70-11		0.15; 5			Maria Sa
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Vol	age	Species	Total Fish	Minimus Length (n		aximum ngth (mm)
7	EF	1	200	738 sec		00	NFC	0	400		150
7	VO	1		25 min			RB	2	100		150

Tochcha Lake Planning Area

Reach # ILP M

ILP Map #

ILP#

Site

2.0 093K.071

2358

						"-T'.Y		PR	OJE	СТ	0.47	1000	10 m 19 1 19 19 19 19 19 19 19 19 19 19 19 1				14		
	Proje Stream Nan ect Watersh	ne (gaz		INE RIV	ER		00-0000	-000-000	0-000-00	0-000-00	00		Project C	Code:			5271		
	58.008		8,730	J 72	" Code	-9N-18		WAT	ERS	HED					3 E		3 7057		Tegen
Wate	etted Name rshed Code ILP Map# TM (Z.E.N): TM (Z.E.N):	: 000-00 : 093K.0)71	1	LP#: 2			000-000- ap #: 09		N	Loc ID #: 40 Site Loc ef. Name	g: 100		ch #: Me	ethod: HC	2.0	Si	te #:7 s: V2	
	Dat	te: 200	2/08/27	-	Time: 13	:55		Agency:	C172	c	rew:	SG/JD			Fish Crd	?: 🗸	Inc	omplet	e: 🗌
				深 觀 和		training of		СН	ANN	EL	福度福	Mary S	ii. 5	2-12	1 1/4 to	g 1.		40,	
		Mtd	width	width	width	width	width	width	width	width	width	width	Avg			Gadi	ent %	Mtd	Avg
Wetter	Width (m): Width (m): Depth (m):	MS MS	2.60 1.20 0.30	2.30 1.10 0.40	2.10 1.30 0.60	2.40 1.20 0.50	1.90 1.20 0.40	2.80 1.00 0.30					2.35 1.17 0.42	1 -	Method I	1: 7.0	7.0	C	6.25
	Wb Depth:	COVER Total: A									age: L	✓ M	□ н [No Vis.C D	n.: ☐ w: ☐	Intermitte Tril	bs.;	73
UE	Туре:	SWE	LV	VD	В	U	DF	,	ov	IV	CR	OWN CL	.OSURE						
	Amount: Loc: P/S/O:	T			Т	S	T		T	N	1		-20%		A				
	Texture: RIP: STG:	М										RIP	: M	1			R		
	****							W	ATE	R	. 53			15 ~ . E			- W.		
F	EMS: Temp: pH: flood Signs:	7.8	debris				Metho	od: T4 od: P2 od: GE			C	eq #: ond.: 70 urb.: T	_ м		L 🗆 c	✓		od: S3	
* E.			R-1/18				i a N	IORF	HOL	OGY	1000	STAVE	12	200			7	IF.	
	Pattern: Islands: Coupling: onfinement: FSZ:	40.0 IR N PC OC	Dominan D (cm	t: C): 20.00		Subdon Morph		C	DISTURE INDICA B		01 C1	B1 C2 SID	C3 (B3 C4 DIAG	C5 :		3 2 S3 SPAN	\$4 	S5
		1.2	V 54	100		10-	,	FEA	TUR	ES		Part .					30.		1-P
NID Map 093K.071 Comment		ype CV Culvert C	Hgt 1.2 0.2 m ~6°	Metho GE % grade		16	Method GE h.	R: 1	Photo F:	14A L	:1	AirP	hoto #:		10	UTM (2 .315693	Z/E/N) .6074907	I N	Method GIS
OverV	Name Vinter Habita		Preser	nf.			HAI	BITA	TQL	JALI	T Y commen	ts		-15-1	Fil "		- # J	, i	A THE STATE OF
	ning Habita				tes too la	arge for i	resident i	trout/cha	ar.										
Rea	ring Habitat		Moder	ate - abı	undant c	cover, mo	derately	deep p	ools, ade	equate flo	w.								

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

2.0

093K.071

2358

ST.					TOTAL SALES	PHOTOS
	Ph	noto		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.

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

2.0

093K.071

	10	14		(1)	THE SE	h. j. j. j. j. 44		WA	TER	RBOD	Y				700 M		
	ws	t Code	480-0		0000-000 0000-000			-000-000	-000-0	000-000	Loc						
	Waterb Pro		5271					(LP)	мар #:	093K.07	1 Lake/St		S ILP	#:	2358 F Lake Fro	19531111	-
	Fish P	ermit #:	14	5269	D	ate: 200	2/08/27	To	o: 200	2/08/27	Age	ency: C	172	Cn	ew: SG/JD	Resan	nple:
	No.	1.00		1		1	105	SITE	1.1	LETH	0 D			interior	Boll St	Dale	
Site#	NIC	Мар	NID	#	UTM:Zon	e/East/No	rth/Mthd	MTE	O/NO	Temp	Cond	Turbi	d		Co	mment	
7	093	K.071	400	07			GF	U VO	1								
7	093	K.071	400	07	300		GF	U EF	1	8	70	С					
		E=1	10.000				Α.	GEA	IR S	SETT	NGS				1 3 1 3 .		
Site#	MT	D/NO	H/P	Date	In Ti	me In	Date Ou	Time	Out					Com	ment		
7	EF	1	1	2002/0	8/27 1	3:55	2002/08/2	7 14	:20								
7	VO	1	1	2002/0	8/27 1	3:55	2002/08/2	7 14	:20				~				
	12 10	Tr. 14	(K)		С	. ELE	CTR	DFIS	HEF	SPE	CIFI	CAT	ION	S			
Site#		MTD/N	10	H/P	En	cl :	Sec	Length	m/C	Width	Vol	age	Freque	ency	Pulse	Make	Mode
7	EF		1	1	0		738	200.0		1.2	60	00	60		6	SMITH	12B
		678 <u> </u>		7-3		3 400	Annal	FISH	SU	MMA	RY	- 600	100			ROOT	13/3/
			-	200-	-	1 0	NAME OF TAXABLE PARTY.	Age	Total	# Lat	h (Min/M	ax) I	FishAct	Total		Comment	
Site#		MTD/N	10	H/P	Specie	s Sta	ge /	146									
Site#	EF		1	H/P	Specie: NFC	s Stag	ge /	nge	0	-	1						
						s Stag	ge /	ige				50	R	Estim	ate		
	EF		1	1	NFC				2		00 1		R	Estim	ate		
7	EF		1	1	NFC RB		INDI	VID U	0 2 J A L	FISH ge	00 1	ΓA Gen	etic	Estim	ate Frame#	Comm	nent
7	V		1	1	NFC RB	J	INDI	VID U	0 2 J A L	FISH	00 1 DA	ГА	etic	3 × 2-		Comm	nent
7 7 Site#	VC	/NO	1 1 H/P	1 1 Species	NFC RB	J	I N D I	VID U	0 2 J A L	FISH ge	00 1 DA	ΓA Gen	etic	3 × 2-		Comm	nent
7 7 Site#	MTC	/NO 1	1 1 H/P	1 1 Species	NFC RB Length	J	INDI Sex I	VIDU Mat	JAL JAL A	FISH ge	00 1 D A	ΓA Gen	etic	3 × 2-		Comm	ent
7 7 Site#	MTC VO	/NO 1	1 1 H/P	1 1 Species	NFC RB Length	J	INDI Sex I	VIDU Mat	JAL JAL A	FISH ge	00 1 D A	Gen Str/S	etic	3 × 2-		Comm	ent



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0 093K.081

2251

STREAM REFERENCING **Gazetted Name:** Local Name: 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: 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 Crew: Agency: C172 SG/JD Date: 2002/08/27 Site Length (m): 300 GIS UTM 10.317477.6083873 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL Max No Vis.Ch.: Intermittent: Min Avg # Avg Min Max # Channel Width (m): 2.25 Dewatered: Tribs.: 1.9 2.6 6 Gradient %: 2.25 3 4 Wetted Width (m): 1.05 0.800 1.3 6 Pool Depth (m): 0.23 0.100 0.300 6 Low V Stage: Bankfull Depth (m): 0.5 0.6 3 Med Turbidity .: Turbid Low High Temp (C): 10 pH: 7.8 Conductivity: 80 Moderate Clear V MORPHOLOGY Bed Material: Dominant: Cobble Side Diagonal ____ D95 (cm): 18.00 Bars: Non 🗸 Mid-channel Span Subdominant: Gravels D (cm): 10.00 Braid Channel Pattern: Sinuous DISTURBANCE Islands: None B2 **INDICATORS** Coupling: Decoupled Confinement: Occasionally Confine C2 C3 C4 C5 S3 SI **S2 S4 S5** Morphology: RP Riffle Pool COVER Type: Total Cover: Abundant SWD LWD В U DP OV IV Amount N S D LWD: Abundant Location: P/S/O: 1 ~ ~ FSZ: LWD Dist: Evenly Distributed Shape: Overhangi Texture: Fines ✔ Gravel Cobble Boulder Rock Manmade Crown Closure Right Bank: Texture: Fines

✓ Gravel Cobble Boulder Rock Manmade 1-20% Shape: Overhangi Left Bank: Right Bank: Rip.Veg: Mixed C/D Stage: Mature forest Instream Veg: None ☐ Algae ☐ Moss ✔ Vascular Left Bank: Rip.Veg: Stage: Mature forest FEATURES NID Map NID Type Hgt Method Lg Method Photo AirPhoto UTM (Z/E/N) 093K.081 88103 10.317504.6084 C 1.4 GE HC 3 F: 03 #: Comments: NID Map NID Hgt Method Method Photo AirPhoto UTM (Z/E/N) Type Lg 093K.081 88102 C 1.2 GE 2 GE 10.317429.6084 3 02 Comments: 40 m upstream NID UTM (Z/E/N) NID Map Type Hgt Method Method Photo AirPhoto Lg 10.317414.6084 093K.081 88101 C 1.0 GE HC F: L: #: Comments: no photo taken. NID Map NID Method Photo AirPhoto UTM (Z/E/N) Туре Hgt Method Lg 093K.081 88005 CV GE 10.317197.6083 GE 20 19A 1.2 F: Comments: Culvert perched ~1.4 m, barrier (full). NID Map NID Type Hgt Method Method Photo AirPhoto UTM (Z/E/N) Lg 88004 10.317493.6083 093K.081 CV 1.5 GE 16 GE R: L: Comments: Culvert perched 10 cm, partial barrier (no photo taken). FISH Site Number | Capture | Number of Length fished Total Voltage Species Total Minimum Maximum

Tochcha Lake Planning Area

Reach # ILP Map #

ILP# 2251

2.0

093K.081

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		

Tochcha Lake Planning Area

Reach # ILP

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Site

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Project Stream Name Project Watershed	(gaz.): SAK		ER	00-0000)-000-00	0-000-000	0-000-	-000	Project Coo	de:	5271	
			200	P St.	WAT	ERSE	IED			- M	200	
Gazetted Name: Watershed Code: 00 ILP Map#: 09 Field UTM (Z.E.N): 10 GIS UTM (Z.E.N): 10 Date:	93K.081 9.317493.608	ILP # 33960 33873	0000-0000-0 : 2251 Method:	00-000- NID M GPU		-000-000 3K.081		Lo NID#: 4	Lg: 300 ne:	#: 2. Method: GE Fish Crd?:	Access:	#:8 V2 nplete:
	T 0 1886			- 1994	-	ANNE		dent		WHI RADA		
	na Laga	Large Lar	and I amount	I				I Say	Taran Land		0.10.10.1	
Channel Width (m): Metted Width (m): Pool Depth (m):	Mtd width MS 2.20 MS 1.20 MS 0.20 .6 .5	1.30 0.4 0.30 0.3	60 2.00 80 1.10 30 0.30 Avg: 0.53	width 1.90 1.00 0.20	width 2,50 0,90 0,10 Method:	width	width		width Avg 2.25 1.05 0.23	Method II: Method II: No Vis.Ch.: Dw:	2.0 3.0 2.0 2.0 Intermitten	-
	T	WD B	U S	DF T	_	OV D	IV T	1	ROWN CLOSURE I 1-20% STREAM VEG: N			
LB SHP: O Texture: I RIP: M STG: Mi	F	СПВ[R [] /	1					RB SHP: O Texture: F RIP: M STG: MF	э _ c _	B 🗆 R 🗆 A	
				S. 5.14	W	ATER						
EMS: Temp: 10 pH: 7.8 Flood Signs: Sc				Meth	od: T4 od: P2 od: GE			C	Req #: Cond.: 80 Turb.: T M	г _ c ^	Method:	277
(in the column)				A	ORF	HOL	0 G	Y	- Val.			×
Bed Material: D95: 18 Pattern: SI Islands: N Coupling: DC Confinement: OC FSZ:		nt: C i): 10.00	Subdon Morph	n: G		DISTURBA INDICAT Ba	ANCE	01	B1 B2 B3 C2 C3 C4 SIDE DI	C5 S1	D3 S2 S3 D SPAN	\$4 \$5
1775年 宋 35年 九帝 19	- July	1 7 3 3	经经准数。	7 705	FEA	TURI	ES	NE I P	100 m	No.		7-13-34
NID Map NID Type 093K.081 88103 C Comments:	e Hgt 1.4	Method GE	-	Method	R: 3	Photo	03	L:	AirPhoto #:		TM (Z/E/N) 7504.6084375	Method GIS
NID Map NID Typ 093K.081 88102 C Comments: 40 m upstres	1.2	Method GE		Method GE	R: 3	Photo	02	L:	AirPhoto		TM (Z/E/N) 7429.6084344	Method GIS

Tochcha Lake Planning Area

STD

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02

03

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CHANNEL

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ILP Map #

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Site

Wa	atershed Co	de: 000-0	00000-0	0000-00000-0	000-000	00-000-000-	000-0	00-000-00	0	2	2.0 093K	.081 2251	8
(1)			e talkalasia Ta	-78	ESMA	经风度的	F	EATUR	RES				
NID Map	NID	Type	Hgt	Method	Lg	Method	T	Photo			AirPhoto	UTM (Z/E/N)	Method
093K.081	88101	C	1.0	GE		HC	R:	F:	6.5	L:	#:	10.317414.6084196	GIS
Comme	ents: no ph	oto taken.											
NID Map	NID	Туре	Hgt	Method	Lg	Method	1	Photo			AirPhoto	UTM (Z/E/N)	Method
093K.081	88005	CV	1.2	GE	20	GE	R:	1 F:	19A	L:	#:	10.317197.6083566	GIS
Comme	ents: Culve	rt perched	1~1.4 m	, barrier (full).									
NID Map	NID	Type	Hgt	Method	Lg	Method	1	Photo			AirPhoto	UTM (Z/E/N)	Method
093K.081	88004	CV	1.5	GE	16	GE	R:	F:		L:	#:	10.317493.6083949	GIS
Comme	ents: Culve	rt perched	10 cm,	partial barrier	(no pho	to taken).							
	J	1	1-22	31,230	750	HA	BIT	AT Q	UAL	ITY	1000		
	Name						-	Mark Division	NO PER	Comme	nts		
Ove	erWinter Ha	bitat	None	observed.									
Sp	awning Hal	oitat	Poor	- majority of s	substrate	s are too lar	ge.						
R	earing Habi	tat	Mode	erate - limited	by shall	w depths a	nd lov	v flows.					
		-1	工造	(a) (5) (b)	100	全型 形態	E	HOTO)\$		United the second		\$1. · · · ·
Ph	oto	F	oc Lg		Dir				-	2000000	Comments		
R: 1	F: 17A		STD		U	Ups	tream	n photo of	riffle ha	bitat.			
R: 1	F: 18A		STD		D	Dov	vnstre	eam photo	of pool	habitat.			
R: 1	F: 19A		STD	-	U	Per	ched	culvert - fu	II barrie	er.			

Photo of 1.2 x 1.5 m cascade.

Lower culvert perched slightly, partial barrier to juvenilles. Upper culvert perched ~1.4 m, barrier to all species.

Comments

Photo of 1.4 m cascade. COMMENTS

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

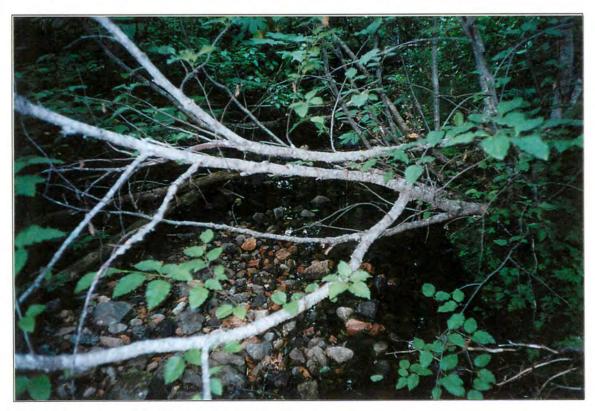
2.0

093K.081

- Nyl					w do	ale M		WA	TE	RBOD	Y		inga r		435	300	
-		Code:	182-8				0-0000-000-				Loc	al:					
W	aterbo	dy ID:						ILP	Map #	: 093K.0	81		ILP	#:	2251	Reach #:	2 -
	Proje	ct ID:	5271								Lake/St	ream:	S		Lake Fr	om Date:	
F	ish Per	mit#:	14	5269	, c	Date: 2	002/08/27	T	o; 20	02/08/27	Ag	ency:	C172	Cr	rew: JD/SG	Resa	mple:
1/3	F 10	10	- E	#				SITE	I	METH	O D					p. E.	2.51
Site#	NID	Мар	NID	# (JTM:Zor	e/East/	North/Mthd	MTI	O/NO	Temp	Cond	Turb	id		C	omment	
8	093K	.081	400	80		-54	GP	U MT	2	10	80	C					
8	093K	.081	400	08			GP		1	10	80	С					
9	093K		400					U EF	1	10	80	С					
8	093K	.081	400	08				U EF	1	10	80	С	TIE			1	
3 %	18	16	200	30 1	X2.	Like	Α,	GE	AR	SETT	INGS	(3/97)					Series .
Site#	MTD	/NO	H/P	Date	ln T	ime In	Date Out	Time	e Out					Com	ment		
8	EF	1	1	2002/08		15:12	2002/08/2		:40								
8	MT	1	_1	2002/08	ALC: 1	7:15	2002/08/29		:30								
8	MT	2	1	2002/08		07:15	2002/08/29		:30								
9	EF	1	1	2002/08	3/27	15:45	2002/08/2		:00					N. Carlos	00		
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	2		1 7		C	. El	LECTRO	FIS	HE	R SPI	ECIFI	CA	IION	S			
Site#	N	TD/N	Ю	H/P	Er	ncl	Sec	Length	1	Width	Vol	tage	Frequ	ency	Pulse	Make	Mode
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_	Lee					, ,	306	200.0		11	1 6	00	1 6	o T	6	ROOT	12B
9	EF		1	1		,	300	200.0		1.1	5	00	1 6	U	O	ROOT	120
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Site#	IN	TD/N	10	H/P	Specie	s S	Stage A	ge	Tota	al# Lg	th (Min/N	lax)	FishAct			Comment	
8	EF	1	1	-1	NFC					0				-			
8	MT		1	1	NFC				15-11	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

Reach #

ILP Map #

ILP#

3.0

093K.081

		PROJECT		
Stream Name (gaz.):		0-0000-000-000-000-000-000	Project Code: 5271	
	MATTER STATE	WATERSHED		
Reach Watershed Code: ILP Map #: 093K.081 Air Photos LINE: BCB910236_ #: 0	000-000000-00000-00000-00000 ILP#: 2251 Gaz.: Local:	0-0000-000-000-000-000-000 Reach #: 3.0 Names	NID Map #: 093K.081 UTM(Zone/Ea 10.316773.6 Sample Type:	
		SURVEY INFO		and the second
Date: 2002/08/26		Agency: C172	Crew: SG	/JD
		ATTRIBUTES	Advision - War	
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 O1 B1 E INDICATORS C1 C2 C3 C4 C5	12 B3 D1 D2 D3 S1 S2 S3 S4 S5
Valley Flat: N Active Floodplain Visible: Channel Pattern: SI	C/D: Est. Width:			SPAN BF B/Eroded: NS Landuse: NS

	MAPS	= = 1/2//
Мар Туре	Map#	Year
TRIM	093K.081	1983

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

3.0

093K.081

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Gaz	zetted Na	me:										Loc	al:					
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W	aterbody	ID:							ILP M	ap #: (093K.0	31		ILP#:	2251	Reach #:	3 -	
	Project	ID:	5271									Lake/St	ream:	S	Lake	From Date:		
F	ish Permi	t #:	14	5269		Date: 2	2002/08/27		To:	2002	/08/27	Ag	ency:	C172	Crew: JD/S	SG I	Resample	: 🗆
	40 100	W. 15	5-			-30	100	SI	TE	/ M	ETH	OD	70 W	137638			Con E	
Site#	NID Ma	р	NID	#	UTM:Z	Zone/East/	/North/Mthd		MTD/	NO	Temp	Cond	Turt	oid		Comment		
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	例が			200		C. E	LECTR	OF	ISF	IER	SPE	CIF	CA	TIONS				e ()
Site#	MT	D/NO		H/P		Encl	Sec	Le	ngth	N I HALL	Width	Vol	tage	Frequency	Pulse	Mak	e	Mode
10	EF		1	1		0	216	10	0.00		1.0	6	00	60	6	SMIT		12B
3.0				1-2-	11 13		W 2 (2)	FI	SH	SUI	AMN	RY	27		25.0	1,00	·	15
Site#	MT	D/NO	T	H/P	Spe	cies S	Stage	Age		Total #	Lg	th (Min/M	ax)	FishAct		Commer	nt	
10	EF		1	1	NF	C				0								

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.091

	4/1	25 lw	T-N	i de la	STR	EAM	REF	ERE	NCIN	G	18 L' - 3			
Gazetted Na									Local N	ame:				
Watershed C	ode: 000-	000000-0	0000-00	000-0000-	0000-000	0-000-00	00-000	-000-000		ILP	Map #: 093K	091 II	P#:	1942
	() *0	7.3	P. K	2 gi			REA	CH	= 10/2			y Mile		
Reach #: 2 Length (km)				JTM(Zone				9.609310 ignitude:				Sample Type: BGC Zone:	Bias	ed
Gradient (%)				ement: Fr	and the same of the same	and the second		Order:				Open water: Ab		
US Elev (m)				slands: N				parian Ve	getation	: Mixed	C/D			
Bars: None	✓ Side	☐ Diag	onal 🗌	Mid-cha	innel 🗌	Span		Braid 🗌	Landu	se: Not	Specified			
977.01	- 3 70		991				SIT	E		- suir	1 - 0			
Site #:		F	ield UTM GIS UTI	1 м 10.3117	58.60930	002		111	cy: C17 ncy Nam			SG/JD Date: ntal Consultants (1	2002/0: Terrace)	8/28
Line all	4.57.69	1 - W.	600	13.20		C	HAN	NEL	43000	150	WAL TO	10年		
No Vis.Ch.:	Interr	mittent:				Avg	Min	Max	#			Avg Min	Max	#
Dewatered:		Tribs.:	С	hannel Wi	idth (m):	2.17	1.8	2.5	6		Gradient '	%: 6.25 5	8	4
Stage: Low	~			Wetted Wi		0.63	0.5	0.800	6	P	ool Depth (n	n): 0.20 0.100	0.300	6
Med			В	ankfull De	pth (m):	0.67	0.6	0.7	3		Tu	rbidity.: Turbid		Low
High		Temp (C	2): 8	pl	H: 7.6			Conductiv	ity: 60			Moderate		Clear
NOTE WE	3 - 57					MOR	PHO	LOG	Y				Ti.	9
Channel Pa Cou Confine	Subdomina attern: Sinu- pling: Parti- ment: Freq blogy: CP	ous ally Coup uently Co	led	Isla	cm): 18.0			C2 C	01 C3 C4	B1 C5	B2 B3 S1 S		S5	Braid .
		-0.10	277	A contra	- 20	- //(COV	ER		Q .		34-5-27		
Total Cover: LWD:	Few			Ai Location:	mount:	SWD	LW			U T	DP N	OV IV	FS	z: 🗍
Right Bank: Left Bank: Right Bank: Left Bank:	Shape	: Undercu : Undercu : Mixed C	t Text	ure: Fines ure: Fines	✓ Gra Stage		Cobble forest	☐ Bould	der F	Rock Rock Rock Rock	Manmade Manmade g: None			esure 20% scular
	el e			أعطاك ال	(A. 18)		F	EATL	IRES		1		16	1/15 - 5
NID Map			_	Method	Lg	Meth		Pho			AirPl			M (Z/E/N
	1,2,2,4,2,1,1,1		2.1	GE	24	GE	R		20A	L:		#:	10.311	927.609
Comments	Arch culv	ert - embe	edded ma	aterial ero	ded by fo	otings -	oasses	tish.						
PART IN					ere all	i y	FIS			31111			0.5	====!/
	Capture	Nun	nber of	Length	fished	Tota	1	Voltage	Spe	ecies	Total	Minimum	Max	imum
Site Number	Method		vents	(m	The second second	Time	9	14050			Fish	Length (mm)		th (mm)

Tochcha Lake Planning Area

Reach #

ILP Map #

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Site

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Stream Na Project Watersh					0900-000	าด-ถดดด.	-000-0	00-000-00	0-000-0	00	F	Project C	ode:			5271		
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The Televisia	11-10		Major Control	1		-17/F	WA	TERS	HED	3. 1	The state of	16						
Gazetted Name					illal L		11 11			Lo	cal Name	9:						
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ILP Map#		J9 I	IL.		Method:	INIO WA	ар н. о	3311.031		Site L		1100		nod: HC		Acces		
Field UTM (Z.E.N) GIS UTM (Z.E.N)		758.609	3002	IV	netriou.				R	ef. Name			Med	100.110		1,000		
				07	.25		Acono	y: C172	,	Crew:	SG/ID		F	ish Crd	7: 🗸	In	complete	e: 🗍
Da	ite: 200	2/08/28		ime: 07:	:35		13 16			Jiew.	30/10	TE 150		IST OIG		***	Complete	
	100		Tarana I		1	Luddth.		HANN h width	width	width	width	Avg	1	300	Gadi	ent %	Mtd	Avg
Channel Width (m)	Mtd MS	width 2.00	width 2.50	width	width 2.30	width 2.10	2.30		Width	Widui	Widui	2.17	[N	Method	_	8.0	C	6.25
Wetted Width (m)	MS	0.60	0.80	0.50	0.60	0.80	0.50			11		0.63	M	lethod I	1: 5.0	6.0	С	
Pool Depth (m)	MS	0.20	0.10	0.30	0.20	0.10	0.30					0.20	l N	o Vis.C	h.: 🔲	Intermit	ttent:	
Wb Depth	.7	.6	.7	Avg	g: 0.67		Method	: MS	S	tage: L	M	ПН			w: 🗌		ribs.:]
COVER			Tota	ıl: A														
Туре	: SWI	DIL	WD	В	U	DF	P	OV	IV	CR	OWN CL							
Amount		a E	D	T	T	N		S	N	1		1-20%	Vertical Control					
Loc: P/S/C			V		V					INS	STREAM	VEG:	NV	A	M	V		
	P: M B: MF						- 000	WATE	R		STG					T. L		
EMS		No. I				N 715 41	-			F	Req #:							
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the second second second	1: 7.6						nod: F				Turb.: T	ПМ			V	Met	hod: GI	E
Flood Signs	: Scour	& rafted	debri				nod: Gl											
1 11 11	16 B	ne de la	m 9-1		1965		MOF	PHO	LOGI					(a)	D 0 (20	10	"- "-
Bed Materia	1:	Domina	nt: C		Subdor					01	B1	B2	B3	D1	D2 [03		
D95	5: 25.0	D (cr	n): 18.00		Morp	h: CP		DISTUR			Ш			111				05
Pattern								INDICA	ATORS	C1	C2	C3	C4	C5	S1 5	S2 S	3 S4	S5
Island: Coupling																		
Confinemen											- 015		DIAC		MID	SPA	N	BR
FSZ									Bars:	N	SIL	DE	DIAG		MID	SPA	,M	DIN
1 18-31-5	1000	S. 11 - 11 - 11 - 11 - 11 - 11 - 11 - 11	(0) F4s	STATE BY	(P)	0 (4	FE	ATUI	RES	7.7	听神	A Section	10-ES	J= - V		4		
ID Map NID	Type	Hgt	Metho	d	Lg	Method	IN MED	Photo			Airf	Photo	_SHIPS	All services		(Z/E/N)	_	Method
93K.091 88006	CV	2.1	GE	310	24	GE	R:	1 F:	20A	L:		#:		1	0.31192	7.60931	23	GIS
Comments: Arch cu	ılvert - e	mbedde	d material	eroded	by footi				***	1 Ter 1 7	*10				Ir, and the		No.	
1 Jan Bear	15	1 - 11	The state of	H-W	7	HA	BIT	AT Q	UAL	Service Services	9,5	-1010/280	- 11-	7.0			2	
Name	4.7									Comme	ents					-		
OverWinter Habi Spawning Habi			e observe		flows and	d too sm	all (les	s than 1 r	n2) pock	ets of gr	avel.							
Rearing Habita			- excess															

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

2.0

093K.091

1942

	10	7	TO ANY STATE		PHOTOS
P	hoto		Foc Lg	Dir	Comments
₹: 1	F:	20A	STD	U	Upstream photo of arch culvert.
₹: 1	F:	21A	STD	U	Upstream photo of LWD.
R: 1	F:	22A	STD	D	Downstream photo of stream channel.
1002					COMMENTS
	Se	ection			Comments
	CHA	NNEL	Channel fa	ns out below road	crossing, becomes dry with small pools every 20 m.
_	CHA	NNEL	S3*		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

2.0

093K.091

- W			W. a	JE V		14800	7	WAT	ERB	OD	Y	1	THE PARTY			2011	1102003
		de:			3300-40900-						Loc	al:					
W	WS Co /aterbody Project	D:		000-00	0000-00000-	-0000-0000	-000-00		00-000- ap #: 09)1 Lake/Sti	ream:	ILP#:	1942 La	Reake From	-40-11-07	2 -
F	ish Permit	#:	1452	69	Date	: 2002/08/	28	To:	2002/0	8/28	Age	ency:	C172	Crew:	JD/SG	Resa	mple:
			計談	1700	TMAS	THE WAR	S	ITE	/ ME	TH	O D	-6	3.00		A		3
Site#	NID Ma	р	NID#		JTM:Zone/E	ast/North/M	Ithd	MTD/N	NO Te	emp	Cond	Turt	bid		Cor	nment	
11	093K.09	1	40011				GPU	EF	1	8	60	С					
					第188 節		A. (GEA	RSE	TT	INGS		11 21 31 3	Notes:		32 F	L. Mark
Site#	MTD/N) I	1/P	Date I	n Time	In Date	Out	Time (Out					Comment			
11	EF 1		1 2	2002/08	1000		08/28	08:1:									
E B N				人特	C.	ELECT	TROI	FISH	ER :	SPE	CIFI	CA	TIONS	(80)			
Site#		/NO		H/P	Encl	Sec	L	ength	W	idth	Volt	tage	Frequen	cy Pu	ulse	Make	Mode
11	EF			1_	0	206	1.3	200.0		0.6	70	00	60	5 5 5	6	SMITH ROOT	12B
		HE TO				1.7720	FI	SH	SUM	MA	RY	1000	् अंद		300		10-
Site#	MT	/NO	HT5	H/P	Species	Stage	Age	1	Total #	Lgt	h (Min/M	ax)	FishAct		(Comment	
11	EF	-3		1	NFC				0								
			7/59		in help		1	CON	AME	NT.S				8 124	Pilet 1	W (E = 0	
	Section										Comm	ents					
V	VATERBO	DY		Limit	ed 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

	三世 章 學問時期	PROJECT	CALCON IN THE STATE OF THE STAT
Stream Name (gaz.):	Babine and Tochcha SAKENICHE RIVER 182-819600-63300-40900-00	000-0000-000-000-000-000-000	Project Code: 5271
高基 图图 表面	THE PERSON NAMED IN	WATERSHED	
Reach Watershed Code: ILP Map #: 093K.091 Air Photos LINE: BCB910236 #: 0	000-000000-00000-00000-00 ILP #: 1944 Gaz.: Local:	000-0000-000-000-000-000-000 Reach #: 1.0 Names	NID Map #: 093K.091 NID #: 1207 UTM(Zone/East/North/Method) 10.312083.6092255 GIS Sample Type: B Wetland:
1/2 4 10 10 10 10 10 10 10	Alfa Menter	SURVEY INFO	
Date: 2002/08/26		Agency: C172	Crew: SG/JD
		ATTRIBUTES	
Length (km): .91 DS Elev.: 850 US Elev: 913 Valley Flat: B	Gradient: 6.92 Order: 2 Magnitude: 2 BGC Zone: SBS C/D: C	Setting: VF Open water: A Confinement: OC Coupling: DC	DISTURBANCE O1 B1 B2 B3 D1 D2 D5 INDICATORS
Active Floodplain Visible: Channel Pattern: SI		Mas	I N SIDE DIAG MID SPAN B SS Movement: L Exposed/Eroded: NS Riparian Veg.: NS Landuse: NS

	MAPS	11 = 12
Мар Туре	Map#	Year
TRIM	093K.091	1983

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

1.0

093K.091

197					11.00		WAT	ERB	ODY		四十		1000		1	
Gaz	etted Na	me:								Loca	l:					
F	Project Co	de: 18	2-819600-	63300-40900	-0000-0000	-000-000	0-000-00	00-000-	0							
	WS Co	de: 00	0-000000-	00000-00000	-0000-0000	-000-000	0-000-00	00-000-	000							
W	aterbody	ID:					ILP Ma	p#: 09	3K.091			ILP#:	1944	Reach	#: 1 -	
	Project	ID: 52	71						La	ke/Stre	eam:	S	Lake	From Date	e:	
F	ish Perm	it #:	145269	Date	e: 2002/08/	28	To:	2002/0	8/28	Age	ncy:	C172	Crew: JD	/SG	Resample	e: 🗌
			1 3	7 TH 1-3		S	ITE /	ME	THO	0			2 2		1043	5
Site#	NID M	ap N	ID#	UTM:Zone/E	ast/North/M	Ithd	MTD/N	O Te	emp C	ond	Turb			Commen		
12	093K.0	91 4	0012			GPU	EF	1	8	60	С					
						A. 0	EAR	SE	TTIN	GS		一 为 代 国				Spinon T
Site#	MTD/N	O H/	Date	e In Time	In Date	Out	Time O	ut				C	omment			
12	EF	1 1	2002/			08/28	08:46	The same								
				C.	ELECT	ROF	ISH	ER :	SPEC	IFIC	CAT	TIONS		THE TANK		Contract of
Site#	MT	D/NO	H/F	Encl	Sec	Le	ength	W	idth	Volta	ige	Frequency	Pulse	e N	lake	Mode
12	EF	- 1	1 1	0	85	1	150.0		0.4	60	0	60	6		HTIN	12B
1		V.1035			200	FI	SH	SUM	MAR	4	25	2000	,	1,1	100	
Site#	MT	D/NO	H/P	Species	Stage	Age	T	otal#	Lgth (f	Min/Ma	x)	FishAct		Comn	nent	
12	EF	1	1	NFC				0		1						

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.091

Site Number	Capture			fished n)	Total Time		/oltage	Sp	ecies	Total Fish	Minimu Length (r		aximum igth (mm)
	13	Lagran S	1771 38			FISH	-	7	ma i		The second	7	a s
Comments	Reach 1 c	ival culvert p	erched 15 cm	•									
	88007 C		GE	18	HC	R:	1 F	23A	L:		#:	10.3	12191.609
NID Map		ype Hgt	Method	Lg	Metho	_	Phot			AirPho		_	JTM (Z/E/N
Comments	100000000000000000000000000000000000000	3.750000000							a.				
	88008 C		GE	25	HC	R:	2 F	1A	L		#:	10.3	11742.609
NID Map		ype Hgt	Method	Lg	Metho		Phot			AirPho			JTM (Z/E/I
	NE THE	1.00			ALC: N	F	EATU	RES		100	11 = 11 =	11 2 3	700
Left Bank:	Rip.Veg:			Stag	e: Pole-sa				-	eg: None /	Algae	Moss V	ascular
Right Bank:		Deciduous		Stag	e: Pole-sa	apling st							
Left Bank:	200	Undercut	Texture: Fine		avel 🗸 (Bould		Rock	Manmade	j		1-20%
Right Bank:	Shape	Undercut	Texture: Fine	s V Gr	avel V	Cobble	Bould	er	Rock	Manmade		Crown (Closure
LWD Dist:			Location	: P/S/O:		V	~						FSZ:
LWD:				Amount:	T	Т	T		T		D	T	
Total Cover:	Abundant			Type:	SWD	LWD	В		U	DP C	ov	IV	
The same of			100	V - 3	C	OVE	R	1					
Confine	ment: Conf		Pool				C2 C	3 C	4 C	5 S1 S2	S3	\$4 \$5	
Channel Pa	ttern: Sinue		Is	lands: No	ne		RBANCE	01	B1	B2 B3	D1 D	2 D3	
	Subdomina	nt: Gravels		(cm): 10							-111102.51		Braid
Bed Material	: Domina	nt: Cobble	D95	(cm): 20	.00	-	Bars: No	V	Side	Diagonal	Mid-ch	hannel	Span
4.4		Views		S (5)	MOR		LOG						
High	_	Temp (C): 8	3	pH: 7.8		С	onductivi	ty: 60	9	1010		derate	Clear
Med			Bankfull D	epth (m):	0.30	0.2	0.4	3				Turbid	Low
Stage: Low				Vidth (m):		0.200	0.400	4		Pool Depth (m)	1000	0.050 0.1	
Dewatered:		Tribs.:	Channel V	Vidth (m):	1.12	0.9	1.3	6		Gradient %:	Avg 20.75	Min Ma	
No Vis.Ch.:	Inter	nittent:	S. Carlo		Avg	Min	Max	#	38	- m-whole	[Ave]	Min I Ma	v #
10 - 11 = 11				- 98	C	HANI			08000		- 150	10, 11	345000
Site Length			S UTM 10.311	886.6092	252					n Environmenta			
Site #	13	Field	UTM				-	y: C17	72	Crew: SC	S/JD	Date: 2002	2/09/20
-8-4	- 15	S. A. Market	7	4	1000	SIT		- 1.5	200		10.000	A 100 300	10 117
Bars: None	✓ Side	☐ Diagona	al Mid-ch	nannel _	Span	☐ Br	aid 🗌	Land	use: No	ot Specified			
US Elev (m)	: 1181		Islands:	NONE		Rip	arian Ve	getatio	n: Deci	duous			
Gradient (%)	: 16.1	C	onfinement:	Frequently	y Confin		Order:	1		(pen wate	300000000000000000000000000000000000000	
Length (km)	: 1.67		Coupling:		2000000		nitude:	1				one: SBS	
Reach #: 2	2.0		UTM(Zor	ne/East/N	orth): 10	.310451	.6092074				Sample T	vne: Ri	ased
Vi las		1.1		1 37	NO. A	REAG	SH	To . 187	4		12	्राचा र	1970 V
Watershed (Code: 000-	000000-0000	00-00000-000	0-0000-00	00-000-00	0-000-0	00-000		ILP	Map #: 093K.0	91	ILP#:	1944
Gazetted Na	ime:							ocal N	lame:				

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

2.0 093K.091 1944 13 PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 Project Watershed Code: 182-819600-63300-40900-0000-000-000-000-000-000-000 WATERSHED Gazetted Name: Local Name: NID #: 40013 ILP Map#: 093K.091 ILP#: 1944 NID Map #: 093K.091 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 Avg Mtd width Gadient % Mtd Avg Channel Width (m): MS 1.10 1,20 0.90 1.30 1.20 1.00 1.12 Method I: 22.0 21.0 C 20.75 Wetted Width (m) 0.20 0.30 MS 0.30 0.40 0.30 Method II: 16.0 24.0 C Pool Depth (m): MS 0.10 0.05 0.10 0.10 0.09 No Vis.Ch.: Intermittent: V Wb Depth: .3 .2 Stage: L M H H Dw: Tribs.: Avg: 0.30 Method: MS COVER Total: A CROWN CLOSURE SWD LWD В DP OV IV Type: U N D 1 1-20% Amount Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: C Texture: F G G C B R A Texture: F G C B R A RIP: D RIP: D STG: PS STG: PS WATER EMS: Req #: Method: T4 Method: S3 Temp: 8 Cond.: 60 Method: P2 pH: 7.8 Turb.: T M L C Method: GE Method: GE Flood Signs: None MORPHOLOGY 01 **B1 B2** D1 D2 D3 Bed Material: Dominant: C Subdom: G D95: 20.0 D (cm): 10.00 Morph: CP DISTURBANCE **INDICATORS** C3 S1 **S3 S4 S5** Pattern: SI C1 Islands: N Coupling: CO Confinement: CO DIAG Bars: NV SIDE MID SPAN BR FSZ: FEATURES NID Map Method Method Photo AirPhoto UTM (Z/E/N) Method NID Type Hgt Lg 093K.091 88008 CV GE 25 HC 10.311742.6092203 GIS 1.0 2 F: Comments: Wooden box culvert. NID Map Type Hgt Method Lg Method Photo AirPhoto UTM (Z/E/N) Method 093K.091 88007 F: 23A 10.312191.6092308 GIS CV 1.4 18 HC 1 L: #: Comments: Reach 1 oval culvert perched 15 cm.

HABITAT QUALITY

Comments

Name

Tochcha Lake Planning Area

Reach # ILP Map #

ILP# 1944 Site

2.0 093K.091

		Na	ame			Comments
	Ove	erWin	ter Habitat	None.		
	Sp	awnir	ng Habitat	None - high	gradient, substrat	tes not suitable for spawning.
	R	earing	g Habitat	Poor - high g	radient, low flows	s, shallow pools.
		Vince of	Marie Service			PHOTOS
	Ph	oto		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.
		400			TO THE PART OF	COMMENTS
		Sec	ction			Comments
		CHA	NNEL	Gradient bre	ak ~300 m down:	stream of upper road crossing. Culvert in Reach 1 is full barrier in low flow conditions.
_	_	CHA	NNEL	S4*/S6		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

2.0

093K.091

- "	46.			7			V		WA	TER	ВО	Y		TAINING		وعالص	1541 - 15		
Gaz	zetted Na	me:										Loc	al:						
	WS Co	de:	000-0				000-0000-		00-000	-000-0	00-000				- 1.5		2000		
W	/aterbody Project								ILP	Иар #:	093K.0	91 Lake/St	ream:	ILP#:	19		Reach #: rom Date:	2 -	
F	ish Perm	t#:	145	5269		Date:	2002/08/2	28	To	: 200	2/08/28	Ag	ency:	C172	Crew	: SG/J	ID I	Resample	e: 🗌
-11-3	A L	100		- 30	Mal.	1, 30, 1	450 F	S	ITE	1 N	IETH	OD			NE 1 34		THE .	322	
Site#	NID M	ар	NID	#	st/North/M	thd	MTD	/NO	Temp	Cond	Tur	bid		(Comment				
13	093K.0	91	400	13	1			GPU	EF	1	8	60	0						
		10	7	11 66				Α.	GEA	RS	ETT	INGS			30				77
Site#	MTD/N	0	H/P	Date	e In	Time I	n Date	Out	Time	Out				-	Comme	ent			
13	EF	1	1	2002/0	08/28	09:12	2 2002/	08/28	09:	35					_				
- 6-03	S NE				16	C. 1	ELECT	RO	FIS	HER	SP	ECIF	ICA	TIONS	A. (A.	14 10			F1-1-
Site#	MT	D/N	0	H/P		Encl	Sec	1	Length		Width	Vo	Itage	Frequer	псу	Pulse	Mak	(e	Mode
13	EF		1	1		0	89		100.0	DE.	0.5	6	00	60		6	SMIT		12B
8 F 1 3	STREET,	7 70		100	Ka ii			F	ISH	SU	MMA	RY			7	1000		S13	
Site#	MT	D/N	0	H/P	Spe	ecies	Stage	Ag	e	Total	# Lg	th (Min/M	fax)	FishAct			Commer	nt	
13	EF	T	1	1	NE	C				0	C 54 T.								



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

Tochcha Lake Planning Area

Reach #	ILP Map#	ILP#
3.4	00014.004	1016

1 3 (<u>1</u> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TIL STAN	No.	STR	EAM	REF	EREN	CING	1 - 1 - 1 - 1 - 2 - 2	Jan Jan		
Gazetted Nar	ne:					L	ocal Name:				
Watershed C	ode: 000-000	000-00000-000	00-0000-0000-00	0-000-00	0-000-0	000-000	ILP	Map #: 093K.0	91	ILP#:	1945
V6. No. 14. 1		200	150	1 1	REA	CH	his V	4-1-1	SF 48	35	Ĕψ.Ξ
Reach #: 1. Length (km): Gradient (%): US Elev (m): Bars: None	.49 20.0 1009	Confine	ITM(Zone/East/Nupling: Coupled ement: Frequently slands: NONE		Mag	gnitude: Order: 1 parian Veg	1 etation: Mixed Landuse: No	d C/D	Sample Type BGC Zone Open water:	: SBS	sed
57.00	ST 300			- H	SIT	E			WE -		
Site #: Site Length		Field UTM GIS UTM	 и 10.311900.6092	171			r: C172 y Name: Trito	Crew: JE n Environment		te: 2002/ (Terrace)	
- 5- 0000	V = 17			C	HAN	NEL			8 ja		
No Vis.Ch.: Dewatered: Stage: Low	_ Tr	ibs.: C	hannel Width (m): Vetted Width (m):	Avg 1.42 0.40	Min 1.3 0.300	Max 1.600 0.5	6 6	Gradient % Pool Depth (m)	-	6 24	# 4 0 6
Med [High []	Ba emp (C): 8	pH: 7.6	0.33		0.4 Conductivity	3 /: 60	Turt	oldity.: Turk Modera		Low Clear ✓
						LOGY					
Bed Material: S	Dominant: ubdominant:		D95 (cm): 30 D (cm): 15			Bars: Non	✓ Side	Diagonal	Mid-char		Span Braid
Coup	ttern: Sinuous bling: Coupled nent: Confine logy: CP	1	Islands: No	ne [RBANCE ATORS C2 C3	O1 B1 C4 C5	B2 B3 S1 S2	D1 D2 S3 S4	D3 S5	
				331	COVI	ER	- 370	E.	7 3/2	No.	
Total Cover: A LWD: F LWD Dist: 0	ew		Type: Amount: Location: P/S/O:	SWD T	T	B T	U T	DP O	VI VC	- F	SZ:
Right Bank: Left Bank: Right Bank: Left Bank:	Shape: V Shape: V Rip.Veg: M Rip.Veg:	- shape Text	ure: Fines Gra Stag		Cobble apling s	-		Manmade Manmade Manmade G] Algae 🗌 Mo		osure 20% scular
		ann TE		- Charles	FIS	H	No Company	1 6 m	12		- 101
Site Number	Capture Method	Number of Events	Length fished (m)	Tota Time		Voltage	Species	Total Fish	Minimum Length (mn	00000	ximum gth (mm)
14	EF	1	100	103 s	ес	600	NFC	0			

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Site

1.0

093K.091

1945

		H TH H			× (*)		PR	OJE	СТ	1700		Nav.		gen i			
Proje Stream Nan Project Watersh	ne (gaz): SAK		RIVER	0900-00	00-000	-000-000	0-000-00	0-000-00	00	ı	Project C	Code:	ò-		5271	
	100	(A) (B)		(E) (E)	S.=130		WAT	ERS	HED	No.		100) &	-1-40	100
Gazetted Name:										Loc	al Nam	e:					
Watershed Code: ILP Map#: Field UTM (Z.E.N):	: 093K.0			LP#: 19			000-000- ap #: 09			ID#: 40 Site Lg		Rea	ich#:	: 1 ethod: HC	1.0	Site #: Access: V2	14
GIS UTM (Z.E.N):	10.311	900.609	2171						R	ef. Name	:						
Dat	te: 200	2/08/28	7	Time: 09	:40	- 5	Agency:	C172	C	crew:	ID/SG			Fish Crd?	~	Incomple	ete:
	318	y - Supplement	(=1) 1 3			Market Service	CH	ANN	EL	i We	7.	To Kind	£ 5		年日 化市		
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Ι,		Gadie		Avg
Channel Width (m):		1.50	1.60	1.40	1.30	1.40	1.30					1.42	1 }	Method I:		16.0 C	19.50
Wetted Width (m): Pool Depth (m):	MS MS	0.40	0.50	0.50	0.30	0.40	0.30					0.40	١ ١	Method II:		24.0 C]
Wb Depth:	.3	.4	.3	l Ave	g: 0.33		Method:	MS	St	age: L	ПМ	пис		No Vis.Ch	.: [_] r: [_]	Intermittent:	
COVER				al: A	g. 0.00		nounou.			ogo. L	V					11.00.1	
Type:	SWI) I LV	ND	В	U	DF		ov T	IV	CRO	OWN CL	OSURE					
Amount:			T	T	Т	N	_	D	Т	1	1	-20%					
Loc: P/S/O:	7				V				/	INS	TREAM	VEG:	N	A	М	VV	
				10T. C													
LWD:			U	IST: C													
LB SHP:			-		/						RB SHP						
Texture:	F	G 🗸	C	В	R						Texture	: F	G	VCV	В	RAL	Į.
RIP:	RIP: M STG: PS										RIP	: M					
STG	PS										STG	:PS					
100 Table 1 Table	98					1000	W	ATE	R			100		-	8		18.9
EMS:							100000			R	eq #:						
Temp:						Meth	od: T4				ond.: 60					Method: S	3
pH:							od: P2						_			1012 1012 2017 2	
Flood Signs:						Meth	od: GE			,	urb.: 1	M		r 🗆 c	V	Method: G	E
	TEN.	F-18-17	201	91.5	An	THE PARTY	ORF	HOL	OGY	被軍化	100	44		G 28 2	60	- To - 2 1 1 2	
Dad Matadali		D	+ 0		Culdon					01	B1	B2	вз	D1 D	2 D	3	
Bed Material:	30.0	Dominan D.(cm	n: C n): 15.00		Subdon							П		ППГ	TIT	7]	
		D (cili	15.00		WO, P.	01		INDICA				20					
Pattern:								INDICA	TONO	C1	C2	C3	C4	C5 S	1 S	2 S3 S	4 S5
Islands:																	
Coupling:																	
Confinement:								В	ars:	NV	SID	E	DIA	G I	MID	SPAN	BR
FSZ:																	
Self-off-self-self-self-self-self-self-self-se	1835			/I = X S	×4:	HA	BITA	TQU	JALI	TY					100		
Name									(Commen	is						
OverWinter Habita	at	None.															
Spawning Habita			- high gr					spawni	ng.								
Rearing Habitat		Poor -	high gra	adient, lo	w flows,	shallow				1.00		- 1-1					
W 348 A T			100 m	1		Na(PF	ото	5		· .		1000	- AN	1		
Photo		oc Lg			Dir							Comme	ents				
R: 2 F: 4A		STD			U			hoto of c									
R: 2 F: 5A		STD			D	Dov	vnstream	n photo o	or chann	el substr	ates.						

Tochcha Lake Planning Area

ILP Map # ILP# Site Reach# 14

1.0 093K.091 1945

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

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Watershed Code:

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1.0

093K.091

			To.	-1570/70 -10	Tal-Ta		7.1	N	VAT	ER	BOD	Y	Tion of	The state of the s			= 11	10 Miles
	zetted		100.0	10000	2200 400	30,000	0-0000-000	000	000.0	000 00	0.0	Loc	al:					
	1 2 2 2						0-0000-000											
W	/aterbo	- 700.30	5271					(I	LP Ma	ap #:	093K.09	1 Lake/St	ream:	ILP#:	1945 Lake	Reach #: From Date:		
F	ish Pe	rmit #:	145	5269	D	ate: 2	002/08/28		To:	2002	/08/28	Ag	ency:	C172	Crew: JD	/SG	Resam	ple:
			1483		34 M	100		SI	TE	/ M	ETH	O D				prosper		
Site#	NID	Мар	NID	NID# UTM:Zc			North/Mthd	1	MTD/I	NO	Temp	Cond	Turt	bid	S	Comment		
14	0931	C.091	4001	14						1	8	60	С					
	2014						A	. G	EA	R S	ETT	NGS	2011					
Site#	MT	O/NO	H/P	Date	In Ti	ne In	Date Ou	nt I	Time (Out				(Comment			
14	EF	1	1	2002/0		9:40	2002/08/		10:1									
ATT. TO			1000		C	. EI	LECTR	OF	ISH	IER	SPE	CIFI	CA	TIONS	7 36			
Site#	1	MTD/N	0	H/P	En	:l	Sec	Ler	ngth		Width	Vol	tage	Frequenc	y Pulse	e Ma	ke	Mode
14	EF		1	-1	0	-1	103	10	0.00		0.5	60	00	60	6	SMI RO		12B
- 13		\$	28	\$ W	7	1339		FIS	SH	SUI	AMN	RY		国家政策	± 395	88.3		- The
Site#	1	MTD/N	0	H/P	Specie	S	Stage	Age		Total #	Lgt	h (Min/M	ax)	FishAct		Comme	ent	
14	EF	-	1	1	NFC					0	1							



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

Tochcha Lake Planning Area

Reach # ILP Map #

093K.091

ILP#

1.0

1948

STREAM REFERENCING Gazetted Name: Local Name: 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: 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 .. SG/JD Crew: Site Length (m): 100 GIS UTM 10.313181.6090705 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL No Vis.Ch.: Intermittent: V Avg Min Max # Avg Min Max # Channel Width (m): 1.88 1.600 Dewatered: Tribs.: 2.200 6 Gradient %: 5.00 4 6 4 Wetted Width (m): 0.48 0.400 0.600 4 Pool Depth (m): 0.23 0.200 | 0.300 4 Low V Bankfull Depth (m): 0.60 0.4 0.8 3 Med Turbidity.: Turbid Low High Temp (C): 8 Conductivity: 50 Clear V pH: 7.6 Moderate MORPHOLOGY Bed Material: Dominant: Cobble D95 (cm): 20.00 Bars: Non V Side Diagonal Mid-channel Subdominant: Gravels D (cm): 15.00 Braid ___ Channel Pattern: Irregular, Wandering Islands: None DISTURBANCE **INDICATORS** Coupling: Decoupled Confinement: Occasionally Confine C3 C4 C5 S1 **S2 S3 S4 S5** Morphology: CP Cascade Pool COVER Total Cover: Abundant Type: SWD LWD В U DP OV IV Amount D N N S N LWD: Few Location: P/S/O: 1 ~ LWD Dist: Clumped FSZ: Shape: Sloping (g Texture: Fines ☐ Gravel ✔ Cobble ✔ Boulder ☐ Rock ☐ Manmade ☐ Right Bank: Crown Closure Shape: Overhangi Texture: Fines 🗸 Gravel 🗸 Cobble Boulder Rock Manmade Left Bank: 1-20% Right Bank: Rip.Veg: Mixed C/D Stage: Mature forest Instream Veg: None ✔ Algae ☐ Moss ☐ Vascular Left Bank: Rip.Veg: Stage: Mature forest FEATURES NID Map NID Method Method Photo AirPhoto UTM (Z/E/N) Type Hgt Lg 093K.091 88009 CV 1.0 25 HC 10.313207.6090 GE F: 6A Comments: Partially collapsed wooden box culvert. FISH Site Number Capture Number of Length fished Total Voltage Total Minimum Maximum Species Method Length (mm) Events (m) Time Fish Length (mm) EF 15 100 109 sec 600 RB 2 120 135 1

Tochcha Lake Planning Area

Reach #

ILP Map#

ILP#

Site

1.0 093K.091 1948 15

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Projec Stream Nam Project Watershe	e (gaz.)	: SAKI		RIVER	0900-000	00-000	-000-00	0-000-00	0-000-00	00	f	roject C	ode:		-0	5271		
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Gazetted Name: Watershed Code: ILP Map#: Field UTM (Z.E.N): GIS UTM (Z.E.N):	093K.09	91 81.609	0705	LP#: 19	948 Method:	NID M	000-000 ap #: 09 Agency:	3K.091	N Re		cal Name 0015 g: 100 e:	e: Read	Method	1.0 d: GE crd?:	V	Acces	ite #: 15 s: V2 complete	
G1188941-501-501	200		IN EY	D8(4)		35.74	CH	ANN	EL	77.577		VI.	100	200.0	15			10.10
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Г	Gadier	nt %	Mtd	Avg
Channel Width (m):	MS	1.80	1.90	2.20	1.60	1.70	2.10		7,14,17	1110	31148	1.88	Met	_	5.0	6.0	C	5.00
Wetted Width (m):	MS	0.40	0.60			0.40	0.50					0.48	Meth	nod II:	5.0	4.0	С	
Pool Depth (m):	MS	0.20	0.30			0.20	0.20					0.23	-					
													No V	/is.Ch.:			ent: 🗸	
Wb Depth:	.4	.8	.6	Avg	g: 0.60	٨	Method:	MS	St	age: L	✓ M	Н		Dw:		Tri	bs.:	l.
COVER			Tota	al: A														
Type:	SWD	LV	VD T	В	U	DF	1	ov T	IV	CRO	OWN CL	OSURE						
Amount:	Т	0		N	T	N	_	S	N	1	1	-20%						
						in				INS	TREAM	VFG:	N V A	M		/ [
LB SHP: Texture: RIP: STG:	F 🗸	G 🗸	c 🗌	В	R 🗆 A		· X W	ATE			RB SHP Texture RIP STG	F _ M MF	G 🗸	C 🗸 E	3 🗆	R 🗍	A 🗌	
2 10 10 20 20	-	ومقامع					BRASS V	AIL				11111			-			
EMS: Temp: 8 pH: 7	7.6					Metho	od: T4			C	eq #: ond.: 50 urb.: T	☐ Mi	74	C	1		od: S3	
Flood Signs: F	Rafted d	ebris				Metho	od: GE					ب						
	1 1					N	ORF	HOL	OGY	10	W B	18.				5 2		
Bed Material: D95: Pattern: Islands: I Coupling: I Confinement: 0 FSZ:	20.0 IR N DC DC	ominan D (cm)	t: C): 15.00		Subdom Morph		t	DISTURE INDICA B		01 C1	C2	C3 (33 D1 C4 C5 DIAG	ПП	S2			S5
		100	7		-1/		FEA	TUR	FS	065150	- TIS 19 5		102 -12	-1/1-				7.53
NID II		-11/2		9/1/12	1	- 26		4. 持.		· ' R				4 7	DA /2/	TAP.		Lane 3
		Hgt	Metho	_		Method	D.I	Photo	GA I		AirP				TM (Z/	E/N) 6090779	_	lethod GIS
093K.091 88009 C Comments: Partially c	_	1.0		_	25	HC	R: 2	? F:	6A L			#:		10.31.	JZU1.0	1050178	1	GIO
Somments, ir artially C	Surpoct	. 110000		ar total		11.4	D 1 -	TO	LACTOR	rv								77
State of the state	- 7	. 1	- 3	A Total	4-1/	n A	DIIA	TQL	ALI			33 1						
Name	30.4.1	IE.W.							C	ommen	ts							
OverWinter Habita	_		observed			n	W- 2		. 61. 7						_			
Spawning Habitat Rearing Habitat		_			rv section			vels suit	able for s	pawning	A·				_	_		_

Tochcha Lake Planning Area

ILP Map #

ILP#

Site

Reach # 1.0

093K.091

1948

	37/1			- VSC(1)		PHOTOS					
-	Photo)		Foc Lg	Dir	Comments					
R: 2		F:	6A	STD	U	Partially collapsed wooden culvert.					
R: 2	1	F:	7A	STD	U	Upstream photo of stream channel.					
R: 2		F:	8A	STD D Downstream photo of dry section of stream.							
				451 16/10		COMMENTS					
		Sect	ion			Comments					
	C	HAN	NEL	Culvert in po-	or repair.						
	CHANNEL S3		S3								

Tochcha Lake Planning Area

Reach #

ILP Map #

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Watershed Code:

1.0

093K.091

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	Proje Water		: 182- : 000-	000000-0	3 3 8 7 7 1 3 7 7			3093	0-000-000-(0-000-000-(ILP Map #	000-000	Loca 91 Lake/Str		ILP : S	#: 1	1948 F Lake Fro		12
	Fish I	Permit #	14	15269	D	ate: 200	2/08/28		To: 200	2/08/28	Age	ency:	C172	Cre	ew: SG/JD	Resar	mple:
5718		7		14	1 1	No. of Lot		S	TE / !	METH	OD	98		- 1/2			
Site#	N	ID Map	NIE	0#	UTM:Zone	/East/No	rth/Mtho	1	MTD/NO	Temp	Cond	Tur	bid		Co	mment	
15	09	93K.091	400	15		17	G	PU	EF 1	8	50	(
100	1			File	Fr. Tree	eli ju	A	. (BEAR	SETT	INGS						
Site#	M	TD/NO	H/P	Date	In Ti	me In	Date O	ut	Time Out					Com	ment		
15	E	F 1	1	2002/08	3/28 1	0:20 2	2002/08/	28	10:52								
V-Be	A.	E 41			C	. ELE	CTR	101	ISHE	SP	ECIFI	CA	TION	S		17,000	
Site#	T	MTD/N	10	H/P	End	ol s	Sec	L	ength	Width	Volt	age	Frequ	ency	Pulse	Make	Model
15	I	F	1	1	0		109		0.001	0.4	60	00	6	0	6	SMITH ROOT	12B
	100		7 T	Par Par		-74-17	in the	FI	SH SL	MMA	RY	107	, homes	3195		200 200	
Site#		MTD/N	10	H/P	Species	Stag	ge	Age	Tota	# Lg	th (Min/M	ax)	FishAct			Comment	
15	E	F	1	1	RB	J				2 1	20 1	35	R				
- Silver		100	H	2871	10-10-1		IND	17	IDUAL	FISH	I DA	ГА		100	A TORRE		- 11
Site#	МТ	D/NO	H/P	Species	Length	Weight	Sex	Mat	-	ge	Vch#	G	enetic	Roll#	Frame#	Comr	ment.
									Str/Sn	npl#/Age		Str	/Smpl#		1, 200		
15	EF	1	1	RB	120			U									
15	EF	1	1	RB	135		U	U									



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

Tochcha Lake Planning Area

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

		STR	EAM	REF	EREN	CING		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# H	
Gazetted Name:					L	ocal Name:				
Watershed Code: 000	-000000-00000-0	0000-0000-0000-00	00-000-00	00-000-0	000-000	ILF	Map #: 093K.0	191	ILP#:	1948
		# 77 A	M-LI	REA	СН	A West	A CONTRACTOR	- 1 TO		1667
Reach #: 3.0		UTM(Zone/East/N	orth): 10	.311993	3.6090223			Sample Type	: Bias	sed
Length (km): .44		oupling: Coupled			gnitude:			BGC Zone		
Gradient (%): 23.2	Confi	nement: Frequently	y Confin		Order: 2	2		Open water: A	bsent	
US Elev (m): 1120		Islands: NONE		Rip	oarian Veg	etation: Con	iferous			
Bars: None 🗸 Side	Diagonal _	Mid-channel	Span	□ В	raid 🗌	Landuse: No	ot Specified			
		X To all XIII	100 E	SIT	E.		- A 200	F-W2 3-3 70		
Site #: 16	Field UT	М			Agency	y: C172	Crew: So	G/JD Dat	e: 2002/0	08/28
Site Length (m):300	GIS UT	TM 10.312213.6090	250		Agenc	y Name: Trito	on Environmenta	al Consultants	(Terrace)	
	$(e, N, g) \in \mathbb{N}$		C	HAN	NEL		3,753,610		1 L	
No Vis.Ch.: Inter	mittent:		Avg	Min	Max	#		Avg Mir	n Max	#
Dewatered:	Tribs.:	Channel Width (m):	1.70	1.5	2	6	Gradient %	20.50 19	22	4
Stage: Low		Wetted Width (m):	0.27	0.200	0.300	3	Pool Depth (m)	0.13 0.10	0.200	3
Med	1	Bankfull Depth (m):	0.40	0.3	0.5	3	Turt	idity.: Turb	id	Low
High [Temp (C): 8	pH: 7.6		0	Conductivity	y: 60	.00	Modera		Clear 🗸
在10数2000年10			MOR	PHO	LOGY				677	
Bed Material: Domina	ant: Cobble	D95 (cm): 40			Bars: Non		Diagonal	Mid-chan	net 🗍 s	Span 🗌
Subdomina	ant: Boulders	D (cm): 15			Baro. Hon	U Cido (biagoriai [Braid
Channel Pattern: Sinu	ious	Islands: No	ne	DISTUR	RBANCE	O1 B1	B2 B3	D1 D2	D3	41
Coupling: Cou	pled				ATORS			DIDI		
Confinement: Con	fined			C1	C2 C3	C4 C	5 S1 S2	S3 S4	S5	
Morphology: CP	Cascade Poo	ı					HOLO	TOID	TO	
	400 to 100	S -120 C - 120 C		OVE	ER	· 41 - 4	- Carl		75	
Total Cover: Abundant		Type:	SWD	LWD		T U	I DP I C	ov I iv	7	
LWD: Abundant		Amount:	T	D	S	Т		S T	-	
LWD Dist: Evenly Dis	stributed	Location: P/S/O:		V					FS	z: 🗌
Right Bank: Shape	: V - shape Tex	ture: Fines Gra	evel 🗸	Cobble	✓ Boulde	Rock	Manmade	1	Crown Clo	
			avel 🗸				Manmade			20%
The state of the s	: Coniferous		e: Mature			1.00.		4.	1-2	2070
Left Bank: Rip.Veg		-	e: Mature			Instream Ve	eg: None 🗌 /	Algae Mos	s V Vas	scular [
	4° - 1, 1 - 1, 1		******	FISI	H		050			
				SECTION SECTION		1000	The second secon		CR36055777	
Site Number Captur	e Number of	Length fished	Total	i I	Voltage	Species	Total	Minimum	Max	imum
Site Number Captur Metho		Length fished (m)	Total		Voltage	Species	Total Fish	Minimum Length (mm		dimum th (mm)

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

and the second of the second o					11	3 10	PR	OJE	СТ		There is	30.5	W		
Proje Stream Nar Project Watersh	me (gaz.): SAK		RIVER	0900-000	00-0000	-000-000	0-000-00	0-000-00	00	F	Project C	ode:		5271
		A TOWN A SHARE	10		Wants S	-22 mar			4 pm bb.			Contraction of the Contraction o			
Constant Name		6,34.3	- A = =01.	100	and the second		WAI	ERS	HED	A 6	99-1	(<u>V</u>		# £	
Gazetted Name Watershed Code		0000-00	000-000	00-0000	-0000-00	00-000-0	000-000-	-000-000		Lo	cal Name	9:			
ILP Map#				P#: 19			ap #: 09			ID#: 40	0016	Rea	ch #:	3.0	Site #: 16
Field UTM (Z.E.N)				N.	Method:					Site L	g: 300		Method: H	HC	Access: V4
GIS UTM (Z.E.N)	: 10.312	213.609	0250						Re	ef. Name	e:				
Da	te: 2002	2/08/28	7	ime: 11:	:11		Agency:	C172	C	rew:	SG/JD		Fish C	rd?: 🗸	Incomplete:
		- 4	100			24.1	CH	ANN	EL.				7	11 - 78	
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg			ent % Mtd Avg
Channel Width (m): Wetted Width (m):	MS MS	0.30	1.80	1.50	1.60	0.20	0.30					1.70 0.27	Metho		21.0 C 20.50 19.0 C
Pool Depth (m):		0.10				0.20	0.10					0.13	Metrio	111. 22.0	19.0
Wb Depth:	.4	.3	.5	A	: 0.40		dathad:	MC			- W	- u c	No Vis.		Intermittent:
COVER	.4	.5	_	al: A	j. 0.40	,	Method:	MS	31	age: L	V M	_ n [Dw: L	Tribs.:
Type:	SWD	1 17	VD	В	U	DP		ov T	IV	1 ce	OWN CL	OSLIDE			
Amount	_	_	0	S	T	N		S	T	1		-20%			
Loc; P/S/O:	V				V					INS	TREAM	VEG:	NA	MV	V 🗍
LWD	A		D	ST: E											
LB SHP			2.5								RB SHP	v			
Texture		G	CV	ВПІ	RIA								GOC	B	RA
RIP		V	1								RIP	-	•	V L	
STG											STG				
0.00		Cart.		-630			TAI	ATE	D. T.	A10-	1/1° = - 1-2-	00		*****	- 4
EMS:		Haring					HE WAY	AIL	C. Committee	R	eq #:				
Temp:						Metho	od: T4			1.					
pH:						Mathe	100			C	ond.: 60				Method: S3
Flood Signs:	Scoured	banks					od: P2					ПМ		C	Method: S3 Method: GE
		2000	& raft				od: P2 od: GE					_ м	L	c 🗸	
		200	& raft			Metho	d: GE	HOL	OGY			_ м		c 🗸	
Bed Material:	C	Oominan	t: C		Subdom	Metho	d: GE	HOL	OGY				LB3 D1		
	40.0		5 7 <u>6</u>		Subdom	Methods: B	od: GE	ISTURE	BANCE	Т	urb.: T				Method: GE
D95: Pattern:	40.0 SI		t: C			Methods: B	od: GE		BANCE	Т	urb.: T	B2		D2 C	Method: GE
D95: Pattern: Islands:	40.0 SI N		t: C			Methods: B	od: GE	ISTURE	BANCE	01	Turb.: T	B2	B3 D1	D2 C	Method: GE
D95: Pattern: Islands: Coupling:	40.0 SI N CO		t: C			Methods: B	od: GE	ISTURE	BANCE	01	Turb.: T	B2	B3 D1	D2 C	Method: GE
D95: Pattern: Islands:	40.0 SI N CO		t: C			Methods: B	od: GE	DISTURE INDICA	BANCE	01	B1 C2	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2 C	Method: GE
D95: Pattern: Islands: Coupling: Confinement:	40.0 SI N CO		t: C			Methods: B	od: GE	DISTURE INDICA B	BANCE TORS	01 C1	B1 C2	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2	Method: GE
D95: Pattern: Islands: Coupling: Confinement: FSZ:	40.0 SI N CO		t: C			Methods: B	od: GE	DISTURE INDICA B	BANCE TORS	01 C1 N	B1 C2 SIDI	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2	Method: GE
D95: Pattern: Islands: Coupling: Confinement:	40.0 SI N CO CO		t: C			Methods: B	od: GE	DISTURE INDICA B	BANCE TORS	01 C1	B1 C2 SIDI	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2	Method: GE
D95: Pattern: Islands: Coupling: Confinement: FSZ: Name OverWinter Habita Spawning Habita	40.0 SI N CO CO CO	D (cm	t: C): 15.00	tes too l	Morph	Methodient too	od: GE I O R P	B:	BANCE TORS	01 C1 N	B1 C2 SIDI	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2	Method: GE
D95: Pattern: Islands: Coupling: Confinement: FSZ: Name OverWinter Habita	40.0 SI N CO CO CO	D (cm	t: C): 15.00	tes too l	Morph	Methodient too	od: GE I OR P	BAT Q L	BANCE TORS ars:	01 C1 N	B1 C2 SIDI	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1	D2	Method: GE
Pattern: Islands: Coupling: Confinement: FSZ: Name OverWinter Habita Spawning Habitat	40.0 SI N CO CO	None. None-Poor-	t: C): 15.00	tes too li	Morph arge, gra	Methodient too	od: GE I OR P	B:	BANCE TORS ars:	01 C1 N	B1 C2 SIDI	B2 C3	B3 D1 C4 C5 DIAG	D2	Method: GE
D95: Pattern: Islands: Coupling: Confinement: FSZ: Name OverWinter Habita Spawning Habita	40.0 SI N CO CO CO	D (cm	t: C): 15.00	tes too li	Morph arge, gra	Methodient toologo, sha	BITA high.	B: T Q L oths.	BANCE TORS ars:	O1 C1 NV	B1 C2 SIDI	B2 C3 C3 C3 C3 C3 C3 C3 C	B3 D1 C4 C5 DIAG	D2	Method: GE

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0

093K.091

1948

万数多数000mm	COMMENTS
Section	Comments
CHANNEL	Gradient prevents upstream migration.
CHANNEL	S3*/S6

Tochcha Lake Planning Area

Reach #

I D Man #

ILP#

Watershed Code:

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

3.0

093K.091

			(301)				n () () ()	WA	ATER	BOD	Y						KALL TO	
Gaz	zetted	Name:									Lo	cal:						
F	Project	Code:	182-8	319600-6	3300-40	900-000	0-0000-000-0	00-00	0-000-0	00-0								
	WS	Code:	000-0	000000-0	00000-00	000-000	0-0000-000-0	000-00	0-000-0	00-000								
V	Vaterb	erbody ID:					ILP	Map #:	093K.0	91		ILP#:	194	8 1	Reach #:	3 -		
	Pro	ject ID:	5271				Lake/Stream:							: S Lake From Date:				
F	ish Pe	Permit #: 145269			Date: 2002/08/28				To: 2002/08/28			gency:	C172	Crew	JD/SG	Resa	mple:	
EN	W. S.			191	13 × 4.1	VION'S		SITE	E / N	IETH	O D	10	19.50		100	designation of	96 M	
Site#	NIE	Мар	NID	#	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Cond Turbid		Comment				
16	093	K.091	400	40016				U EF	1	8	60	C						
200			-17	King.	S VSA		A.	GE	AR S	ETT	INGS	10			9 25		J	
Site#	MT	D/NO	H/P	Date	Date In Time I		me In Date Out		Time Out					Comme	nt			
16	EF	1	1	1 2002/08/28		11:11 2002/08/28			1:40									
	1				WHI.	C, El	LECTRO	FIS	HER	SPI	CIF	ICA	TIONS		-	The state of the s	, chip	
Site#	1	MTD/N	0	H/P	E	ncl	Sec	Lengt	h	Width	Vo	ltage	Frequen	су	Pulse	Make	Mode	
16	EF		1	1		0	109	100.0	100.0		600		60	Albo	6	SMITH	12B	
- 77					-	No.		121	1 5 11	MMA	RV		N= == =1	-	-	ROOT	1-	
011-#	1	ACTO		LUD	T 0			20.00	100	100000	- 11	4- \	California I			U III		
Site#	_	MTD/N	10	H/P	Speci	es S	Stage A	ge	Total		th (Min/	иах)	FishAct			Comment		
16	EF	200	1	_ 1	NFC				0	- 1								



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

1.0 093K.091

	ASIE III	STR	EAM	REF	EREI	1 C I I	NG	He mi		فأطلين			222
Gazetted Name:						Local	Name:						
Watershed Code: 000-0000	00-00000-000	00-0000-0000-00	0-000-00	0-000-0	00-000		ILP	Map #: 09	3K.09	1	ILI	P #:	1950
	s direction	7 (m) (m)		REAC	H		and.	h			1	3.1	-11
Reach #: 1.0 Length (km): .67 Gradient (%): 20.3 US Elev (m): 1151 Bars: None Side	Cou Confine	TM(Zone/East/N ipling: Coupled ment: Frequently lands: NONE Mid-channel		Mag	nitude: Order:	1 1 egetati	ion: Con	iferous ot Specified	O	BGC 2	Zone:	200	ed
	3 0.		SOLV	SIT	E arth 1	1				-18		3.2-	
Site #: 17 Site Length (m): 200		10.312324.6090 110.312266.6090			_	ncy: C ncy Na		Crew: on Environ			1000	2002/08 errace)	3/28
		王皇海是	C	HAN	NEL			4 1 1			8	2,00	<i>*</i>
No Vis.Ch.: ☐ Intermitte Dewatered: ☐ Trib Stage: Low ✓ Med ☐	s.: Ch	nannel Width (m): Vetted Width (m): enkfull Depth (m):	0.00	Min 1.4 0 0.4	1.8 0 0.5	# 6 0 3	E	Gradie Pool Dept		Avg 20.25 0.00 dity.:	Min 18 0 Turbid	23 0	# 4 0 Low
High Ter	mp (C):	pH:		C	onducti	vity:				Mo	derate		Clear
1 TO SEE 11 TO SEE 11 TO	A		MOR	PHO	LOG	Υ		3 33		2	***		
Bed Material: Dominant: C Subdominant: B Channel Pattern: Sinuous Coupling: Coupled Confinement: Confined Morphology: CP	oulders	D95 (cm): 30 D (cm): 15 Islands: No	.00	DISTU	Bars: No RBANCE ATORS C2	01		B2 S5 S1	B3 S2		D2 D S4		pan [
	SILVE C			COV	R	3-14	STEEL STEEL	The same	200	T.	F-	82.5	
Total Cover: Moderate LWD: Few LWD Dist: Evenly Distribut Right Bank: Shape: Slotett Bank: Shape: Slotett Bank: Rip.Veg: Col	ping (g Textu ping (g Textu	ure: Fines Gr		S Cobble Cobble	✓ Bou	der	U T Rock[N N Manma			IV N Cr	FS. own Clo 1-2	

Tochcha Lake Planning Area

Reach # ILP Map #

1.0

ILF

Site

093K.091

ILP# 1950

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Proje Stream Nar Project Watersh	ne (gaz): SAK	ENICH		0900-000	00-000	-000-000	0-000-00	0-000-00	00	F	Project C	ode:		5271		
	30	-14	<i>y</i>	No.	6.	100	WAT	ERS	HED	der i		+1	71	1011	- 898		- "
Gazetted Name										Lo	cal Name	e:					
Watershed Code ILP Map# Field UTM (Z.E.N)	: 093K.0)91		ILP#: 19		NID M	000-000- ap #: 09:			ID#: 40		Rea	ch #: Metho	1.0 d: GE		Site #: 17	
GIS UTM (Z.E.N)									R	ef. Name							
Da	te: 200	2/08/28	1	Time: 11:	:52		Agency:			Crew:	SG/JD		Fish	Crd?:		ncomplete:	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		11.	3 P 4		-11.	1, %	American Company	ANN		M. Tak		Oraș -	TO The				
Ch1 146-46- />	Mtd	width	width		width 1.40	width	width	width	width	width	width	Avg	LMo	thod I: 21	.0 19.0		Avg 20.25
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Pool Depth (m):						1						0.00	_				
Wb Depth:	.4	.5	1.4	٦ ٨,,,	: 0.43		Method:	Me		age: I	E M	- H		Vis.Ch.: Dw:		ribs.:	
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	SWI	V I 11	WD T	B I	U	T DF		ov T	IV	1 CR	OWN CL	OSUBE					
Type: Amount:	-		S	T	T	N		D	N	1		1-20%					
Loc: P/S/O:					V					INS	TREAM	VEG:	NV	A [] M	TV		
LB SHP	: S										DD 0110						
Texture RIP STG	:c	G 🗸	c 🗸	В	R						RB SHP Texture RIP STG	: F [G 🗸	С 🗸 В	R	A 🗆	
RIP	:c	G 🗸	c 🗸	В	R 🗌 A		e W	ATE	R		Texture RIP	: F _ :C :MF	G 🗸	С 📝 В	R] A []	
RIP	: C :: MF	G ✓	c 🗸	В	R		W	ATE	R		Texture RIP STG	: F _ :C :MF	G 🗸	С ✓ В	R		
RIP STG EMS: Temp:	: C :: MF	G 🗸	c 🗸	В	R D A	Meth	od: T4		R	R	Texture RIP STG	: F _ :C :MF	G 🔽	C ✓ B			
RIP STG EMS: Temp: pH:	: C :: MF	3351	1133	В	R	Meth	od: T4		R	R	RIP STG	: F C : C : MF		C y B	Mel	Walle	
RIP STG EMS: Temp:	: C :: MF	3351	1133	В	R A	Methodological Method	od: T4 od: P2 od: GE			R	RIP STG	: F C : C : MF		- · · · · · · · · · · · · · · · · · · ·	Mel	thod: S3	
RIP STG EMS: Temp: pH:	: C :: MF	3351	1133	B 🗍	R	Methodological Method	od: T4 od: P2 od: GE			R C	RIP STG	: F : C :: MF		_ c	Mel Mel	thod: S3	
RIP STG EMS: Temp: pH:	: C : MF	d banks Dominar	nt: C		Subdon	Methodethold	od: T4 od: P2 od: GE			R	RIP STG	: F : C :: MF		_ c	Mel	thod: S3	
EMS: Temp: pH: Flood Signs:	: C : MF	d banks Dominar				Methodethold	od: T4 od: P2 od: GE	PHOL	O G Y	R C	RIP STG	: F : C :: MF		_ c	Mel Mel	thod; S3	
EMS: Temp: pH: Flood Signs: Bed Material: D95:	Scoure: 30.0	d banks Dominar	nt: C		Subdon	Methodethold	od: T4 od: P2 od: GE	чог	O G Y	R C	RIP STG	: F		C 1 D2	Mel Mel	thod: S3	\$5
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands:	Scoure: 30.0	d banks Dominar	nt: C		Subdon	Methodethold	od: T4 od: P2 od: GE	PHOL	O G Y	R C C 1	RIP STG	: F	B3 D	C 1 D2	Mel Mel	thod; S3	\$5
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands: Coupling:	Scoure: 30.0: SI: N	d banks Dominar	nt: C		Subdon	Methodethold	od: T4 od: P2 od: GE	PHOL	O G Y	R C C 1	RIP STG	: F	B3 D	C 1 D2	Mel Mel	thod; S3	\$5
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands:	Scoure: 30.0: SI: N: CO: CO: CO	d banks Dominar	nt: C		Subdon	Methodethold	od: T4 od: P2 od: GE	PHOL DISTURE INDICA	O G Y	R C C 1	RIP STG	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	C 1 D2	Met Met D3 S2 S	thod: S3 thod: GE	S5
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands: Coupling: Confinement:	Scoure: 30.0: SI: N: CO: CO: CO	d banks Dominar	nt: C		Subdon	Meth Meth Meth B: B	od: T4 od: P2 od: GE	PHOL DISTURE INDICA	OGY BANCE TORS	01 C1 N	RIP STG	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands: Coupling: Confinement:	Scoure: 30.0: SI: N: CO: CO: CO	d banks Dominar	nt: C		Subdon	Meth Meth Meth B: B	od: T4 od: P2 od: GE	PHOL DISTURE INDICA B	BANCE TORS	01 C1 N	RIP STG Req #: cond.: Turb.: T B1 C2 SID	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattem: Islands: Coupling: Confinement: FSZ: Name OverWinter Habit	Scource: 30.0 SI: N	d banks Dominar D (cm	nt: C n): 15.0	00	Subdon	Methode Method	od: T4 od: P2 od: GE	PHOL DISTURE INDICA B	BANCE TORS	O1 C1 NV	RIP STG Req #: cond.: Turb.: T B1 C2 SID	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattem: Islands: Coupling: Confinement: FSZ: Name OverWinter Habit Spawning Habita	Scource: 30.0 SI: N CO CO	d banks Dominar D (cm	nt: C n): 15.0	00 meral sub	Subdon Morph	Methodological Method	od: T4 od: P2 od: GE	PHOL DISTURE INDICA B	BANCE TORS	O1 C1 NV	RIP STG Req #: cond.: Turb.: T B1 C2 SID	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattem: Islands: Coupling: Confinement: FSZ: Name OverWinter Habit	Scource: 30.0 SI: N CO CO	d banks Dominar D (cm	nt: C n): 15.0	00	Subdon Morph	Methodological Method	od: T4 od: P2 od: GE I O R F	DISTURE INDICA	BANCE TORS	O1 C1 NV	RIP STG Req #: cond.: Turb.: T B1 C2 SID	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattern: Islands: Coupling: Confinement: FSZ: Name OverWinter Habit Spawning Habitat	Scoure: 30.0 : SI: N : CO: CO: CO: CO: CO: CO: CO: CO: CO: C	d banks Dominar D (cm None None	nt: C n): 15.0	meral submeral stream	Subdon Morph Mostrates tr	Methodological Method	od: T4 od: P2 od: GE I O R F	PHOL DISTURE INDICA B	BANCE TORS	O1 C1 NV	RIP STG Req #: cond.: Turb.: T B1 C2 SID	E F C E MF M M M M M M M M M M M M M M M M M	B3 D C4 C DIAG	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	
EMS: Temp: pH: Flood Signs: Bed Material: D95: Pattem: Islands: Coupling: Confinement: FSZ: Name OverWinter Habit Spawning Habita	Scoure: 30.0 : SI: N : CO: CO: CO: CO: CO: CO: CO: CO: CO: C	d banks Dominar D (cm	nt: C n): 15.0	meral sub-	Subdon Morph	Methode Method	od: T4 od: P2 od: GE IORF	DISTURE INDICA	BANCE TORS	O1 C1 NV	RIP STG Req #: cond.: Turb.: T B1 C2 SID	: F : C : MF : MF : M : M : M : M : M : M : M :	B3 D C4 C DIAG	1 D2	Met Met D3 S2 S	thod: S3 thod: GE	

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Site

1.0

093K.091

1950

	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

Reach #

ILP Map #

ILP#

1.0

093K.091

2009

		PROJECT		
Stream Name (gaz.):	Babine and Tochcha SAKENICHE RIVER 182-819600-63300-40900-	0000-0000-000-000-000-000-000	Project Code: 5	271
		WATERSHED		
Reach Watershed Code: ILP Map #: 093K.091 Air Photos LINE: BCB910236_ #: 0	000-000000-00000-00000-0 ILP #: 2009 Gaz.: Local:	0000-0000-000-000-000-000-000 Reach #: 1.0 Names	NID Map #: 093K.081	NID #: 12843 UTM(Zone/East/North/Method) 10.315265.6086679 GIS Sample Type: B Wetland:
		SURVEY INFO		
Date: 2002/08/26		Agency: C172		Crew: SG/JD
The transfer of		ATTRIBUTES		
Length (km): .94 DS Elev.: 849 US Elev: 902 Valley Flat: B	Gradient: 5.64 Order: 3 Magnitude: 8 BGC Zone: SB:	Setting: VF Open water: A Confinement: OC S Coupling: DC	DISTURBANCE INDICATORS C1 C2 C U U U	O1 B1 B2 B3 D1 D2 D3 C3 C4 C5 S1 S2 S3 S4 S5
Active Floodplain Visible Channel Pattern: SI				MID SPAN BR Exposed/Eroded: NS Landuse: NS
MA	.P.S			
Map Type Ma	p# Year			

TRIM

093K.081

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

1.0

093K.091

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G	55.0	etted Name oject Code WS Code	: 182-	819600-6	3300-409	00-0000-0	0000-0	00-00				Loca	al:					
		terbody ID Project ID						11/14	ILP N	Map #:	093K.09	1 Lake/Str	eam:	S	#: 2		Reach #: om Date:	-
	Fis	h Permit#	: 14	15269	D	ate: 200	2/08/28	3	To	2002	2/08/28	Age	ency:	C172	Cre	ew: SG/JD	Resar	nple:
ıń -		- /	Ĭ.	1000	3/8/25	Sec. 25	14.5	S.	ITE	./→M	ETH	O D	THE		72 TV	7 258570	145.20	Vio
Site#	T	NID Map	NIC	0#	JTM:Zone	e/East/No	rth/Mth	nd	MTD	/NO T	Temp	Cond	Turt	oid		Co	omment	114
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18		EF 1	1	2002/08	/28 1:	2:40 2	2002/0	8/28	12:5	52								
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Site#		MTD/N	10	H/P	End	el le	Sec	L	ength		Width	Volt	age	Freq	uency	Pulse	Make	Mode
18		EF	1	1	0		89		50.0		1.4	60	00	6	60	6	SMITH	12B
13/19	5.0			p)	11	8-28% ·	NI CO	FI	SH	SUI	MMA	RY			9.00	0000 PM	ROOT	
Site#	7	MTD/N	10	H/P	Species	Stag	ne T	Age	Carlot Sa	Total #		h (Min/Ma	ax)	FishAc	+ 1		Comment	
18	1	EF	1	1	RB	J	-			7	-		10	R			Common	
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ite#	1	MTD/NO	H/P	Species	Length	Weight	Sex	Mat		Ag		Vch#	_	enetic	Roll#	Frame#	Comr	nent
									S	tr/Smp	l#/Age		Str/	Smpl#				
18	EF		1	RB	90		U	U										
18	EF		1	RB	92		U	U										
18	EF		1	RB	75		U	U						1				
18	EF		1	RB	80		U	U	-									
18	EF		1	RB	110		U	U	-					2				
18	EF		1	RB	105		U	U	1	-				1				
18	EF		-1	RB	89		U	U						1				

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.091

		/. <u></u> 6		Vr. = 1/6	STR	EAMR	EF	ERE	ICIN	G		C. 4- 6 1	
Gazetted Na	me:								Local Na	ame:			
Watershed C	ode: 0	000-000	000-00000	-00000-0000-	-0000-00	11-61-6-12-1	4.0	M. TOTA		ILP	Map #: 093K.	091	LP#: 2009
90		W. "		100	John S	R	EAC	S H	386				
Reach #: 2 Length (km) Gradient (%) US Elev (m) Bars: None	: 1.22 : 13.2 : 1063	de 🗌	Cor	Coupling: Confinement: Financial Stands: N	oupled requently ONE	orth): 10.3 y Confin	Mag	nitude: Order:	8 3 egetation		erous t Specified	Sample Type: BGC Zone: Open water: Ab	
	6		1 1	5.110.00		7.5	SITI		w 3	300	The No. 20	3 70 70	
Site #: Site Length		0	Field U	JTM UTM 10.3146	89.6086	6739			cy: C17			G/JD Date: tal Consultants (2002/08/28 Terrace)
1000		VC.	46/2016	S. Senge		CH	ANI	NEL	(1)	38/1		HIT IS S	
No Vis.Ch.; Dewatered: Stage: Low	V	ntermitte Trib	ent: os.:	Channel W Wetted W Bankfull De	idth (m):	2.15 1.17 0	Min 1.8 .800	Max 2.6 1.4 0.7	# 6 6 3		Gradient % Pool Depth (m): 0.28 0.200	
Med [High [Те	mp (C): 8		H: 7.6			onductiv			Tur	bidity.: Turbid Moderate	
(5)	181	F 10	2016	1, 114	10 SAS	MORF	но	LOG	Y			200	
Coup Confiner Morpho	ment: C		i Cascade P	ool				ATORS C2 (23 C4	C5	S1 S2	2 S3 S4	S5
	BEN	-15-				C	OVE	R	·	-110			A-02-0-
Total Cover: // LWD: / LWD Dist: I	Abunda	int	uted	A Location:	Type: mount: P/S/O:	SWD T	S V			U T	DP T	OV IV D N	FSZ:
Right Bank: Left Bank: Right Bank: Left Bank:	Sha	/eg: Co		exture: Fines exture: Fines	✓ Gra Stag	avel Co avel Co e: Mature fo e: Mature fo	orest orest	Bould Bould	der R	Rock Rock Rock Rock Rock	Manmade Manmade	C Algae Moss	rown Closure 1-20% Vascular
	14	-cu-1	364	100		27F(1)	100 m	200	IRES	17.0	100		1.6.3
	NID 38011	F	3.0	Method GE	Lg 1	Method HC	R:	Pho 2 F	to : 16A	L:	AirPh	oto #:	UTM (Z/E/N 10.314842.608
Comments:						F 44	_	-		_			
	NID 38010	CV	2.0	Method GE	Lg 20	Method HC	R:	Pho 2 F	to : 13A	L:	AirPh	#:	UTM (Z/E/N 10.315356.608
Comments:	3 m w	ide arch	culvert Re	each 1.									
A Maria		- W	- m-	0 - "	10-11	200	181		10,-1	- "	y-32-2730		S S III
Site Number	Capt	hod	Number e Events	(m)	Total Time	ie .		1	cies	Total Fish	Minimum Length (mm)	Maximum Length (mm)
19	E	F	1	40	0	513 sec	3, 11	600	N	FC	0		

Tochcha Lake Planning Area

ILP Map # Reach#

Site

2.0

093K.091

ILP# 2009

			CONTRACT.	STATE OF	(a) (b)		PR	OJE	CT.	Misa Z	WENT			(h)		
Pro Stream N Project Water	ame (gaz	.): SAK		RIVER	900-000	00-000	-000-00	0-000-00	00-000-	000	Pr	roject Co	de:		5271	
		2 and	M= 3	There's	- 11193	regund,	WAT	ERS	HED	25	-41119	i/**//		8 - 20m	100	25/L all 1
Gazetted Nan Watershed Coo ILP Map Field UTM (Z.E.I GIS UTM (Z.E.I	de: 000-00 b#: 093K.0 N):	091	U	LP#: 20				-000-000 93K.081		Lo NID#: 40 Site Li Ref. Name	g: 400	Reac	n #: Method	2.0 i: MAP	Site	#:19 V4
C	ate: 200	2/08/28	1	Time: 13:	40		Agency	: C172		Crew:	SG/JD		Fish	Crd?:	Incor	mplete:
Well	S EV	11 - 21	34	III Jen	44	513	CH	ANN	EL			10				
	Mtd	width	width	width	width	width	width			width	width	Avg		Gad	ient % M	td Avg
Channel Width (m Wetted Width (m Pool Depth (m): MS	2.10 1.20 0.30	2.30 1.00 0.40	2.60 1.30 0.30	1.90 1.40 0.20	2.20 0.80 0.30	1.80 1.30 0.20					2.15 1.17 0.28	Meth	hod I: 6.0 nod II: 4.0		C 5.50
Wb Dept		.7	.6		: 0.63		Method:	MS		Stage: L	M	□н⊏		Dw:	Tribs	
COVE				al: A		-				7 00						
Typ			WD S	Т	T	DF		OV D	IV N	- CR	OWN CLC	20%				
Loc: P/S/				-						-			A IN	MI	VП	
	P: C G: MF					- 3	W	ATE	R	W # ',	RIP:					û, ×
EM	S:									R	Req #:					
Tem pl Flood Sign	H: 7.6	debris				Meth	od: T4 od: P2 od: GE			.7	Cond.: 60 Turb.: T	_ M [] [c 🔽	Method Method	
1000						N	ORI	PHOL	. O G	Υ	978	C. 85 -		BYSE		
Patter Island Couplin Confinemen	5: 35.0 n: SI s: N g: CO	Domina D (cn	nt: C n): 15.00		Subdom Morph			DISTUR INDICA			C2 (B2 B C3 C			03 52 S3 SPAN	S4 S5
77	() () () () () () () () () ()		150	100	565		FE	ATUR	ES	神	70 TO	1 K 5	77.53	S (201) =	The state of	
IID Map NID	Туре	Hgt	Metho	d L	g N	Method	To the same of	Photo			AirPh	oto		UTM (Z/E/N)	Method
93K.081 88011	F	3.0	GE	_		HC	R: :	2 F:	16A	L:		#:		10.31484	2.6086714	GIS
Comments: Falls a								DI .			115				7/5/10	1 11-11-2
93K.081 88010	CV CV	Hgt 2.0	Metho GE	_	_	Method HC	R:	Photo 2 F:	13A	L:	AirPh	oto #:			Z/E/N) 6.6086945	Method GIS
Comments: 3 m wi	de arch c	ulvert Re	each 1.			12740	0.12	T 0		ITV			7			
The Armet	100	1	F > 6	4	10-71	HA	B11 <i>F</i>	, I U	UAL	ITY			(30)	- SY5-3		and has
Name										Commen	nis					

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

1000	-331	VI C	main.		1 18	HABITAT QUALITY										
		Na	ame			Comments										
	Ove	erWin	ter Habitat	None obser	ved.											
	Spa	awnin	ng Habitat	Poor - suital	ole spawning grav	el found in small patches less than 1 m2.										
	Re	earing	Habitat	Moderate- a	bundant cover, de	eep pools, high habitat complexity.										
	The same		uria.			PHOTOS										
	Ph	oto		Foc Lg	Dir	Comments										
3:	2	F:	13A	STD	U	- Commonto										
2:	2	F:	14A	STD	U	Upstream photo of overstream vegetation.										
t:	2	F:	15A	STD	D	Downstream photo of channel substrates.										
3:	2	F;	16A	STD	U	Photo of 8 m Falls - barrier to fish migration.										
						COMMENTS										
		Sec	ction			Comments										
		CHA	NNEL	Falls preven	t upstream fish m	gration.										
		CHA	NNEL	S3*/S6												

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

2.0

093K.091

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Gaz	etted Nam	e:								Loc	al:					
F	Project Cod	e: 182-	819600	63300-4	10900-000	0-0000-000-	000-000	0-000-0	0-00							
	WS Cod	e: 000-	-000000	-00000-0	0000-000	00-0000-000-0	000-000	0-000-0	000-000							
W	aterbody I	D:					ILP	Map #:	093K.0	91		ILP#:	2009	Reach #:	2 -	
	Project I	D: 527	1							Lake/St	ream:	S	Lake F	rom Date:		
F	ish Permit	#: 14	15269		Date: 2	002/08/28	Т	o: 200	2/08/28	Ag	ency:	C172	Crew: SG/J	ID Res	ample:	
100 m	V Sala				5 00	The Mark	SITE	/ 1	METH	OD	11/-	110	J-1 =	3912		
Site#	NID Map	NII	0#	UTM:Z	one/East/	North/Mthd	MTI	D/NO	Temp	Cond	Turt	oid	(Comment		
19	093K.08	400)19			GP	U EF	1	8	60	С					
			14.0		i i	Α.	GE	ARS	SETT	INGS	Will be		11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- Sn		
Site#	MTD/NC	H/P	Dat	e In	Time In	Date Out	Tim	e Out				С	omment			
19	EF 1	1	2002/	08/28	13:40	2002/08/28	3 14	1:20								
		4. II)yii	10.74	Maria	C. E	LECTRO	FIS	HEF	SP	ECIFI	CA	TIONS		11-11-15		
Site#	MTD	NO	H/F		Encl	Sec	Length	1	Width	Vo	ltage	Frequency	Pulse	Make	Mode	
19	EF	1	1	3 1	0	513	400.0		1.2	6	00	60	6	SMITH	12B	
ACCOUNTS OF		13 (40° 40°	SOUTH THE				-101	F10 P4 F4					*	ROOT		
SADE		//	2 11.00	110-1	ال ولايت		-15 H	AL INDE	MMA	FEBRUARY STATE		Au.		Mr.	The state of	
Site#	MTD	NO	H/P	Spe		Stage A	ge	Total		th (Min/N	lax)	FishAct		Comment		
19	EF	1	1	NF	C			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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.081

		STI	REAMF	REFERE	NCIN	G	Anta-	The same	S. W.	-,"
Gazetted Name:					Local N	ame:				
Watershed Code: 000-0000	00-00000-00	000-0000-0000-0	00-000-000	-000-000-00)	ILP	Map #: 093K.0)81 I	LP#: 22	53
REPORT OF	10 - 10 to 10	top in	R	EACH	WATER III				1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
Reach #: 2.0 Length (km): .97 Gradient (%): 10.2 US Elev (m): 980	Co Confin	JTM(Zone/East/l upling: Coupled tement: Occasion slands: NONE		Magnitud Orde Riparian	e: 2 r: 2 Vegetation	n: Conif		Sample Type: BGC Zone: Open water: Ab		
Bars: None 🗸 Side 🗌	Diagonal	Mid-channel	Span	Braid	Land	use: No	Specified			
				SITE						
Site #: 20 Site Length (m): 300		M 10.316756.608 M 10.316776.608		100	ency: C17 ency Nam			G/JD Date al Consultants (: 2002/08/28 Terrace)	8
THE COME TO SE	30 36 30	a Satisfia	CH	ANNEL	Win Se-	Ye is	Specific 1		116 115	
No Vis.Ch.: Intermitted Dewatered: Tribs Stage: Low Med High Ten	s.: C	hannel Width (m) Wetted Width (m) ankfull Depth (m)	2.40	Min Max 1.9 2.8 0.300 1 0.6 0.8	# 6 6 3 tivity: 50	F	Gradient % Pool Depth (m) Turt	CONTRACTOR OF THE	Lov	# 4 6 w
Tigit Tell	ip (C). 6	рп. 7.0		HOLO				Moderate	Clea	al (V)
Channel Pattern: Irregular, Coupling: Coupled Confinement: Entrenche Morphology: CP C		Islands: No		ISTURBANG INDICATOR C1 C2	-	B1 C5	B2 B3 S1 S2	S3 S4	D3 S5	
		- 3 - N/E-	C	OVER	- Have			100		-3
Total Cover: Abundant LWD: Abundant LWD Dist: Clumped Right Bank: Shape: Slop Left Bank: Shape: Slop Right Bank: Rip.Veg: Con	oing (g Text	111	ravel Co	obble Bo	ulder I	N N Rock Rock	DP T Manmade Manmade	S N	FSZ: [rown Closure 1-20%	
Right Bank: Rip.Veg: Con Left Bank: Rip.Veg:	illerous	- 100	ge: Mature f	orest			g: None 🗸	Algae 🗌 Moss	☐ Vascula	ar [
中,"" 18 16 16 16 16 16 16 16 16 16 16 16 16 16		G max little	11 11/1	FEAT	URES		15 重新工作		11 70	
NID Map NID Type		Method Lg	Method		noto		AirPho		UTM (2	
093K.081 88013 C	50.0	GE 60	GE	R: 2	F: 18A	L		#:	10.316831	1.6084
Comments: Cascade / Gra										
NID Map NID Type		Method Lg	Method		noto	1.1	AirPho		UTM (2	_
093K.081 88012 CV Comments: Culvert in poor	repair.	GE 24	GE	R: 2	F: 17A	L:		#:	10.316741	.6084
Sommerice, Journal of the pool	. Span .									
The Market State	5 - Wase	4		ISH		Lyde	16.	to they	194 - Th	
Site Number Capture Method	Number of Events	Length fished (m)	Total Time	Voltag	1100	ecies	Total Fish	Minimum Length (mm)	Maximu Length (n	

Tochcha Lake Planning Area

Reach # ILP Map #

2.0

093K.081

ILP# 2253 Site 20

PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 Project Watershed Code: 182-819600-63300-40900-0000-000-000-000-000-000-000 WATERSHED Local Name: Gazetted Name: ILP#: 2253 NID Map #: 093K.081 NID #: 40020 Site #: 20 ILP Map#: 093K.081 Reach #: 2.0 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 Avg width Gadient % Mtd Mtd width width width width width width width width width Avg С 15.75 Channel Width (m): MS 2.60 2.20 1.90 2.80 2.50 2.40 2.40 Method I: 16.0 18.0 Wetted Width (m): MS 0.80 1.00 0.60 0.50 0.60 0.30 0.63 Method II: 12.0 17.0 С Pool Depth (m): MS 0.20 0.30 0.30 0.20 0.10 0.20 0.22 Intermittent: 🗸 No Vis.Ch.: Wb Depth: Dw: Tribs.: .8 .7 Avg: 0.70 Method: MS Stage: L V M H COVER Total: A CROWN CLOSURE SWD LWD IV Type: В U DP OV 1-20% S Amount: S D N N Loc: P/S/O: INSTREAM VEG: N A M V LWD: A DIST: C LB SHP: S Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: C RIP: C STG: MF STG: MF WATER FMS: Reg #: Method: T4 Cond.: 50 Method: S3 Temp: 8 Method: P2 pH: 7.8 Turb.; T M L C Method: GE Flood Signs: LWD spanning Method: GE MORPHOLOGY D3 01 **B1 B2 B3** D1 D2 Subdom: C Bed Material: Dominant: B Morph: CP D95: 55.0 D (cm): 25.00 DISTURBANCE **INDICATORS** S1 **S2 S**3 \$4 **S5** Pattern: IR Islands: N Coupling: CO Confinement: EN MID Bars: NV SIDE DIAG SPAN BR FSZ: FEATURES Method Photo AirPhoto UTM (Z/E/N) Method NID Map NID Type Hgt Method Lg F: 10.316831.6084714 GIS 093K.081 88013 C 50.0 GE 60 GE 2 18A Comments: Cascade / Gradient. AirPhoto UTM (Z/E/N) Method NID Map NID Type Hat Method Lg Method Photo 093K.081 88012 CV GE 2 F: 17A 10.316741.6084540 GIS 1.4 Comments: Culvert in poor repair. HABITAT QUALITY Comments Name

Tochcha Lake Planning Area

Reach # ILP Map #

ILP # 2253 Site 20

2.0	093K.081

		AL	ame			A STATE OF THE STA						
	_	_	77.1			Comments						
	Ove	erWin	ter Habitat	None observ	red.							
	Sp	awnir	ng Habitat	None - subs	trates too large, g	gradient too high.						
	R	earing	g Habitat	Poor - high g	radient, intermitte	ent flow, shallow pools.						
			MA TO THE REAL PROPERTY.		1 mX	PHOTOS						
	Ph	noto		Foc Lg	Dir	Comments						
₹:	2	F:	17A	STD	U	Upstream photo of culvert crossing.						
₹:	2	F:	18A	STD	- Francisco - Fran							
₹:	2	F:	19A	STD	D	Downstream photo of cascade section.						
13	2	F:	20A	STD	U	Upstream photo of stream channel.						
₹:	2	F:	21A	STD	D	Downstream photo of representative habitat.						
			GARLEY!			COMMENTS						
		Se	ction			Comments						
ī		CHA	NNEL	Cascade sec	tion block upstre	am fish migration.						
_	_	CHA	NNEL	S3*/S6								

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

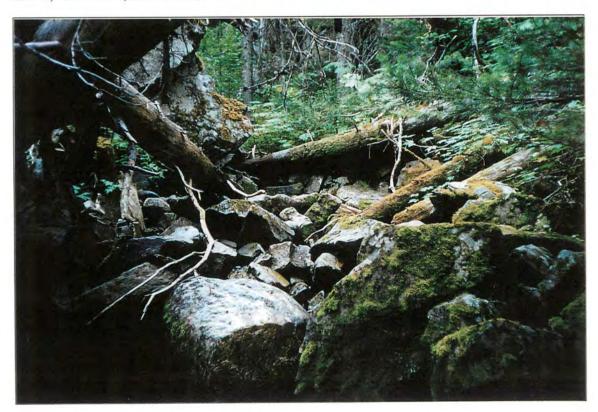
2.0

093K.081

	40.	W W	工程 3				WA	TER	BOD	Y	M.	ol at large	N STATE	ediesii, s	
Gaz	zetted Nam	e:								Loc	al:				
F	Project Cod	e: 182	819600	-63300-4	40900-000	00-0000-000	-000-000	0-000-00	0-0						
			-000000	-00000-0	0000-000	00-0000-000									
W	aterbody I						ILP	Map #:	093K.0			ILP#:	2253	Reach #:	2 -
	Project I	D: 527	1							Lake/St	ream:	S	Lake	From Date:	
F	ish Permit	#: 14	15269		Date: 2	2002/08/28	ī	o: 2002	2/08/28	Ag	ency:	C172	Crew: JD/S	SG Re	esample:
18	Traffic and	V.	11175		10 13.2		SITE	= / M	ETH	OD					Alban Sala
Site#	NID Map	NII	D#	UTM:2	Zone/East	/North/Mthd	MT	D/NO	Temp	Cond	Turt	oid		Comment	V-10-11-11-11-11-11-11-11-11-11-11-11-11-
20	093K.08	1 400	020			GF	PU EF	1	8	50	С				
1,201			2 N	Ti Make		A.	GE	AR S	ETT	INGS		研练 27		SE TO	
Site#	MTD/NC	H/P	Dat	e In	Time In	Date Ou	t Tim	e Out				C	omment		
20	EF 1	1	2002/	08/28	14:38	2002/08/2	15	5:25							
178	in the				C, E	LECTR	OFIS	HER	SPI	CIF	CA	TIONS			1 - 1 H
Site#	MTD	/NO	H/F		Encl	Sec	Length	h	Width	Vol	tage	Frequency	Pulse	Make	Mode
20	EF	1	1	7	0	354	300.0)	1.0	7	00	60	6	SMITH	
		1.15	7150			A STATE OF A	FISH	l SU	MMA	RY	W -	10 Page 1941	A PARTY		(i) = =
Site#	MTD	/NO	H/P	Spe	cies S	Stage	Age	Total	# Lg	th (Min/M	ax)	FishAct		Comment	
20	EF I	1	1	NF	C			0			_				



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0

093K.091

			STI	REAMRE	FEREN	CING			
Gazetted Na	ime:				Lo	ocal Name:			
Watershed (Code: 000-0	00000-00000-00	0000-0000-0000-0	00-000-000-0	00-000-000	ILP	Map #: 093K	091 IL	.P#: 2009
				RE	ACH	il and the			
Reach #: 3 Length (km) Gradient (%) US Elev (m) Bars: None	: 1.04 :: 5.5 :: 1120	Confi	UTM(Zone/East/ pupling: Partially nement: Occasion slands: NONE Mid-channel	Couple nally Conf	Magnitude: Order: 3 Riparian Vege			Sample Type: BGC Zone: Open water: Abs	
		13 To 15	in Warri	S	ITE	S 151 118			- Enless
Site #:	5	Field UTI	и М 10.313566.608	86778		r: C172 y Name: Tritor		JD/SG Date: ntal Consultants (7	2002/08/28 Terrace)
10/0	A 3 3 3	100		CHA	NNEL		1011 57-6		
No Vis.Ch.: Dewatered: Stage: Low Med High			Channel Width (m Wetted Width (m Bankfull Depth (m pH: 7.6): 0.98 0.6	4 1.8 00 1.3	3	Gradient Pool Depth (r Tu		_ Low_
			42335	MORPH	IOLOGY		4	. 3/ 21	1 m = 1 pc
Channel Pa Cou Confine	attern: Sinuc pling: Partia	nt: Boulders ous ally Coupled uently Confined Riffle Pool	D (cm): 1	one DIS	TURBANCE DICATORS [C2 C3	O1 B1 C4 C5	B2 B3 S1 S		Braid
Letter Wasser		April 10 miles		CO	VER	illian .	Tarib, in.		
Total Cover: LWD: LWD Dist:		ble	Type: Amount: Location: P/S/O:	T	WD B T S	U D	DP T	OV IV T N	FSZ:
Right Bank: Left Bank: Right Bank: Left Bank:	Shape:	Overhangi Tex Coniferous	Sta	iravel Cobi iravel Cob ge: Mature for ge: Mature for	ble Boulde est	Rock	Manmade Manmade g: None ✓	Control Contro	rown Closure 1-20% Vascular
Ma Li	19/3/1		JE Wash		FEATU	RES			
The state of the s	88014 C	V 2.0	Method Lg GE 26	Method HC	Photo R: 2 F:		AirPl	hoto #:	UTM (Z/E/N 10.313482.6086
Comments	Culvert pe	rcned.							
				V	SH	allor =		1-0	
Site Number	Capture Method EF		Length fished (m)	Total Time 369 sec	Voltage 700	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
		1	300	003 360	700	IIIO	U	1	

Tochcha Lake Planning Area

Reach # IL

ILP Map #

ILP#

Site

ATA			e: Babin									Pen	inat Co	4		F074	
	Stream Nar ect Watersh					0900-00	00-0000	-000-000	0-000-00	0-000-0	00	Pro	ject Co	de:		5271	
	the by the state of the	1000	100	1 - 1957	9/43			WAT	ERS	HED			3	- 111.00	Z E Y		41
Gaze	etted Name	:									Loc	al Name:					
Water	rshed Code	: 000-00	0000-000	000-000	00-0000	-0000-0	00-000-0	000-000	-000-000								
	ILP Map#	: 093K.0	91	11	_P #: 20	009	NID M	ap #: 09	3K.081	N	ID#: 400	021	Reach	n#:	3.0	Site #	t: 21
Field U	TM (Z.E.N)	:			N	Method:					Site Lg	: 300		Method:	HC	Access: V	2
GIS U	TM (Z.E.N)	: 10.313	566.6086	3778						R	ef. Name:						
	D-	te: 200	2/00/20		ime: 15:	40		Agency:	C170	,	crew: J	DISC		Fish C	rd?: 🗸	1 1	plete:
	Da	te. 200	2/00/20		ine. 15.	.40					new. J	DISG		FISH	aur.	j incom	nete.
11 75 Oc.	- Specifical		and de						ANN			- 3	-				
Channel	Midth ()	Mtd	width	width	width	width 1.70	width	width	width	width	width		Avg	LAteth		lient % Mtd	
	Width (m): Width (m):	MS MS	1.60	1.50	1.80	1.70	0.60	1.50	1			_	0.98	Metho		4.0 C	
	Depth (m):	MS	0.20	0.20	0.30	0.10	0.20	0.10				_	0.18	Wetric	u II. 0.0	1 0.0 0	
									_		_		41.0	No Vis	.Ch.:	Intermittent:	
	Wb Depth:	.5	.6	.7	Avg	: 0.60	1	Method:	MS	S	age: L	VM	H]	Dw:	Tribs.:	
	COVER			Tota	al: A												
	Type:	SWD	LW	/D T	В	U	DF	-	ov T	IV	1 CRO	WN CLOS	SURE				
	Amount	Т	1		S	D	T		T	N	1	1-2	0%				
	Loc: P/S/O:	VII				V	V				INST	TREAM VI	EG: 1	VA	M	V	
-	111/0			-	OT 111									700			
	LWD			D	IST: NA												
	LB SHP											RB SHP: O					
	Texture	FV	G	c \square	B	R						Texture:	FV	e □ c	B	RA	
	RIP	: C										RIP: C					
	STG	: MF										STG: M	1F				
1	Saleties.	- 110	-			- 41	-117.5	W	ATE	R	-3/2				33. 3	W	- 0
	EMS:										Re	eq #:					
	Temp:						Meth	od: T4				nd.: 60				Method:	S3
	pH:	7.6					Meth	od: P2			T	urb.: T	- M -		C	Method:	GE
F	lood Signs:	None of	served				Meth	od: GE					1	1-0	· ·	Woulde.	OL.
S. Special	0				- 60	327	10 N	ORE	HOL	OGY	5 7-8	i de la la	200			ST	
D.	nd Materials)omina-i			Subdon					01	B1 B	2 B	3 D1	D2 I	D3	
De	ed Material:		Dominant D (cm)			Morph							TI	TIT	Ini	7	
			D (Citi)	. 10.00		Morbi	i. IXI		DISTURE INDICA								
	Pattern:								INDICA	IONO	C1	C2 C	3 C	4 C5	S1 :	S2 S3	S4 S5
	Islands: Coupling:																
C	onfinement:																
Ų.	FSZ:								B	ars:	NV	SIDE		IAG	MID	SPAN	BR
	1.47																
	September 1		-165	3	1 500	N P	115	FEA	TUR	ES			7		-		
NID Map	NID -	Гуре	Hgt	Metho	d L	g N	Method		Photo			AirPho				(Z/E/N)	Method
093K.081	_	CV	2.0	GE	2	26	HC	R: 2	2 F:	22A I	.:		#:		10.31348	2.6086889	GIS
Comment	ts: Culvert p	erched.															
The state of the s		1			- 115 - 15 15	FIRE	HA	BITA	TQL	IALI	TY	n gritt k			17-41- 1		
-	Name									(Comment	s					
OverV	Vinter Habit	at	None o	bserve	i.			0.100									
	ning Habita				es too la												
Rea	ring Habitat		Moder	ate - hig	h habita	t comple	xity, abu	indant c	over, limi	ted by s	hallow de	epths.					

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

.0 093K.091

2009

and the second	O'SHIP-SO	Charles and Designation	the supplier of the second	D'	
- 1	hoto		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	2 F: 24A		STD	D	Downstream photo of channel.
		lines.	- Emercial	at Allegan	COMMENTS
	S	ection			Comments
	CH	ANNEL	Falls locate	ed in Reach 2 preve	ent upstream fish migration.
	CH	ANNEL	S6		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

 $000\hbox{-}000000\hbox{-}00000\hbox{-}00000\hbox{-}0000\hbox{-}0000\hbox{-}000\hbox{-}000\hbox{-}000\hbox{-}000\hbox{-}000\hbox{-}000$

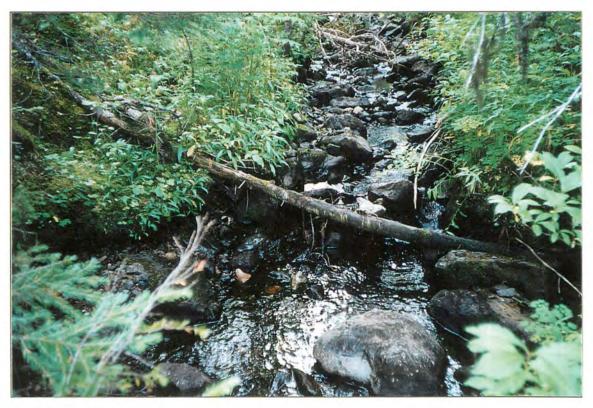
3.0

093K.091

17 1180	125								WAT	ER	BOD	Y		Service Control	1	Anra-	
Ga	zette	d Nam	e:									Loc	al:				
F	Proje	ct Cod	e: 182	-8196	00-63300	-40900-00	000-0000-00	00-00	0-000-0	00-00	0-0						
	W	S Cod	e: 000	-0000	00-00000	-00000-00	000-0000-00	00-00	0-000-0	00-00	0-000						
V	Vater	oody I	D:						ILP Ma	ap#:	093K.09	91		ILP#:	2009	Reach #:	3 -
	Pre	oject I	D: 527	1								Lake/St	ream:	S	Lake	From Date:	
F	ish P	ermit	#: 1	45269)	Date:	2002/08/28		To:	2002	/08/28	Ag	ency:	C172	Crew: JD/S	SG Res	sample:
133	9				22 70			S	ITE	I M	ETH	OD	15		2.4	Tyles - 11	7. E Y
Site#	NI	D Map	NI	D#	UTM:	Zone/Eas	st/North/Mth	d	MTD/NO Te		Temp	Cond	Turt	bid		Comment	
21	09	3K.08	1 40	021	10 3	17515	6084444	GPU	EF	1	8	60	С				
		i i		(C.S.)	J(x) = 0				GEAL	RS	ETT	INGS	#				
Site#	M	TD/NC	H/P	1	Date In	Time Ir	n Date C	Out	Time C	Out	1 10040			C	comment		
21	EF	1	1	20	02/08/28	14:20	2002/08	3/28	15:40)							
23				370	15%	C. E	LECT	30	FISH	ER	SPE	CIFI	CA	TIONS	1 1 M	Mr. C.	
Site#	1	MTD	/NO		H/P	Encl	Sec	L	ength		Width	Vol	tage	Frequency	Pulse	Make	Mode
21	21 EF 1 1 O 369								300.0		1.2	7	00	60	6	SMITH ROOT	12B
		32971 11	3 3	1/11/15		-1 -1	700	F	ISH	SUI	AMA	RY			WV.37		- Jakan
Site#	1	MTD	/NO	E	I/P Sp	ecies	Stage	Ag	e T	otal #	Lg	th (Min/M	ax)	FishAct		Comment	
21	E	F	1		1 N	FC				0	7	201					



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

Reach # ILP Map #

ILP#

1.0 093K.081

17		PROJECT		JE
Stream Name (gaz.):		0-0000-000-000-000-000-000	Project Code: 5271	
		WATERSHED		-
Reach Watershed Code: ILP Map #: 093K.081 Air Photos LINE: BCB910236_ #: 0	000-000000-00000-00000-0000 ILP #: 2251 Gaz.: Local:	0-0000-000-000-000-000-000 Reach #: 1.0 Names	UTM(Zone/East/North/Method)	12816 GIS
W. O. W. Channe		SURVEY INFO		
Date: 2002/08/26		Agency: C172	Crew: SG/JD	
# - 45 m		ATTRIBUTES		
Length (km): .85 DS Elev.: 851 US Elev: 920 Valley Flat: N	Gradient: 8.12 Order: 3 Magnitude: 6 BGC Zone: SBS C/D:	Setting: VW Open water: A Confinement: OC Coupling: PC	DISTURBANCE O1 B1 B2 B3 D1 D2 INDICATORS	
Active Floodplain Visible: Channel Pattern: IR	Est. Width:	Mass	N SIDE DIAG MID SPAN Movement: L Exposed/Eroded: NS parian Veg.: NS Landuse: NS	BR

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

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Watershed Code:

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

1.0

093K.081

200	3000			SLAN	HITT.	ショボ	Contraction of the Contraction o		WAT	ERI	3 O D	Υ.		Mile as	A Trans	WAS WELL		2000 (a)		
	Proj Wate	ed Name	: 182-8 : 000-0	319600-63 000000-00	3300-4090			0-000)-000-()-000-(000-000	1-0 1-000 193K.08	Loca	al:	ILP			each#: 1	-		
	Fish	Permit #:	14	5269	Da	ate: 200	2/08/29	1	To:	2002/	08/29	Age	ency:	C172	Cre	ew: SG/JD	Resar	nple:		
	1723	- 10 - 30	7 500	Saleting to			6	SI	TE	/ M	ETH	O D				W 462 1	100			
Site#	_	NID Map 93K.081	NID 400		JTM:Zone	/East/No	I	GPU	MTD/ EF	1	Temp 8	Cond 50	Tur			Cor	mment			
							作れている	200	18 A CON	W-1205		NGS			建 点。		MILITARY OF THE SECOND	HI I		
Site#	_	MTD/NO EF 1	H/P	Date I 2002/08			Date C		Time 16:3				_		Com	omment				
	200			EGGE GG	A CONTRACT OF STREET	ELE		C C	1.212	7	SPE	CIFI	CA	TION	S	1/0		31-152		
Site#		MTD/N	10	H/P	End		Sec		ength	- X3-	Vidth		tage	Frequ	Charles St. Table	Pulse	Make	Mode		
22		EF	1	1	0	914	159	1	50.0		2.0	90	00	6	0	6	SMITH ROOT	12B		
(30)		3 / 10		- (r -) - kg		V # 1	ALC:	FI	SH	SUN	MA	RY	51	- 6 Jp/6	TO VIET	7.5		70 3		
Site#	T	MTD/N	10	H/P	Species	Sta	ge	Age		Total #	Lgt	h (Min/M	ax)	FishAc	t		Comment			
22		EF	1	1	RB	J				8	13		62	R						
57.00	301	100		1077			INE	VIV	IDU	ALI	FISH	DA	The state of the s		11.50					
Site#	M	ITD/NO	H/P	Species	Length	Weight	Sex	Mat		Age tr/Smpl		Vch#		enetic Smpl#	Roll #	Frame#	Comn	nent		
22	EF	1	1	RB	135		U	U	0-1						3	01				
22	EF	1.1	1	RB	146		U	U					H.	15=3						
22	EF	1	- 1	RB	153		U	U			1			PES						
22	EF	1	1.	RB	162		U	U						5.00						
22	EF		1	RB	138		U	U				1								
22	EF		- 11	RB	140		U	U	100			1								
22	EF	_	1	RB	145		U	U				-								
22	EF	1	1	RB	155		U	U						1						



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

			STR	EAM	REF	EREN	CING	- 1	1. E. A.	3.214/1/2	5/1/2	. '= "
Gazetted Na	me:					L	ocal Name					
Watershed C	ode: 000-00	0000-00000-00	000-0000-0000-00	0-000-0	00-000-0	000-000	11	P Map #: 09	3K.082	'n	P#:	2308
127 -7	7/4,	N		ali Ras	REA	CH	7315		200	-1	7 7 3 3	21 2 V
Reach #: 3	0	4.22	UTM/Zone/East/N	orth): 10	0 322817	7 6085822	27 TH SOL	122.2	Cam	nio Tunos	Piece	d 1000
				oranj. n			6			377		a
Gradient (%):	7.0	Confir	nement: Frequently	Confin							1000	
US Elev (m):	960		Islands: NONE		Rip	arian Veg	etation: Co	niferous				
Bars: None	✓ Side	Diagonal _	Mid-channel	Span	☐ Br	raid 🗌	Landuse:	Not Specified	1			
Gazetted Name: Watershed Code: 000-00000-0000-0000-0000-000-000-000-0												
	CT 222					11000	2 - 4 9 C L		2000			/29
Cazetted Name: Cocal Name:												
No Vis.Ch.:	Intermit	tent:		Avg	Min	Max	#		Av	g Min	Max	#
Dewatered:	Tr	ribs.:	Channel Width (m):	2.80	2.400	3.3	6	Gradie	nt %: 3.5	50 3	4	4
Stage: Low	V			The second control of				Pool Depth	n (m): 0.3	32 0.200	0.400	6
Med		E	Bankfull Depth (m):	0.63	0.6	0.7	3		Turbidity.	Turbid		Low
High		emp (C): 7	pH: 7.8		C	conductivit	y: 80			Moderate		lear 🗸
Marie F		111		MOR	PHO	LOGY	1-19	= 3897		/E/		
					, i	Bars: Non	✓ Side	Diago	nal 🗌 N	/lid-channe		
			Islands: Nor	ne	T		O1 B1	B2 E	33 D1	D2 I	03	
Confinen	ment: Confine	ed			C1	C2 C3	C4	C5 S1	S2 S	3 S4	S5	
Morpho	logy: RP	Riffle Pool		1								
			1801 Cd		COVE	R	- 1. Spanier - 1.	1995	1	- 5,500		
Total Cover: A	Abundant		Type:	SWD	LWD	В	U	DP	OV	IV		
LWD: A	Abundant	_		T	D	Т.	T	T	S	N	1	
LWD Dist: 0	Clumped		Location: P/S/O:		~	V			V		FSZ	
		loning (a Toyl	ture Fines Gra	Velv	Cobble	/ Bouldo	Pock	Manma	de 🗌	Cr	own Clos	ure
Left Bank: Right Bank:	Shape: S Rip.Veg: C	loping (g Text	ture: Fines	vel 🗸 e: Mature	Cobble e forest		r Rock	Manmad	de			
Length (km): 1.14												
Left Bank: Right Bank: Left Bank:	Shape: S Rip.Veg: C Rip.Veg:	loping (g Textoniferous	ture: Fines Gra Stage Stage	e: Mature e: Mature Tota	Cobble e forest e forest	✓ Boulde	Rock	Manmad	de ☐ ✓ Algae	Moss	☐ Vasc	cular [

Tochcha Lake Planning Area

Reach # ILP Map # ILP#

Site

093K.082

2308 23 30 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 Local Name: Gazetted Name: NID Map #: 093K.082 NID #: 40023 3.0 Site #: 23 ILP#: 2308 Reach #: ILP Map#: 093K.082 Field UTM (Z.E.N): 10.322975.6085617 Method: GPU Site Lg: 800 Method: MAP Access: V2 Ref. Name: GIS UTM (Z.E.N): 10.323027.6085478 Fish Crd?: Incomplete: Date: 2002/08/29 Time: 09:20 Agency: C172 Crew: SG/JD CHANNEL Gadient % Mtd width width width width width width width width width Avg Avg Mtd width 3.50 2.90 3.30 2.40 2.50 3.10 2.80 Method I: 3.0 4.0 C Channel Width (m): MS 2.60 3.0 C Wetted Width (m): MS 1.20 1.00 1.30 1.00 0.80 1.60 1.15 Method II: 4.0 0.40 0.20 0.30 0.40 0.30 0.32 Pool Depth (m): MS 0.30 No Vis.Ch.: Intermittent: Tribs.: Wb Depth: .6 .6 Avg: 0.63 Method: MS Stage: L V M H Dw: COVER Total: A CROWN CLOSURE SWD LWD В DP OV IV Type: N 21-40% S D Amount Loc: P/S/O: INSTREAM VEG: N A M V DIST: C LWD: A LB SHP: S Texture: F G C C B R A Texture: F G C C B R A RIP: C RIP: C STG: MF STG: MF WATER Req #: EMS: Method: T4 Method: S3 Temp: 7 Method: P2 pH: 7.8 Method: GE Turb.: T M L C Flood Signs: Rafted debris Method: GE MORPHOLOGY 01 **B1 B2 B3** D1 D2 Dominant: G Subdom: C Bed Material: D95: 30.0 D (cm): 15.00 Morph: RP DISTURBANCE **INDICATORS** SI **S4 S5** C2 C3 C5 S2 **S**3 C1 C4 Pattern: SI Islands: N Coupling: CO Confinement: CO MID BR SPAN SIDE DIAG Bars: FSZ: HABITAT QUALITY Comments Name OverWinter Habitat None observed. Moderate - suitable gravels are abundant. Spawning Habitat Rearing Habitat Moderate - LWD abundant pools of moderate depth, high habitat complexity. PHOTOS Comments Photo Foc Lg Dir Upstream photo of LWD. U 04 STD

Downstream photo of riffle habitat.

STD

3 F 05 D

Tochcha Lake Planning Area

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

	COMMENTS
Section	Comments
CHANNEL	\$3*
CHANNEL	No barriers to upstream fish migration were located - stream walked downstream to lower crossing.

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

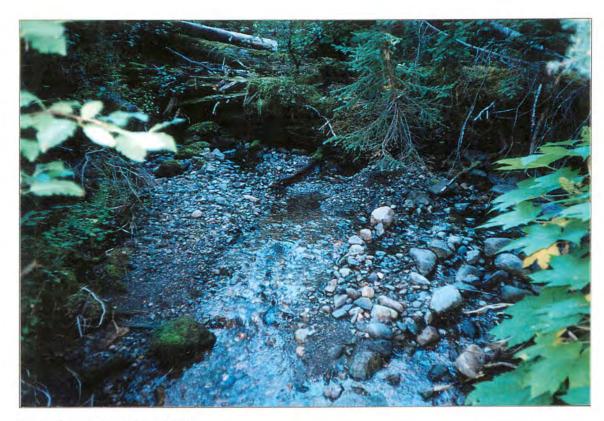
Watershed Code:

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

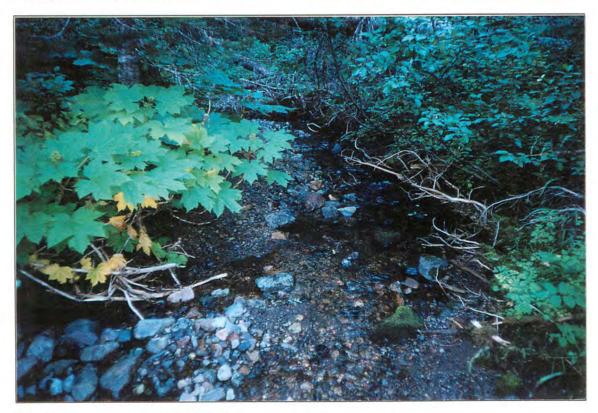
3.0

093K.082

	West of the							WA	TEF	RBOD	Y ₀					# 1882
	S. 12. 17. 17.	Code:					0-0000-000-0				Loc	al:				
W	/aterbo	dy ID: ect ID:	5271		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			ILP	Мар #:	093K.0	82 Lake/St	ream:	ILP#:	555	Reach #: 3 rom Date:	3 -
F	ish Pe	mit#:	14	5269	Da	ate: 2	002/08/29	T	o: 200	2/08/29	Ag	ency:	C172	Crew: SG/JI	D Resar	mple:
· 37	() - i	1 1 1		Tiple 1		X		SITE	1 1	METH	OD.		11/2		Prince of the	177
Site#	NID	Map	NID	#	UTM:Zone	/East/	North/Mthd	MT	D/NO]	Temp	Cond	Tur	oid	C	Comment	
23	200 - 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					T	GPI	J EF	1	7	80	C				
- W S				1			Α.	GE/	AR	SETT	INGS		的活性原	New State		16
Site#	MTE	/NO	H/P	Date	In Tir	ne In	Date Out	Time	e Out	100			C	omment		1/1
23	EF	1	1	2002/08	3/29 0	9:20	2002/08/29	10):20							
100		A SECT	·特·第	Neg Year	C	EL	ECTRO	FIS	HEF	SPI	CIFI	CA	TIONS			
Site#	I	/TD/N	0	H/P	End	1	Sec	Length	1	Width	Vol	tage	Frequency	Pulse	Make	Mode
23	EF		1	1	0		936	800.0		1.2	6	00	60	6	SMITH ROOT	12B
- 53		Ņį.					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ISH	SU	MMA	RY			well like		7
Site#	1	ITD/N	0	H/P	Species	S	stage A	ge	Total	# Lg	th (Min/M	ax)	FishAct		Comment	
23	EF		1	1	NFC			-	0							



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

1.0

093K.091

1,40k pt	e ha ' alle	FN With See	STR	EAMF	REFE	REN	CING			4 7 1
Gazetted Na	me:					L	ocal Name:			
Watershed C	ode: 000-00	0000-00000-00	000-0000-0000-00	00-000-000	-000-00	0-000	ILP	Map #: 093K	.091 IL	P#: 1966
1 115-1-	F 220	Fr = - (5)		R	EAC	н	All Control	2000		
	W					PANTS.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12 F. F. L	
Reach #: 1	Tay 2		UTM(Zone/East/N				2		Sample Type:	Biased
Length (km) Gradient (%)			oupling: Decoupled			itude:	2		BGC Zone:	
US Elev (m)			nement: Occasion:	ally Conf		Order: 2	etation: Mixed	t C/D	Open water: Ab	sent
Bars: None	11.00			1 [_					
Bars: None	V Side	_ Diagonal	Mid-channel _	Span	SITE	id 📋	Landuse: Not	Specified		
					SIIE	-			to the second	
Site #: Site Length			M 10.317328.6088 M 10.317304.6088				y: C172 y Name: Tritor		SG/JD Date: ntal Consultants (1	2002/08/29 Ferrace)
14 11 11	W The	1, 2		CH	ANN	EL	-576, 17	17 A	Cy 15 1/2	
No Vis.Ch.:	Intermit	ttent:		Avg	Min	Max	#		Avg Min	Max #
Dewatered:	Ti	ribs.:	Channel Width (m):	1.03	0.800	1.200	6	Gradient '	%: 2.50 2	3 4
Stage: Low	V		Wetted Width (m):		0.600	0.800		Pool Depth (n	n): 0.15 0.100	0.200 6
Med		Е	Bankfull Depth (m):	0.43	0.4	0.5	3	Tu	rbidity.: Turbid	Low
High		emp (C): 10	pH: 7.8		Co	nductivity	y: 70		Moderate	Clear
BI STORE	- 36-	34000	10 2 - 10	MORE	HOL	OGY		STATE		
Bed Material:	Dominant	Gravels	D95 (cm): 30	.00	Ва	ars: Non	✓ Side	Diagonal	Mid-channe	Span
8	Subdominant	Cobble	D (cm): 5.	00						Braid
Channel Pa	ttem: Sinuou	s	Islands: No	ne D	ISTURE	BANCE	O1 B1	B2 B3	D1 D2 I	03
Coup	pling: Decoup	oled			INDICA	TORS				
Confiner	ment: Occasi	onally Confine		- 29	C1 C	2 C3	C4 C5	S1 S	2 S3 S4	S5
Morpho	logy: RP	Riffle Pool								
17.70	18:	1000	1,201000	C	OVE	R	Upwij.			and the
Total Cover:	Abundant		Type:	SWD	LWD	В	U	DP	OV IV	
LWD: F	Eeu.		Amount:	T	S	T	D	N	T N	
	Evenly Distrib	outed	Location: P/S/O:		V	V				FSZ:
Right Bank:	Shape: O	verhanoi Text	ture: Fines V Gra	avel C	obble	Boulde	r Rock	Manmade	C	rown Closure
Left Bank:		verhangi Text			obble	Boulde		Manmade	= 0	21-40%
Right Bank:	Rip.Veg: N		(2)	e: Mature f					_	
Left Bank:	Rip.Veg:			e: Mature f			Instream Veg	g: None 🗸	Algae Moss	Vascular
UTTO CO	- Phys			200	FISH		15 5 7	33		
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Children D.	oltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
24	EF	1	100	133 sec		600	NFC	0	3. 16. 7. 7.	0.5.4.4.000
		1						-	1	

Tochcha Lake Planning Area

Reach # ILP Map #

1.0

Site

24 093K.091 1966

		PROJECT		
Stream Name (gaz.)	: Babine and Tochcha : SAKENICHE RIVER : 182-819600-63300-40900-0000-	0000-000-000-000-000-0	Project Code:	5271
		WATERSHED		
Gazetted Name:	0000-00000-00000-0000-0000-000	000 000 000 000 000	Local Name:	
ILP Map#: 093K.09			ID#: 40024 Reach#:	1.0 Site #: 24
Field UTM (Z.E.N): 10.3173 GIS UTM (Z.E.N): 10.3173			Site Lg: 100 Method: HC ef. Name:	Access: V2
Date: 2002	/08/29 Time: 11:01	Agency: C172	Crew: SG/JD Fish Crd	?: 🗸 Incomplete: 🗌
		CHANNEL		
Mtd		vidth width width width	width width Avg	Gadient % Mtd Avg
Channel Width (m): MS Wetted Width (m): MS		1.00 1.20 0.80 0.60	1.03 Method I 0.68 Method II	
Pool Depth (m): MS		0.20 0.10	0.15	
Wb Depth: .4	.5 .4 Avg: 0.43	Method: MS Si	No Vis.Cl	n.: Intermittent: Tribs.:
COVER	Total: A			
Type: SWD	LWD B U	DP OV IV	CROWN CLOSURE	
Amount: T	S T D	N T N	2 21-40% INSTREAM VEG: N ✓ A ☐	MOVO
			INSTREAM VEG. IN V A	W. C C.
LWD: F	DIST: E		413.124	
LB SHP: O	G C C B C B C A C	-	RB SHP: O	BUBUAU
RIP: M	G C B R A	1	Texture: F ✓ G ☐ C ☐ RIP: M	
STG: MF			STG: MF	
	V882	WATER	1 79 y 31 - 12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	100
EMS:		WAJIEN	Req#:	
Temp: 10	11	Method: T4	Cond.: 70	Method: S3
pH: 7.8		Method: P2	Turb.: T M L C	Method: GE
Flood Signs: None		Method: GE		
		MORPHOLOGY		
	ominant: G Subdom: C	D.	O1 B1 B2 B3 D1 I	D2 D3
D95: 30.0	D (cm): 5.00 Morph: R	DISTURBANCE INDICATORS		
Pattern: SI Islands: N		MOIONTONO	C1 C2 C3 C4 C5 S	S1 S2 S3 S4 S5
Coupling: DC				4141414141
Confinement: OC		2		
		Rare*	NE SIDEE DIAGE	MIDE SPANE BRE
FSZ:		Bars:		MID SPAN BR
FSZ:		HABITAT QUALI		MID SPAN BR
FSZ: Name		HABITAT QUALI	• • •	MID SPAN BR
FSZ:	None observed. Poor - shallow depths and low flow	HABITAT QUALI		MID SPAN BR
FSZ: Name OverWinter Habitat	None observed.	HABITAT QUALI C		MID SPAN BR
Name OverWinter Habitat Spawning Habitat Rearing Habitat	None observed. Poor - shallow depths and low flow Poor - shallow pools, low flows.	HABITAT QUALI	comments	MID SPAN BR
Name OverWinter Habitat Spawning Habitat	None observed. Poor - shallow depths and low flow Poor - shallow pools, low flows.	HABITAT QUALI C	comments	MID SPAN BR

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

1.0

093K.091

1966

	COMMENTS
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

1.0

093K.091

		- 107			114		WA	TER	BOD	Y			7/4	主主教	
Gaz	zetted Nam	e:				Jan and				Loc	al:				
F						00-0000-000-00									
			-0000000)-00000-	-00000-000	00-0000-000-0									
V	Project I		1				ILP	мар #:	093K.0	Lake/St	ream:	ILP#:	1966 I Lake Fro	1	(4)
F	ish Permit	#: 1	45269		Date: 2	2002/08/29	To	o: 200	2/08/29	Age	ency:	C172	Crew: SG/JD	Resar	mple:
			/Z = 10				SITE	1 M	ETH	O D	W.		1 1 421		
Site# NID Map NID # UTM:Zone/East/North/Mthd								D/NO	Temp	Cond	Turt	bid	Co	omment	
24	093K.09	1 40	024		100	GP	U EF	1	10	70	C				
						Α.	GEA	AR S	ETT	INGS			Own Times	With the state of	- Children
Site#	MTD/NC	H/P	Da	te In	Time In	Date Out	Time	e Out				Co	omment	- N- in -	114-45
24	EF 1	1	2002	/08/29	10:45	2002/08/29	11	:15							
1000	100 A 3	2			C. E	LECTRO	FIS	HER	SPI	CIFI	CA	TIONS			
Site#	MTD	/NO	H/	P	Encl	Sec	Length		Width	Vol	tage	Frequency	Pulse	Make	Mode
24	24 EF 1 1 0 133								8.0	60	00	60	6	SMITH	12B
. 3.	3 10		31/1/16	-			ISH	SU	MMA	RY	3	The state			30.44
Site#	MTD	NO.	H/P	Spe	ecies S	Stage A	ge	Total	# Lg	th (Min/M	ax)	FishAct		Comment	
24	EF	1	1 1	NF	C			0	1						



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093K.091

The state of the s	J. 18	Total Man	STR	EAM	REF	EREN	CING	NICE OF	而进了			
Gazetted Na	me:					L	ocal Name:					
Watershed C	ode: 000-00	0000-00000-00	000-0000-0000-00	0-000-00	0-000-0	000-000	ILF	Map #: 093K.0	ILP	ILP#: 196		
		1, -1, -1	TWO IS THE	*	REAG	CH	STATE OF THE		- IST	23		
Reach #: 2.	0	i i	JTM(Zone/East/N	orth): 10	318235	6.6088758		V - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	Sample Ty	ne:	Biase	d
Length (km):	.81		upling: Coupled			nitude:	1		BGC Zo			
Gradient (%):	19.6	Confin	ement: Frequently	Confin		Order: 1	ili and	C	pen water	: Abser	nt	
US Elev (m):	1042	Į:	slands: NONE		Rip	arian Veg	etation: Con	iferous				
Bars: None	✓ Side	Diagonal	Mid-channel	Span	☐ Br	aid 🗌	Landuse: N	ot Specified				
To the state of th	A SHOW THE				SIT	E rror	A PARTY I	- S. (1997) 161				2"
Site #:	25	Field UTM	1			Agency	y: C172	Crew: SG	JD D	ate: 2	002/08/	/29
Site Length	(m): 100	GIS UT	M 10.318086.6088	424		Agenc	y Name: Trito	on Environmenta	l Consultar	its (Ten	race)	
			· ,图 · 。例	CI	HANI	NEL	1.00	3134	130 E	7-11		- 16
No Vis.Ch.:	Intermit	tent: 🗸		Avg	Min	Max	#		Avg N	/lin	Max	#
Dewatered:	Tr	ibs.: C	hannel Width (m):	1.43	1.200	1.600	6	Gradient %:	23.00	16	32	4
Stage: Low	/		Wetted Width (m):	0.20	0	0.300	3	Pool Depth (m):	0.08 0	.050	0.100	3
Med		В	ankfull Depth (m):	0.37	0.3	0.4	3	Turbi	dity.: Tu	rbid] [Low
High		emp (C): 8	pH: 7.6		C	onductivity	y: 70		Mode	rate	C	lear 🗸
		2 10 10		MOR	PHO	LOGY				300		
Bed Material:	Dominant:	Cobble	D95 (cm): 40.	00	E	Bars: Non	✓ Side	Diagonal [Mid-cha	annel	Sp	an 🗌
S	ubdominant:	Boulders	D (cm): 15.	00							Bra	aid 🗌
Channel Pat	tern: Sinuou	s	Islands: Nor	ie l		RBANCE	O1 B1	B2 B3	D1 D2	D3		
	ling: Couple				INDIC	ATORS						
	nent: Confine			-	C1	C2 C3	C4 C	5 S1 S2	S3 S	34 S	35	
Morpho	logy: CP	Cascade Pool										
1-100	Control of the State of the Sta		muli y to to	C	OVE	R	(F 50, 98)	-198 VIVII	= 10171	100		N.F
Total Cover: A	bundant		Type:	SWD	LWD	В	U	DP C	V			
LWD: A	bundant		Amount:	T	D	T	S	N S	5 1			
LWD Dist: 0	Clumped		Location: P/S/O:								FSZ	: 🗌
Right Bank:	Shape: O	verhangi Text	ure: Fines 🗸 Gra	vel C	Cobble	Boulde	Rock	Manmade		Crow	n Close	ure
Left Bank:	Shape: O	verhangi Text	ure: Fines 🗸 Gra	vel C	Cobble	Boulde	Rock	Manmade			21-40)%
Right Bank:	Rip.Veg: C	oniferous	Stage	: Mature	forest							
	D:- 1/		Stage	e: Mature	forest		Instream Ve	eg: None 🗸 A	lgae 🗌 M	loss	Vasc	ular
Left Bank:	Rip.Veg:											
Left Bank:	Rip.veg:	(h)		1164	FISH	1	2000				100	1
Left Bank:	Capture Method	Number of Events	Length fished (m)	Total Time		l Voltage	Species	Total Fish	Minimun Length (m	100	Maxin Length	

Tochcha Lake Planning Area

	Though	1 Th. 1	10/10				PR	OJE	CT				THE ST			3/10	he see	100	
Stream Nar	Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Watershed Code: 182-819600-63300-40900-00						000-0000-000-000-000-000-000					Project Code:				5271			
	All the same of the	7)120	= 4	=1-340	P(5)/2	18/18	WAT	ERS	HED		TU:	THE STATE OF	31-105					W	
Gazetted Name Watershed Code ILP Map# Field UTM (Z.E.N) GIS UTM (Z.E.N)	: 000-00 : 093K.0 : : 10.318	091	8424	LP#: 19	966 Method:	NID M	000-000 ap #: 09 Agency:	3K.091	R	IID#: 4	g: 100 e:		ch #; Method		.0	Acces	Site #: 25 ss: V4		
	10. 200	2100123		illie. III	.30			let in		Jiew.	30/30		FISH	Clar	V	10	complete	е	
	11.1			35	J5 - 20	10		ANN	7	324	455							0.0	
C 60 104 104 104 1	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	-		Gadie			Avg	
Channel Width (m):	MS	1.40	1.50	1.30	1.60	1.20	1.60		-	1		1.43			_	32.0		23.00	
Wetted Width (m):	_	0.30				0.00	0.30		1-4			0.20	Meth	od II:	16.0	23.0	С		
Pool Depth (m):	MS	0.10				0.05	0.10					0.08	No V	is.Ch.:	П	Intermi	ttent: 🗸	7	
Wb Depth:	.4	.3	.4	l Avo	g: 0.37	٨	Method:	MS	St	lage: L	V M	пнп	110 4	Dw:	-		ribs.:		
COVER			_	al: A			12.175.21	,,,,,			V			J				4	
						_					Tale Tex	70000							
Type:	-	_	VD	В	U	DP		ov	IV		OWN CL								
Amount:			0	T	S	N	_	S	N	2		1-40%							
Loc: P/S/O:	V				/		V			INS	TREAM	VEG:	NVA	_ v	N .	V 🗌			
RIP	: C	G	<u>ч</u>	<u> </u>	, [] ,						RIP STG	C	G 🗌 (D	K []	^ _		
						1003	W	ATE	R								04		
EMS:										R	eq #:								
Temp:	8					Metho	od: T4			C	ond.: 70					Meth	nod: S3		
pH:							d: P2			7	urb.: T	M		C		Meth	nod: GE		
Flood Signs:	Scoure	d banks				Metho	od: GE							1	di.				
	33/33			SIL	ET-	M	ORF	HOL	OGY		1	577	1000	1		= 30			
Bed Material:		Dominan	+.0		Subdom	. B				01	B1	B2 I	33 D1	D2	D3	1			
	40.0): 15.00		Morph			NOT IT			ПП								
		J (0.11)	,. 10.00		morpi	. 01	t	INDICA	TORS	-				-				60	
Pattern:								INDICA	TORS	C1	C2	C3 (C4 C5	S1	S2	S3	S4	S5	
Islands:																			
Coupling: Confinement:																			
FSZ:									ars:	NV	SIDI		DIAG	М		SPAN	1	BR	
		GINE S	Sheet of	1 7	V	HAE	BITA	TQL	JALI.	TY	113	· 原。//				1	4 5	3 4	
Name					77182			Contractions.	C	commen	ts								
OverWinter Habita		None.																	
Spawning Habita			high gra																
Rearing Habitat		Poor -	high gra	dient ep	hemeral	stream,													
Y TOUR YES	11	7 8 1			1211	13-10	CON	MEN	TS	W. Kro	- The		9318			112	i.	76 5	
Section		1							C	commen	ts								
SITE CARD		No Ph	otos Tak	en.		_			_	-					_				
CHANNEL		Lower	100 m S	4* gradi	ent prev	ents fish	access							_	-			_	

Tochcha Lake Planning Area

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

E PENNEY.	COMMENTS
Section	Comments
CHANNEL	S4/S6

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

2.0

093K.091

	1.0	15	EX.	18			WA	TER	BOD	Y		1	11-11-1		
		182-8								Loc	al:			rom Date:	
W	aterbody ID:		,00000	0000	0000-0000	0-0000-000-		Map #:		91 Lake/St	ream:	ILP#: S	1966 Lake F	Reach #: From Date:	2 -
F	ish Permit #:	14	5269		Date: 20	002/08/29	To	o: 2002	/08/29	Ag	ency:	C172	Crew: JD/S	G Res	ample:
-173		Also in		C - 1	le C	- B	SITE	/ M	ETH	OD -			0.00		i de m
Site#	NID Map	MTD/NO			one/East/l	North/Mthd	MTE	D/NO	Temp	Cond	Turt	oid	(Comment	
25	093K.091	4002	25			GP	U EF	1	8	70	C			Make SMITH ROOT	
5	W. Wat		1			Α.	GEA	AR S	ETT	INGS	W.				
Site#	MTD/NO	H/P	Date	In	Time In	Date Out	Time	e Out				C	omment		
25	EF 1	1	2002/0	3/29	11:35	2002/08/29	11	:55							
	100		1. M	1. 2	C. EL	ECTRO	FIS	HER	SPI	CIFI	CA	TIONS	· Falser		1
Site#	MTD/N	0	H/P	E	Encl	Sec	Length		Width	Vol	tage	Frequency	Pulse	Make SMITH ROOT	Mode
25	EF	1	_1		0	96	100.0		0.5	6	00	60	6	14746.000	12B
	10 July 1			450	100		ISH	SU	MMA	RY					C
Site#	MTD/N	0	H/P	Spec	ies S	tage A	ge	Total #	Lg	th (Min/M	ax)	FishAct		Comment	
25	EF	1	1	NFC				0							

Tochcha Lake Planning Area

Reach # ILP Map # ILP#

1.0 093K.091 1975

STREAM REFERENCING **Gazetted Name:** Local Name: ILP Map #: 093K.091 ILP#: 1975 REACH UTM(Zone/East/North): 10.316622.6090343 Sample Type: Reach #: 1.0 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 Field UTM .. Agency: C172 SG/JD Site #: 26 Crew: Date: 2002/08/29 GIS UTM 10.316287.6090192 Agency Name: Triton Environmental Consultants (Terrace) Site Length (m): 100 CHANNEL Avg Min Max Max # No Vis.Ch.: Intermittent: # Avg Min Channel Width (m): 1.700 Gradient % Tribs.: 1.50 1.3 6 3.00 2 4 Dewatered: Wetted Width (m): 0.00 0 0 0 Pool Depth (m): 0.00 0 Low V Bankfull Depth (m): 0.37 0.3 0.4 3 Low Med Turbidity .: Turbid High Temp (C): pH: Conductivity: Moderate Clear MORPHOLOGY Side Diagonal Span Bed Material: Dominant: Cobble D95 (cm): 20.00 Bars: Non V Mid-channel D (cm): 10.00 Braid Subdominant: Gravels Channel Pattern: Sinuous DISTURBANCE Islands: None **INDICATORS** Coupling: Decoupled Confinement: Occasionally Confine C5 **S1** Morphology: RP Riffle Pool COVER Type: SWD LWD В IV Total Cover: Moderate D N Amount S N LWD: Few Location: P/S/O: ~ 1 FSZ: LWD Dist: Evenly Distributed Shape: Sloping (g Texture: Fines V Gravel Cobble Boulder Rock Manmade Crown Closure Right Bank: Shape: Sloping (g Texture: Fines ✔ Gravel Cobble Boulder Rock Manmade 1-20% Left Bank: Right Bank: Rip.Veg: Deciduous Stage: Pole-sapling stage Instream Veg: None V Algae Moss Vascular Rip.Veg: Stage: Pole-sapling stage Left Bank: FEATURES NID Map Method Method Photo AirPhoto UTM (Z/E/N) NID Type Hgt Lg 10.316356.6090 093K.091 88015 CV 1.0 GE 20 GE 3 F: 08 #: Comments:

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site 26

1.0 093K.091 1975

	E TOTAL							PR	OJE	CT	B. M.		17.00	10000	105-	-	3 1/3	1
	Proj Stream Na ject Waters	me (gaz	4	ENICHE	RIVER	0900-00	00-0000	-000-000	0-000-00	0-000-0	00	1	Project C	ode:		527	1	
Cres.	THE STATE OF	No. of	in the second			1,00	Tu _0_10	WAT	ERS	HED	1,00	91.						the same
Wate	ershed Code ILP Map# ITM (Z.E.N ITM (Z.E.N	e: 000-00 #: 093K.0):): 10.316	091 6287.609	0192	LP#: 19 M	975 Method:	NID M	ap #: 09	3K.091	R	ID#: 40 Site Lo	0026 g: 100 e:		Metho		Acc		
174 SPESS	Be	itc. 200	2/00/23		1111G. 12.	.02	Section 1					30/10	a terminal	FISI	i Gia?,		incomple	te:
1.28/200		- NA.	T	T	1	1 111				-					STATE OF THE PARTY.	2.09		
Wetter	d Width (m)	MS MS	1.60	1.40	1.50	1.30	1.70	1.50	width	wiath	width	width	1.50 0.00	_	thod I: 2.	0 3.0	С	3.00
	Wh Denth	1 1	1 2	1	1 4	0.27		Jathadi.	110			_ ,	- 0 -			Inter		
			.3			: 0.37	N	vetnoa:	MS	St	age: L	V M	_ н [Dw: _		Tribs.: _	_1
		_		_	В	U	_			IV								
		-	_		T		N		D	N						- W-		
die T	() () () ()		2,42					W	ATE	R		3-3						
ŕ	Temp: pH:		bserved				Metho	od: P2			C	ond.:	М		c			
7 - L	33.5	3.5	U-by a			1333	M	ORP	HOL	OGY	To Ben-	70					22	
	D95: Pattern: Islands: Coupling: onfinement:	20.0 SI N DC							INDICA.	TORS	01 C1	B1 C2 SIDI	C3 (C4 C5	5 S1			S5
1, 200			273	1.7	1	We s	. 7 3	FEA	TUR	ES		379					753	1
NID Map	NID :	Туре	Hgt	Method	L	g N	lethod	2000	ALL CAPP			AirPi	noto	Street,	UTN	/ (Z/E/N)		Method
93K.091	88015		1.0	GE			GE			08 L			#:					GIS
Comment	Method: Site Lg: 100																	
- 47	Normal	ala or equipo			100	1 (1) 2 (1)	ηAI	5 I I A	. 41		95.		(Albinos - I					
OverV		at	None	_						C	omment	IS						
			None -						spawning].								
Rea	ring Habitat	-	Poor -	epheme	ral strea	m, no re	sidual po	ools.										

Tochcha Lake Planning Area

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

	Ph	noto		Foc Lg	Dir	Comments
R:	3	F:	08	STD	U	Wooden box culvert.
R:	3	F:	09	STD	U	Upstream photo of a dry channel.
R:	3	F:	10	STD	D	Downstream photo of representative habitat.
		100				COMMENTS
		Sec	tion			Comments
		CHAI	NNEL	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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0 093K.091

					10 3 V.	NASC -	EQUIPMENT OF	T. Control	- Lowell -				
Gazetted N								ocal Nam	e:				
Watershed	Code: 00	0-000000-0	0000-00000-0000)-0000-000	-000-00	00-000-	000-000		ILP Map #: 093K.09	1	IL	P#:	1979
L. C.			re tower to	#W 100 1		REA	CH					Maria	
Reach #: Length (km Gradient (% US Elev (m Bars: None): 1.77): 6.8): 1020	e 🔲 Diaç	Coupling: I Confinement: I Islands: I	Frequently		Ma Rij	gnitude: Order:	4 2 getation: C	0		Type: Zone: ter: Abs		ed
7 5	E-114 - 2	- Cathly			3750	SIT	E ()	1353					3.33
Site #			Field UTM GIS UTM 10.315	790.60929	59			cy: C172 cy Name: T	Crew: JD/ riton Environmenta	2.45		2002/0 errace)	8/29
	All all sell		+ 10-3-2		C	HAN	NEL	- N 17	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -				1
No Vis.Ch.	Inte	ermittent:	/		Avg	Min	Max	#		Avg	Min	Max	#
Dewatered		Tribs.:	Channel V	Vidth (m):	1.77	1.5	2.200	6	Gradient %:	4.00	3	5	4
Stage: Low	~		Wetted V		0.00	0	0	0	Pool Depth (m):	0.00	0	0	0
Med			Bankfull D	epth (m):	0.60	0.4	8.0	3	Turbi	dity.:	Turbid		Low
High		Temp (C	C):	pH:		(Conductivi	ty:	, dist	- 1	oderate	j ,	Clear
	700			Vi	MOR	PHC	LOG	(n el e	- 4	
Bed Materia		nant: Grave	200	(cm): 20.0 (cm): 15.0	00		Bars: Nor		le Diagonal	Mid-	channel	-	pan 🔲
Channel B	attern: Sir	nuous	Isl	lands: None	9		RBANCE	01 E	1 B2 B3	D1	D2 D	3	
Confine	upling: De ement: Oc ology: R	casionally (1	C1	C2 C	3 C4	C5 S1 S2	S3	S4	S5	
Confine	ement: Oc	casionally (C2 C	3 C4	C5 S1 S2	\$3	S4	S5	1100
Confine Morph	ement: Oc ology: R	ccasionally (Type:		OV	C2 C					S5	- 1/2 -
Confine Morph Total Covers	Abundan	ccasionally (P Riffle	Pool	Amount:	SWD		C2 C	3 C4	C5 S1 S2 DP O N S	v	S4		7; □
Confine Morph Total Cover:	Abundan Abundan Clumped Shap Rip.Ve	ccasionally (PP Riffle	Location: Texture: Fine	Amount: : P/S/O: Graves Grave Stage:	SWD T	LWI D Cobble Cobble forest	C2 C ER D B N Bould	U S	DP ON S	v	IV N	FS. own Clo	sure
Total Cover: LWD Dist Right Bank: Left Bank: Right Bank:	Abundan Abundan Clumped Shap Rip.Ve	ccasionally (PP Riffle	Location: Texture: Fine	Amount: : P/S/O: Graves Grave Stage:	SWD T	LWE D Cobble Cobble forest	C2 C ER D B N Bould	U S er Rocer Rocer Instream	DP O N S Manmade Manmade	v	IV N	FS. own Clo	sure 40%
Total Cover: LWD Dist Right Bank: Left Bank: Right Bank:	Abundan Abundan Clumped Shap Rip.Ve	ccasionally (PP Riffle	Location: Texture: Fine	Amount: : P/S/O: Graves Grave Stage:	SWD T	LWE D Cobble Cobble of forest	ER Bould Bould	U S er Rocer	DP O N S Manmade Manmade	V S	IV N	FS. Down Clo 21- Vas	sure 40%

Tochcha Lake Planning Area

		1					PR	OJE	CT	#10 17 a		17/17	177		100			. Y
Stream Nar	ne (gaz.)	: SAK	ENICHE	RIVER	0900-000	00-0000	-000-000	0-000-00	0-000-00	00	F	roject C	ode:			5271		
	115	(a)			11	30	WAT	ERS	HED							Acce Ir Gadient % 3.0 4.0 5.0 4.0 Intermi	750	
Watershed Code ILP Map# Field UTM (Z.E.N) GIS UTM (Z.E.N)	: 000-000 : 093K.0 : : 10.315	91 790.609	2959	LP#: 19 M	079 Method:	NID M	ap #: 09	3K.091	R	ID#: 40 Site Lg ef. Name	0027 g: 100		Method	: HC	0	Acces	ss: V2	
			2003	7505 87	No.		СН	ANN	EL					7			N/WE	X (X - W)
	Note Note		Avg															
Channel Width (m): Wetted Width (m): Pool Depth (m):	MS MS	1					_	muut		THOUS		1.77 0.00	Meth	od II:	5.0	4.0	C	4.00
Wb Depth:	.4	.8	.6] Avo	: 0.60		Method:	MS	St	age: L	✓ M	HI					-	j
COVER		=0	Tota	100									_					
Type:	SWD	LV	/D	В	U	DF		ov I	IV	CRO	OWN CL	OSURE						
	_			N	S	N		S	N	2	2	1-40%						
Loc: P/S/O:	V	V			V					INS	TREAM	VEG:	N V A		1 - I	/ 🔲		
RIP	Careted Name: Local Name: Valenthed Code: 000-0000-0000-000-000-000-000-000-000-																	
FMC	Project Watershed Code: 182-818600-63300-40900-0000-000-000-000-000-000-000-00																	
Temp: pH:		debris				Metho	od: P2			Co	ond.:	□ м	_ L _	c				
	3.37			3.3	100	N	ORF	HOL	OGY	MY E	170.30	- J-1	AND A	7 - 3	17.2	-0		
D95: Pattern: Islands: Coupling: Confinement:	20.0 SI N DC OC						C	INDICA	TORS	C1	C2	C3 (C4 C5	S1	S2	s:		\$5 BR
		Taley.	100			1000	FF	THE	FS	- 10 (16)	Re Vi	Yes yes	16-	. 33		i		1,33
NID Map NID	Type I	Hot I	Metho	d I ı	a I N	Method		A SELVEN	1		AirP	hoto		-	JTM (7/	E/N)	T	Method
		_		_	-		R: 3		11 1		-301							GIS
	culvert.	2					450											
		1 3		1X.4		HA	BITA	T QL	JALI	TY	-	1		7			= 11	
Name	Project Watershed Code: 182-8 16600-63300-40900-0000-0000-000-000-000-000-000-0																	
OverWinter Habit	at																	
				-2														
Rearing Habitat		Poor -	ephemo	eral strea	am with I	no residu	ual pools	3.										

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

2.0

093K.091

77	
~ "	
21	

				TYPE OF A		PHOTOS
	Ph	ioto		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
		Sec	tion			Comments
	d	SITE	CARD	No barriers t	o fish migration v	vere identified.
		CHAI	NNEL	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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0 093K.091 1989

	-"	133		and pelin	SIR	EAM	REF	ERE	NCIN	G		450	50.13		
Gazetted Na	200	00-000	000-0000	0-00000-0000	-0000-0	00-000-0	00-000	000.000	Local N		Map #: 093K.	001		P#:	1989
		00 000	- 1000		0000-00		REA		W 10742	ILI	map #. USSK.	.091	11.	.P #:	1969
9.5	6 <u>.</u>		1000			â.	KLA	C II		n	17. 3 E			1 to	F
Reach #: 3 Length (km) Gradient (%) US Elev (m) Bars: None): 1.01): 3.6): 980	de 🔲	Co	UTM(Zone Coupling: D nfinement: O Islands: N	ecouple ccasion ONE	d	Ma Rij	3.609576 gnitude: Order: parian Ve	3 2 egetatio		erous t Specified	Sample BGC Open wat	Zone:		sed
				A Mari	1 % 50	A 1511	SIT	E		19435	E 100 MM	581		778	1000
Site #		0		UTM UTM 10.3159	22.6095	5700			ncy: C1		Crew: S	G/JD tal Consult	23,444	2002/0 errace)	
		1,25/	Was 15 15	- 1 A -		C	HAN	NEL	E-2001		110 Th. 3	W = 7		v = "	
No Vis.Ch.: Dewatered: Stage: Low Med		termitte Trib	os.:	Channel W Wetted W Bankfull De	idth (m): pth (m):	1.10	Min 1.4 0.9 0.6	Max 2.3 1.3 0.7	# 6 6 3	F	Gradient % Pool Depth (m		Min 1 0.200 Turbid	Max 3 0.400	Low
High		Te	mp (C): 12	pl	H: 7.8			Conductiv				Mo	oderate		Clear 🗸
w-111.					THE ST	MOR	PHC	LOG	Υ ,			£2.	and the same		- 5)
Bed Material Channel Pa	Subdom			D(cm): 30 cm): 10 nds: No	.00	DISTU	Bars: No		Side B1	Diagonal B2 B3		channel		Span Braid
Confine	pling: D ment: O ology: I	ccasion	ed nally Confi Riffle Pool	ne		[C1	C2 (23 C	4 C5	S1 S2	2 S3	S4	\$5	
			April 18 Miles				OV	ER		the second	32	9-7-1	4	FFE	
Total Cover: LWD: LWD Dist:	Few		ited [Ar Location:	Type: mount: P/S/O:	SWD T	S			U D	DP T	ov s	N N	FS	z: 🗌
Right Bank: Left Bank: Right Bank: Left Bank:	Sha	pe: Ove		exture: Fines exture: Fines	✓ Gra Stag	-		Bould	der	Rock Rock Rock Rock Rock	Manmade Manmade	Algae	Moss		osure 20% scular \Box
		17	73. A. 173		Nr W	可	F	EATL	IRES	#.		17/00	W.		
NID Map	NID	Туре	Hgt	Method	Lg	Metho	od	Pho	to		AirPh	oto	T	UT	M (Z/E/N)
	88017	CV	1.0	GE	24	GE	R:	3 F	: 16	L:		#:			837.6095
Comments	Perche	ed culve	ert.												
VE -11		71		N. DOW	金罗	可以有益 () 10 10 10 10	FIS	H	THE IN	1 4	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	37, 1/2	To a many		
Site Number	Capt Meth	bor	Number Events			Tota Time		Voltage	Sp	ecies	Total Fish	Minimo Length (imum th (mm)
28	E	F	1	100	0	106 se	ec	600	1	RB	15	80			150

Tochcha Lake Planning Area

111/2					1	"= - J	1183 E	FR	UJE				N. WEIGH		y 24				-
Pro	Proje Stream Na ject Watersl	me (gaz.): SAK		RIVER		00-0000	-000-000	0-000-00	0-000-00	00	P	roject C	ode:			5271		
- C 19/5		1			7			WAT	ERS	HED	11.7						1 L W	Ā	
Gaz	zetted Name):									Loc	al Name	e:						
Wate	ershed Code	e: 000-00	0000-00	0000-0000	00-000	0-0000-0	00-000-0	000-000	-000-000)									
	ILP Map#	#: 093K.0	91	1	LP #: 1	989	NID M	ap #: 09	3K.091	N	ID#: 40	028	Read	ch #:	3.0	0	Sit	te #: 28	3
Field U	JTM (Z.E.N):				Method:					Site Lg	g: 100		Metho	d: HC		Access:	: V2	
GIS U	JTM (Z.E.N): 10.315	922.609	5700						R	ef. Name	2							
	Da	te: 200	2/08/29		Time: 13	:30		Agency:	C172		Crew: S	SG/JD		Fish	h Crd?:	V	Incr	omplete	e. 🔲
50 112		nc. 200	2700720		inio. 10		14-	100	ANN		JICH. C	30,00	(3) (1) Ve = 3	110	TOTAL.		IIIO	mpioto.	•. [_]
		Mid	width	width	Luddth	width	width	width	width	width	width	width	Ava			Gadien	+ 9/ 1	Mtd	Avg
Channe	el Width (m)	Mtd MS	1.80	1.60	width 1.70	1.80	1.40	2.30	width	width	Width	width	Avg 1.77	Me	thod I:		3.0	С	2.00
	d Width (m):		1.20	1.10	0.90	1.30	1.10	1.00					1.10	_		_	1.0	C	2.00
	Depth (m)		0.30	0.20	0.20	0.40	0.30	0.20			7 3	r = 1	0.27	_					
7					7 6			A 690 ii	200			5 6	1000		Vis.Ch.:		ntermitte	-	
	Wb Depth:	.6	.7	.6	Av	g: 0.63	1	Method:	MS	St	tage: L	✓ M] H [Dw:		Trib	is.:	1
	COVER			Tota	al: A														
	Туре	SWE	L	MD	В	U	DF	9	ov	IV	CRO	OWN CL							
	Amount			S	T	D	T		S	N	-		-20%						
	Loc: P/S/O	V	~			V	V	V			INS	TREAM	VEG:	NV	A M	I U V			
	STG	P: C B: MF										STG:							
1	30 /4		- 4					W	ATE	R	45 /	\$000 m							
	EMS											eq #:					Name of	51 Jan	
	Temp							od: T4			Co	ond.: 70					Method	d: S3	
	pH Flood Signs	: 7.8 : Poffed	dobrie					od: P2 od: GE			T	urb.: T	M	O L	C	•	Method	d: GE	
	r lood olgilo	. ranca	debilo	MANUAL SERVICE	- 117	- T	7.15	20003				rise and			-		-	9.80	
		- 1						ORI	HOL	OGY			The same				E. J. J. S.		
Е	Bed Material	: 1	Dominar			Subdon					01	B1		B3 D	-	_	-		
	D95	: 30.0	D (cm	1): 10.00		Morph	h: RP		DISTURE	BANCE					Ш				
	Pattern	:SI							INDICA	TORS	C1	C2	C3 (C4 C	5 S1	S2	S3	S4	S5
	Islands																		
	Coupling																		
C	Confinement								В	ars:	NV	SIDE		DIAG	MI	D	SPAN		BR
	FSZ										•					1-1		-0	
1		- EWA	Parte.				119/19	FEA	TUR	ES		296.00	5. T.	2011		8.5	(1)		23
NID Map	NID	Туре	Hgt	Metho	d	Lg N	Method		Photo			AirPl	noto		U	TM (Z/E	E/N)	N	Method
093K.091		CV	1.0	GE		24	GE	R: 3	F:	16			#:		10.31	15837.6	095695	1	GIS
Commer	nts: Perched	culvert.																	
15 76	2	1-4	Call		-		HA	BITA	TQI	JALI	TY	11/200	100					dia	
	Name		1							(Commen	ts							
	Winter Habi		-	- some re	_													- 100	
	wning Habita			- substra		The factor of			adat-	donth									
Rea	aring Habita	Į.	Mode	rate - ab	ungant (cover, re	sigual po	ools of m	oderate	depth.									

Tochcha Lake Planning Area

Reach # ILP Map # ILP#

Site

3.0

093K.091

1989

	Photo	0		Foc Lg	Dir	Comments
R: 3		F: 16		STD	U	Perched Culverts.
			Met and a			COMMENTS
		Section				Comments
	C	HANNE	L	RB captured.		
	CI	HANNE	L	S3		

Tochcha Lake Planning Area

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

Reach # ILP Map #

Watershed Code:

3.0

093K.091

ILP# 1989

1		100					Contract of	V	VATE	RBO	DY	120		1	47	W. C.	D Resa Comment Make SMITH ROOT Comment	
	Cazetted Name:	Reach #: 3	1 -															
	Pr	roject ID:	5271								Lake	/Str	eam:	S		Lake Fro	om Date: O Resan omment Make SMITH ROOT Comment	
7	Fish F	Permit #:	14	5269	D	ate: 200	2/08/29)	To: 200	02/08/29	9	Age	ency:	C172	Cr	ew: SG/JD	Resar	nple:
		18.04		(E)	1 - Ala	- A - A	1	SI	TE / I	METI	HOD	7	- 1			30	17-11-5	480 13
Site#	IN	ID Map	NIE	#	UTM:Zone	e/East/No	orth/Mth	nd	MTD/NO	Temp	Cor	nd I	Turt	id	472	Co	D Resample Comment Make SMITH ROOT	
28	09	3K.091	400	28				GPU	EF 1	12	70		С					V . 10.00
	100	* 100		2	1	111	100	1. G	EAR .	SET	TING	S		34100		5 7 11 1		
Site#	М	TD/NO	H/P	Date	In Ti	me In	Date 0	Out T	Time Out	Zamunaga		NAME OF		3011	COLUMN TO SERVICE SERV	THE REAL PROPERTY.		(100,000)
28	E	F 1	1	2002/08	3/29 1	3:30	2002/08	3/29	14:00				_	_	- 400			
	19/65	(A)	017-0	No. of Street, or other Persons	C	. ELI	CT	ROF	ISHE	RSP	ECI	FI	CA:	TION	S	11,50		
Site#	T	MTD/N	10	H/P	En	d	Sec	Le	ngth	Width		Volta	age	Freq	uency	Pulse	D Resar Comment Make SMITH ROOT Comment	Mode
28	E	F	1	1	0		106	10	0.00	1.2		60	00	(60	6		12B
0.000		S1050		- 10, 10	William III	= hr = p	The same of	E I	2 4 21	DA DA	ADV	300	100	- 200	Dispositi		ROOT	97-17-12-12
C:4-#	7	MITOA	10	LUD	I Consider	T OL	-			SEP DO		0.4	Diego.			m		(E115)
	1				200		ge	Age			-	_	-		t		Comment	
20	-		-		KD	3	LNIE	NIVI						K	1000	2000		
ite#	MT	D/NO	H/P	Species	Length	Weight		3350000	CONTRACTOR OF THE	264164		8540	1000	natic	Poll #	TEramo#1	Como	nont.
itoir	IVI.	Dillo	Late	opecies	Lengui	vveignt	Sex	iviat		-	-	"			Non #	riamen	Comi	ient
28	EF	1	1	RB	150		U	U				7			3	15		
28	EF	1	1	RB	135		U	U		212								
28	EF	1.1	1	RB	100		U	U										
28	EF	- 1	_1	RB	105		U	U										
28		1	1	RB	10.		U	U	7 = 7									
28	-			4.4			-	-) L 1				
28		1	1	RB	1 1 1 1 1		U	U		54 E			1					
28	7957						-	7					1	111				
28				I COURT OF THE PARTY OF THE PAR			-	11.50		- 1			-					
28	-			11.54	1.4			diam'r.		0 4	- 1				L			
28			-	100			1	12.5			- 1					J. Tarakin		
28			_															
28	EF	1	1	RB	95		U	U										
28	EF	1	1	RB	85		U	U						-				
28	EF	1 1	- 1 -	RB	100		U	U	PT-17									



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#

2.0 093K.091

	2 1	25	2.45	1 7/10	SIR	EAMR	EFER	CEN	CIN	G	15				
Gazetted N	lame:							L	ocal Na	ame:					
Watershed	Code: 0	00-000	000-00000-0	0000-0000	-0000-00	0-000-000-	000-000-	000		ILP	Map #: 093K.0	91	IL	P#:	1995
		100			10.39	R	ACH		er e in			從	7.17.98	8	
Reach #: Length (kn Gradient (% US Elev (n	n): .58 %): 6.0 n): 995		Conf	Coupling: P finement: O Islands: N	artially C	-	Magnite Or Riparia	ude: der: 2 an Veg	3	: Mixed		Sample BGC Open wa	Zone:		ed
Bars: None	✓ Si	de 🔝	Diagonal	Mid-cha	annel _	Span _			Landu	se: No	t Specified				
Site Site Lengt	#: 29 th (m): 20	0	Field U	TM JTM 10.3162	224.6094				y: C172		Crew: Son Environment	G/JD al Consu		2002/0 errace)	8/29
1.30 m 35 m		- 2		V=V	V-52 399	CH	ANNE	L	3.4.1.				20x	Traces Sulfa	24
No Vis.Ch.	.: 🗌 Ir	termitte	ent:			Avg N	Ain M	ax	#			Avg	Min	Max	#
Dewatered	f:	Trib	os.:	Channel W			1.4 1.7	700	6		Gradient %	: 2.25	1	3	4
Stage: Lov	V			Wetted W				.9	6	F	Pool Depth (m)	0.12	0.100	0.200	6
Me	d 🗌			Bankfull De	epth (m):	0.57	0.5	.6	3		Turt	oidity.:	Turbid		Low
High	h 🗌	Te	mp (C): 9	р	H: 7.6		Cond	luctivit	y: 80			M	loderate		Clear
St. 15%						MORP	HOL	OGY	30/8		120000		1= 84		400
Confin	oupling: P	artially requen	Coupled tly Confined Riffle Pool		ands; Nor	15)	STURBA NDICATO 1 C2		01 B C4	B1 C5	B2 B3 S1 S2	D1 S3	D2 [S4	S5	
	Med of	5 4 10 5	55.		12.70	C	VER	93108				25172		4 62	
Total Cover	: Abunda	ent			Type:	SWD	LWD	В		U	DP 0	ov T	IV	1	
LWD	: Few			A	mount:	T	D	Т	33	S	N	S	N	1	
LWD Dis		Distribu	uted	Location:	P/S/O:			V						FS	Z: 🔲
Right Bank Left Bank Right Bank Left Bank	: Sha :: Rip.\	ape: Ov /eg: Mix		exture: Fines exture: Fines	Stage		bble I	Boulde Boulde	er R	Rock Rock	Manmade Manmade None V	Algae [sure 20% scular
	al .	SUB -1	OVS. CO.	1000 - 10			FEA	TU	RES	4 F- 1	- , \ w	33	1 -	- 10	
NID Map	NID	Туре	-	Method	Lg	Method		Photo			AirPho				M (Z/E/N
093K.091 Comment	88018	CV	1.4	GE	26	GE	R: 3	F:	17	L:		#:		10.316	213.609
Comment	o. wen p	aceu ci	ai vei r				-								
St. F W.		2/11/8		100			ISH	/ IEC			13,000	- Might		5 , 13	1/2
Site Number	Cap Met		Number o Events	f Length (m	79-120-0	Total Time	Volt	tage	Spe	ecies	Total Fish	Minin Length			imum h (mm)
29	C	F	1	20	0	341 sec	60	00	N	FC	0				

Tochcha Lake Planning Area

Reach# II

ILP Map #

ILP#

Site

or to the to	理队的人		1,71		MAN AND E			PF	ROJE	CT			MAC III	74	1-1		HOT S	20 31	15711
	Proje Stream Nar ect Watersh	ne (gaz.): SAK		RIVER		00-0000	-000-00	00-000-00	0-000-0	00	ı	Project C	ode:		1	5271		
5 5 16	50 B 30 B	W. 6		-V	* 1	7 7/12		WAT	ERS	HED	(v) = 1	951-10		13	N,	- 70		15-33	
Water	etted Name rshed Code ILP Map# TM (Z.E.N) TM (Z.E.N)	: 000-00 : 093K.0	91	4	LP#: 19				0-000-000 93K.091	N	IID#: 40	g: 200			2. d: MAP		Access:		
	Da	te: 200	2/08/29	1	Time: 14	:20	- 1	100	r: C172		Crew:	SG/JD		Fish	Crd?:	V	Inco	mplete	× 🗌
3010	750	HE .	X (10.7)	76		15 1		CI	IANN	EL	6-18	1 21	11/4 4	18-V	No.	-16	Denne .		
		Mtd	width	width	width	width	width	width	_	width	width	width	Avg	F		Gadie		_	Avg
	Width (m): Width (m):	MS	0.60	0.80	0.60	0.50	0.80	0.90	_				1.53 0.70		thod I:	1.0	3.0	C	2.25
	Depth (m):	MS	0.10	0.10	0.10	0.20	0.10	0.10	_				0.10	Iwet	nou II.	1.0	3.0	0	
1 00	Copui (iii).		0.10	0.10	0.10	0.20	0.10	1 0.10	_				0.112	No \	vis.Ch.:		Intermitter	nt: 🗌	
	Wb Depth:	.6	.5	.6	Avg	g: 0.57	1	Method	MS	S	tage: L	V M	H		Dw:		Tribs	s.: 🔲	
	COVER			Tota	al: A														
	Type:	SWE	LV	VD	В	U	DF		OV	IV	CR	OWN CL	OSURE						
	Amount	_			T	S	N		S	N	1	1	1-20%						
11/15	Loc: P/S/O	V	V			V	TIPE				INS	TREAM	VEG:	NVA	MI	1 1	V		
	LB SHP Texture RIP STG	: F 🗸			В	R 🗍 /						RB SHP Texture RIP STG	: F 🗸	G	c 🗆	В	R 🗌 A		
- 4/11	700 20		91 1	251			1 -	Y	VATE	R	4 40	250						-2-1	
F	EMS: Temp: pH: flood Signs:	9 7.6					Meth	od: T4 od: P2 od: GE			С	leq #: lond.: 80 Furb.: T	_ M		C		Method		
700			THE		1,14	Trans.	N	OR	PHOL	OGY	(Tax	176	Jm .=		12			FEIT	3
	ed Material: D95: Pattern: Islands: Coupling: onfinement: FSZ:	25.0 SI N PC FC	Dominan D (cm	t: G): 10.00		Subdon			DISTURE INDICA B		01 C1	B1 C2 SID	C3	B3 D1 C4 C5 DIAG	5 S1	II		\$4	S5
- 10	And the	Varia		-	15 /6	V - 101	15.3	FF	ATUR	ES :		=	VI CONTRACTOR	- 1	600		200	E 1	- 33
ID Man	NID I	Tune I	Hot I	Moth	d 1		dothod	No.	Photo		No N	AirP	hoto			TM (Z/	(E/N)	1 14	lethod
ID Map 3K.091		Type	Hgt 1.4	Metho	_	_g 1 26	Method GE	R:		17	L:	AliP	#:				6094822	-	GIS
	ts: well plac				т.	- 1		II	- 1.51		-		1.01					-	
	280 2011	1400	3/12	- 333		121416	HA	BITA	AT QI	JALI	TY	SME	7/5	1975	X=0,=	1		-	
-	Nama	200	hear -		3	1200	3,23	Hold (See		STATE	Commen	te	-			3		-3-	
OverV	Name Vinter Habit	at	None.	_				-	_		Jonnien	na		_		-			
	ning Habita	110	_	ate - spa	awning o	gravels a	re limite	d, flows	are low.										
	ring Habitat					ows, sha					_								

Tochcha Lake Planning Area

ILP Map # Reach # ILP# 2.0 093K.091 1995 Site

	Wa	atersh	ed Code:	000-0000	00-00000-00	0000-0000-0000-0	000-000-000-000-000	2.0	093K.091	1995	29
				10		SE VELLORS	PHOTOS	MENT OF STATE			
	Ph	oto		Foc	Lg	Dir		. (Comments		
R:	3	F:	17	STI		Ü	Photo of well placed culvert				
R:	3	F;	18	STI)	U	Upstream photo of channel	bed.			
R:	3	F:	19	STE		D	Downstream photo of riffle h	nabitat.			
100	SI.				17917	W = 3/4 / 3	COMMENTS			3811	
		Sec	tion					Comments			WX = 12-4-
		CHAI	NNEL	1	Wetland dow	nstream may limi	t upstream fish migration.				
		CHAI	NNEL		S3*						

Tochcha Lake Planning Area

Reach#

ILP Map #

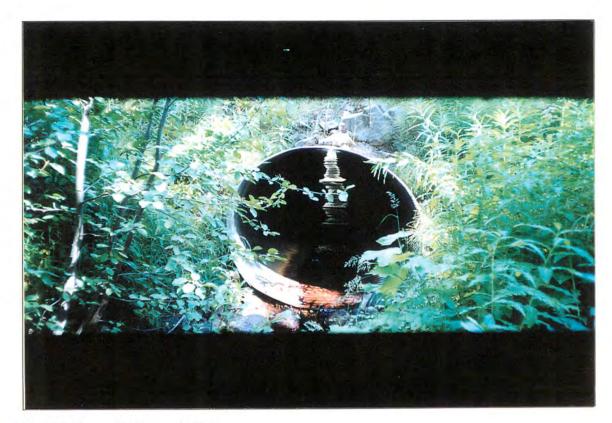
ILP#

Watershed Code:

2.0

093K.091

-015					N/ 5/9			W	ATE	RB	O D	Y	3					
Gaz	ettec	Name	e:									Loca	al:					
F	rojec	t Code	e: 182-	319600-6	63300-4090	0-000	0-0000-000	-000-0	00-000-	000-0)							
	WS	Code	e: 000-	000000-0	0000-0000	0-000	0-0000-000	-000-00	00-000-	000-0	000							
W	atert	ody ID):					ILF	P Map #	: 093	3K.09	1		ILP#:	1995	Read	h#: 2	-
	Pro	ject ID): 5271									Lake/Str	eam:	S	Lak	e From D	ate:	
F	ish P	ermit #	: 14	5269	Da	ite: 20	002/08/29		To: 20	02/08	3/29	Age	ency:	C172	Crew: S	G/JD	Resar	nple:
715	ALC:	- NOV		12 1		N. T.	F. 5318	SIT	E 1	ME	TH	a c		19.27		# 1		
Site#	NII) Мар	NID	#	UTM:Zone	/East/l	North/Mthd	M	TD/NO	Te	mp	Cond	Turk	bid		Comm	ent	
29	093	K.091	400	29			GI	PU EF	F 1	9	9	80	С					
37. 3	4	7.5					A.	GE	AR	SE	TTI	NGS	7.00			10000000000000000000000000000000000000		L
Site#	MT	D/NO	H/P	Date	In Tin	ne In	Date Ou	t Tir	me Out					C	comment			
29	EF	1	1	2002/0	8/29 14	:20	2002/08/2	9 1	14:50		35-							
HE D	, ,	F		CO B	С	EL	ECTR	OFI	SHE	R S	PE	CIFI	CA	TIONS	3016	940 girk	11 - 2 re	
Site#		MTD/	NO	H/P	End		Sec	Leng	gth	Wie	dth	Volt	age	Frequenc	y Puls	se	Make	Mode
29	E		1	1	0		341	200	.0	5 9	1.0	60	00	60	6		SMITH ROOT	12B
Sec. 3	- 13		100	* 3.4	11 - 7 - 3	77.		FIS	H SI	JMI	MAI	RY	16	ne de	15-11-5	7	11-	3/1
Site#		MTD/	NO	H/P	Species	S	tage	Age	Tota	#	Lgth	(Min/M	ax)	FishAct		Cor	nment	
29	E		1	1	NFC					0		500						



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

Tochcha Lake Planning Area

Reach # ILP Map #

IIP#

1.0 093K.091

	Water Vis	STR	EAMRE	FEREN(CING			
Gazetted Name:				Lo	cal Name:			
Watershed Code: 000-0	00000-00000-00	000-0000-0000-000	0-000-000-000	0-000-000	ILP	Map #: 093K	.091 IL	P#: 1993
			RE,	ACH		HOLE SHEET IN		
Reach #: 1.0 Length (km): .84 Gradient (%): 5.2 US Elev (m): 978 Bars: None 🗹 Side	Co Confin	JTM(Zone/East/No upling: Decoupled ement: Occasiona slands: NONE	lly Conf	lagnitude: Order: 2 Riparian Vege	2 etation: Conif Landuse: No		Sample Type: BGC Zone: Open water: Abs	
	The Division	A Company	S I	TE		the transfer		
Site #: 30 Site Length (m): 100	Field UTM GIS UTI	И М 10.315245.60960	050	Agency Agency			JD/SG Date: ntal Consultants (T	2002/08/29 'еггасе)
CAMP - ARE AS		0.00	CHA	NNEL	A Part of the	Shirt Fifty		
Dewatered: ☐ Stage: Low ✓ Med ☐		hannel Width (m): Wetted Width (m): ankfull Depth (m): pH: 7.6	Avg Min 0.97 0.80 0.58 0.40 0.40 0.4	0 1.3 0 0.800	3	Gradient Pool Depth (r		Max # 2 4 0.200 4 Low Clear ✓
, " 9 "	Tomp (o) o	printing	MORPH					
Subdominar Channel Pattern: Sinuo Coupling: Partia Confinement: Occas Morphology: RP	us Ily Coupled	D (cm): 5.0	ne DIST	URBANCE DICATORS [C2 C3	O1 B1 C4 C5	B2 B3 S1 S	D1 D2	Braid D3 S5
CONTRACTOR - TOWN	700 H S 40 S 11 1		CO	/ER			27.25	M 1889 1
Total Cover: Abundant LWD: Few LWD Dist: Evenly Dist	ributed	Type: Amount: Location: P/S/O:		ND B S N	U D	DP N	OV IV S N	FSZ:
Left Bank: Shape:		ture: Fines Gra	ivel Cobb ivel Cobb e: Mature fore e: Mature fore	le Boulde st	Rock	Manmade Manmade Manmade G: None ✓		own Closure 1-20% Vascular
F 3 - 1 - 1/- 1	A 24 SA	3-3-100-		FEATUR	RES			21.000 30
NID Map NID Ty 093K.091 88019 CV Comments: twin culver	/ .6	Method Lg GE 24	Method GE	Photo R: 3 F:	20 L:	AirP	hoto #:	UTM (Z/E/N 10.315245.6095
(g = 1 = 2 g = 1 = 1 = 2			FI	SH	1 5 1 5 N	an series	4 - 13 5	1 1
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		

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

W TO	· //	2	-11/1 00		Terral			PR	OJE	CT	P. In	W s		2 (Sept) - 10 (Sep) - 10 (Sept) - 10 (Sep) - 10 (Sep) - 10 (Sep) - 10 (Se		8 3/8	W 40	in :
	Proje Stream Na ject Watersl	me (gaz	.): SAK		RIVER		00-0000	-000-00	0-000-00	0-000-0	00	- 3	Project C	ode:		52	71	
(Ne	W. Barre			= -	10 to			WAT	ERS	HED	4	13.30	Philips T	all the			See 1	
Wate	etted Name ershed Code ILP Map# TM (Z.E.N	e: 000-00 f: 093K.0	091	1	LP#: 19			000-000 ap #: 09		N	Local ID #: 40 Site Local Edition Site Local Edit	g: 100	e: Read	ch #: Metho	1.0 d: HC		Site #	
	Da	ite: 200	2/08/29	1	Гіте: 14	:58	1	Agency	C172	(Crew:	JD/SG		Fish	Crd?:	~	Incom	plete:
3 8 796	III.	1,23				17-8-3	3.8×3	СН	ANN	EL		27	ñ,		A SE			
0		Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Г	Gadient %	6 Mtc	d Avg
Wetted	el Width (m): d Width (m): I Depth (m):	MS	0.40 0.20	0.80 0.60 0.10	1.30	1.00	0.80 0.50 0.10	0.90 0.80 0.20					0.97 0.58 0.15			2.0 1.0		
	Wb Depth:	.4	.4] Avg	g: 0.40		Method:	MS	S	age: L	✓ M	_ H [/is.Ch.: Dw:	Inte	rmittent: Tribs.:	
-	El Primario	: SWE	110	ND	в	- 11	DF		ov T	IV	1 CD	OWN CI	OSURE					
-	Type	_		S	N	D	N		S	N	1	JVVIA CE						
	Loc: P/S/O					V					-			N J A	МПМ	V	7	
	RIP			c 🗆								RIP STG	: C			B R		
1 0	- (6		and the			3	U=-1//	W	ATE	R G	F 8	-17 - 10 to	F					
F	EMS: Temp: pH: Flood Signs:	9 7.6					Metho	od: T4 od: P2 od: GE			C	eq #: ond.: 60 'urb.: T	□ M [_ L [c 🗸		Method:	
15.00	0 70.3	- 4	. 30			4	- N	ORF	HOL	OGY	700	NA S	16-3	7.5				
	Patterni Islands: Coupling: onfinement:	: 15.0 : SI : N : PC : OC	Dominar D (cm	nt: G n): 5.00		Subdom Morph		ı	DISTURI INDICA B		01 C1	B1 C2 SID	C3 C	33 D1 C4 C5	ПП	D3	S3	S4 S5
	THE LOSS IN		- F 5-4		× 1130-47	BAG.	-1 -V	FFA	TUR	FS	dese.	STATE OF THE	10	5 7 7 8	Save	- 3 7		
NID Map	NID	Туре	Hgt	Metho		151	Method	W.Parr	Photo		Berk	AirP	hoto		117	M (Z/E/N	<u>, </u>	Method
093K.091		CV	.6	GE	_		GE	R: 3		20 I	:1	Air	#:			5245.609	_	GIS
Commen	ts: twin culv	erts poo	r shape.	-														
	77			2.5	E 11	17.00	HA	BITA	TQ	JALI	TY		3 100				V = 1	
	Name									(commen	ts						
	Winter Habit		10000	observed					14-17									
	vning Habita iring Habitat		_	- abundar - shallow					itable gr	aveis.								

Tochcha Lake Planning Area

Reach# ILP Map # ILP # Site 1.0 093K.091 1993 30

	Ph	oto		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.
1						COMMENTS
		Sec	tion			Comments
_		CHAI	NNEL	S4*		

Tochcha Lake Planning Area

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Reach #

ILP Map #

ILP#

Watershed Code:

1.0

093K.091

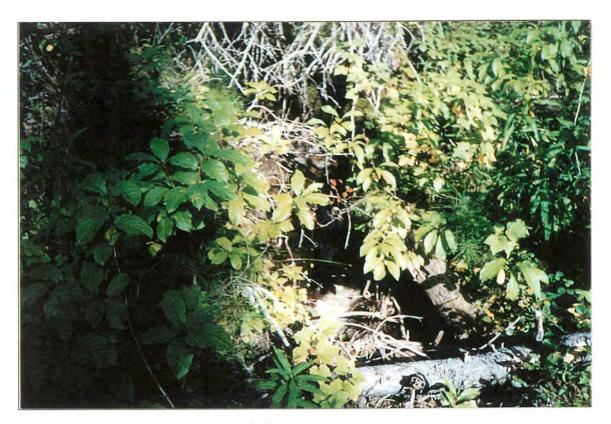
	1		2.5		gi.	ALC: Y	ATO TO			WAT	ERB	OD	Y						Ein.
Gaz	zet	ed Nar	ne:										Loc	al:					
F	Pro	ect Co	de:	182-8	319600-	63300-	-40900-0	000-0000	-000-00	00-000-00	0-000-	0							
	1	NS Co	de:	000-0	000000-	00000-	-00000-0	000-0000	-000-00	00-000-00	0-000-	000							
W	Vate	erbody	ID:							ILP Map	#: 09	3K.09	91		ILP#:	15	993	Reach #:	1 -
	F	Project	ID:	5271									Lake/Str	eam:	S		Lake Fro	om Date:	
F	ish	Permi	#:	14	5269		Date:	2002/08/	29	To:	2002/0	8/29	Age	ency:	C172	Cre	w: JD/SG	Resa	mple:
		= 01			11-		- 21	I WE	S	ITE /	ME	TH	O D	RIV					120
Site#	T	VID Ma	р	NID	#	UTM:	Zone/Ea	st/North/N	lthd	MTD/N	O Te	emp	Cond	Turt	oid		C	omment	
30	0	93K.09	1	4003	30				GPU	EF 1	910	9	60	С					
311							Henry I		Α.	GEAR	SE	TT	NGS			ant.	I NO		V
Site#	T	MTD/N	ा	H/P	Date	e In	Time I	n Date	Out	Time O	ut					Comn	nent		
30	1	EF 1		1	2002/	08/29	14:58	2002	08/29	15:15									
7	FO	,		200	1,000	in 1	C. E	LECT	RO	FISH	ER:	SPE	CIFI	CA	TIONS	3		ATT.	
Site#	T	MTI	D/N	0	H/F)	Encl	Sec	1	ength	W	idth	Vol	age	Frequen	су	Pulse	Make	Mode
30	I	EF		1	1	210	0	106		100.0	-	8.0	60	00	60		6	SMITH	12B
			910															ROOT	
-	Į,		4	wii.	/	3845	1000	24.2	F	ISH 5	U M	MA	RY					No. of the second	
Site#		MT	D/N	0	H/P	Spe	ecies	Stage	Ag	e To	otal #	Lgt	h (Min/M	ax)	FishAct			Comment	
30		EF		1	1	NF	FC			= 700	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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

1.0 093K.091 1990 STREAM REFERENCING

Gazetted Na	me:		ejille exa			200		MONEY SHOW	Local Na	me:			200		
Watershed (Code: 00	00-000	000-0000	-00000-0	000-0000-00	0-000-00	0-000-				Map #: 093K	C.091	- RL	P#:	1990
the s	7/0			- 1	1	16/27	REA	СН	990			- 1/22/1		731	7.5
Length (km) Gradient (%) US Elev (m)	: 2.97 : 3.3 : 1000			Coupling ofinement Island	g: Decoupled at: Occasiona s: NONE	l Illy Conf	Ma	gnitude: Order: parian Ve	4 2 getation			BGC	Zone:	SBS	ed
Bars: None	V Sid	le 📋	Diagonal	Mid	-channel _	Span				se: Not	Specified	WTIP 23 =	2 2		
)			312842.6096	669	311	Agen	y: C172		100000				8/29
	<i>)</i>			12	***** WO	C	HAN	NEL	- 300		0,010	- A	17/1		
Dewatered: Stage: Low Med	V	Trib	os.: 🗌	Wette Bankfu	d Width (m):	Avg 1.55 0.80 0.43	Min 1.3 0.5 0.3	1.8 1.200 0.6	# 6 6 3 ty: 90	P	ool Depth (r	n): 0.20 urbidity.:	Min 1 0.100 Turbid		# 4 6 Low Clear
170-2-391			SE 8-27	- 18	11.00	MOR	PHO	LOG	1	33) (JA)			77.3	00.000
Channel Pa Cou Confine	attern: Si pling: De ment: O	nuous ecouple ccasior	ed nally Confi	ne				CATORS	01 3 C4	B1 C5	B2 B3 S1 S	D1	D2 D S4		raid 🔲
	0 (5	1.1	1	~ E-78		- 0	VO	ER				2000	5.70		
LWD:	Few Evenly I Sha Sha	Distribu pe: Ove pe: Ove	erhangi T erhangi T	exture: F	ines 🗸 Gra	vel (S Cobble	N Bould	er R	S ock	DP N Manmade Manmade			own Clo	sure
Left Bank:	Rip.V	eg:			Stage	e: Mature		CATH		am Veg	: None 🗸	Algae	Moss	Vas	cular 🗌
NID Mag	NID	Time	Liet	Math-	1000年	Luce	TY	174 776	5 50	-	A:-D:		11-15	117	14/7/5/5/
093K.091	88020	CV	.9	GE	24	GE	R:			L:	AIPI	#:			
	I di da	-01110(1 1 1 1 2	21	10.	ver.	-10	11.00	0170	16 75	VIC 10-		. 5 // //-	20124	
Site Number	REACH Reach #: 1.0 UTM(Zone/East/North): 10.313935.6098431 Sample Type: Blased Blaced Length (km): 2.97 Coupling: Decoupled Magnitude: 4 BGC Zone: SBS SBS dBGC Zone: SBS dBGC Z		2007												
31	EF	15.7	1		100	202 se	c	500	R	В	15	48	3		95

Tochcha Lake Planning Area

	Project am Name Watershed	(gaz.)): SAK		RIVER		00-0000	-000-00	0-000-00	0-000-00	00	F	Project (Code:			5271		
			700	17.	- XII	SHI SA		WAT	ERS	HED				5	25.39				
Gazetted	d Name:										Loc	cal Name	e:						
Watershed ILP Field UTM (GIS UTM (P Map#: 0: (Z.E.N):	93K.0	91	ı	LP#: 19			000-000 ap #: 09		N	ID#: 40 Site Lo	g: 100	Rea		ethod; F	1.0 IC		Site #:: ess: V2	31
	Date:	2002	2/08/29	- 3	Time: 15	:30	1	Agency:	C172	C	rew: S	SG/JD			Fish Cr	d?: 🗸] 1	ncomple	ete:
THE ME	7°21	70-5	- 10 F			-21-3	200	CH	ANN	EL	Marina		Physical Company			1000	Frank St.	Mary C.	
		Mtd	width	width	width	width	width	width	width	width	width	width	Avg	1		Gad	lient %	Mtd	Avg
Channel Wid	dth (m):	MS	1.30	1.80	1.60	1.50	1.60	1.50					1.55	1 [Metho	_	2.0	С	1.75
Wetted Wid		MS	0.60	0.80	1.00	0.50	1.20	0.70					0.80		Method	II: 3.0	1.0	С	
Pool Dep	oth (m):	MS	0.10	0.20	0.40	0.20	0.20	0.10		-			0.20						-
	Depth:	.6	.3	.4		g: 0.43	•	Method:	MS	St	age: L	✓ M	Н		No Vis.	Ch.:		rittent:	
	OVER		_	- 23	al: A				300-14										
-		SWD		VD	В	U	DF		ov	IV	1 100	OWN CL							
	P/S/O:	T		S	N	S	N		D	S	1		-20%						
Loc.	F/5/0.		V			V		V		/	INS	TREAM	VEG:	W.	A	_ M _	V		
			0	·	ь	R 🗌 A							-	G	_ c	В	R] A [Į.
	RIP: C STG: M		• []	0	В	K A		w	ATE	R		RIP: STG:	c	G	□ c l	В	R	A [
	RIP: C STG: M		~ []	•	Б	K A		W	ATE	R		RIP: STG:	c	G	c	В	R	A [1
	RIP: C	F			В	K A		W od: T4	ATE	R	Re	RIP:	c	G		В			
	RIP: C STG: M EMS:	F			Б	K A	Metho		ATE	R.	Re	RIP: STG:	C MF				Mei	thod: S	3
	RIP: C STG: M EMS: Temp: 12	F			Б	K A	Metho	od: T4	ATE	R	Re	RIP:	C MF				Mei		3
	EMS: Temp: 12 pH: 7.6	F			D	K A	Metho Metho Metho	od: T4 od: P2 od: GE			Re	RIP: STG:	C MF				Mei	thod: S	3
Flood	EMS: Temp: 12 pH: 7.6 Signs: No	F 6 one					Metho Metho Metho	od: T4 od: P2 od: GE	ATE		Re Cc Ti	RIP: STG:	C MF				Met Met	thod: S	3
Flood	EMS: Temp: 12 pH: 7.6 Signs: No	E Sonne	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	OGY	Re Co	RIP: STG: eq #: ond.: 90 urb.: T	C MF	B3	L [] (Met Met	thod: S	3
Flood Bed Ma	EMS: Temp: 12 pH: 7.6 Signs: No	one D	omínan				Metho Metho Metho	od: T4 od: P2 od: GE	HOL	OGY	Re Co	RIP: STG:	MF M	B3	D1	D2 [Met Met	thod: S	3 E
Flood Bed Ma	EMS: Temp: 12 pH: 7.6 Signs: No	one D	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	OGY	Re Co	RIP: STG: eq #: ond.: 90 urb.: T	MF M	B3	L [] (D2 [Met Met	thod: S	3 E
Flood Bed Ma	EMS: Temp: 12 pH: 7.6 Signs: No	D 5.0	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	OGY	Re Co	RIP: STG:	MF M	B3	D1	D2 [Met Met	thod: S	3 E
Bed Ma	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 16 Pattern: SI slands: N uppling: DO	F S S D D D S 5.0	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	OGY	Re Co	RIP: STG:	MF M	B3	D1	D2 [Met Met	thod: S	3 E
Flood Bed Ma P. Is Cou	EMS: Temp: 12 pH: 7.6 Signs: No	F S S D D D S 5.0	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	PHOL DISTURB INDICAT	OGY	Re Co	RIP: STG:	C MF	B3	D1 C5	D2 [Met Met	thod: S thod: G	3 E
Flood Bed Ma P. Is Cou	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uppling: D0 ement: O0	F S S D D D S 5.0	omínan	t: G		Subdom	Metho Metho Metho	od: T4 od: P2 od: GE	PHOL DISTURB INDICAT	OGY ANCE TORS	O1 C1	RIP: STG:	C MF	B3 C4	D1 C5	D2 [Met Met D3	thod: S thod: G	3 SE S5
Flood Bed Ma P Is Coo	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: D0 ement: O0 FSZ:	D D	omínan D (cm	t: G): 5.00		Subdom	Metho Metho Metho I: F	od: T4 od: P2 od: GE	PHOL DISTURBINDICATION BE	OGY ANCE TORS	O1 C1	RIP: STG: eq #: ond.: 90 urb.: T	MF M B2 C3	B3 C4	D1 C5	D2 [S1 8	Mei Mei	thod: S thod: G	3 SE S5 BR
Flood Bed Ma P. Is Coo. Confine	RIP: C STG: M EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: DC ement: OC FSZ:	D D	ominan D (cm	t: G): 5.00 Method	d L	Subdom Morph	Metho Metho Metho I: F I: RP	od: T4 od: P2 od: GE	PHOL DISTURBINDICATION Ba	OGY BANCE TORS BASE BASE BASE BASE BASE BASE BASE BA	O1 C1 N	RIP: STG:	MF M B2 C3 Doto	B3 C4	D1	D2 [S1 S]	Mei Mei	thod: S thod: G	3 SE SS BR
Flood Bed Ma P Is Coo	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: D0 ement: O0 FSZ:	D D D	omínan D (cm	t: G): 5.00	d L	Subdom Morph	Metho Metho Metho I: F	od: T4 od: P2 od: GE	PHOL DISTURBINDICATION Ba	OGY ANCE TORS	O1 C1 N	RIP: STG: eq #: ond.: 90 urb.: T	MF M B2 C3	B3 C4	D1	D2 [S1 8	Mei Mei	thod: S thod: G	3 SE S5 BR
Flood Bed Ma P. Is Con Confine	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: D0 ement: O0 FSZ:	D D D	ominan D (cm	t: G): 5.00 Method	d L	Subdom Morph	Metho Metho I: F I: RP	od: T4 od: P2 od: GE IORP	Ba TUR Photo	OGY ANCE FORS BASE BASE BASE BASE BASE BASE BASE BA	O1 C1 N	RIP: STG: eq #: ond.: 90 urb.: T	B2 C3 Hoto #:	B3 C4	D1	D2 [S1 S]	Mei Mei	thod: S thod: G	3 SE SS BR
Flood Bed Ma P. Is Con Confine BID Map NIII BISK.091 880 Comments: Pa	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: DC ement: OC FSZ:	D D D	ominan D (cm	t: G): 5.00 Method	d L	Subdom Morph	Metho Metho I: F I: RP	od: T4 od: P2 od: GE IORP	PHOL DISTURBINDICATION Ba	OGY BANCE TORS BASE B	O1 C1 NV	RIP: STG: eq #: ond.: 90 urb.: T	MF M B2 C3 Doto	B3 C4	D1	D2 [S1 S]	Mei Mei	thod: S thod: G	3 SE SS BR
Bed Ma Pis Con Confine ID Map Niii 33K.091 880 Comments: Pa	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N pupling: DC ement: OC FSZ:	D D D	ominan D (cm	t: G): 5.00 Method GE	d L	Subdom Morph	Metho Metho I: F I: RP	od: T4 od: P2 od: GE IORP	Ba TUR Photo	OGY BANCE TORS BASE B	O1 C1 N	RIP: STG: eq #: ond.: 90 urb.: T	B2 C3 Hoto #:	B3 C4	D1	D2 [S1 S]	Mei Mei	thod: S thod: G	3 SE SS BR
Flood Bed Ma P. Is Con Confine BID Map NIII BISK.091 880 Comments: Pa	EMS: Temp: 12 pH: 7.6 Signs: No laterial: D95: 15 Pattern: SI slands: N uupling: D0 ement: O0 FSZ:	D D D	Hgt 9	t: G): 5.00 Method GE	d L 2	Subdom Morph	Method Me	FEA	PHOL DISTURB INDICAT BE TUR Photo F:	OGY BANCE TORS BASE B	O1 C1 NV	RIP: STG: eq #: ond.: 90 urb.: T	B2 C3 Hoto #:	B3 C4	D1	D2 [S1 S]	Mei Mei	thod: S thod: G	3 SE SS BR

Tochcha Lake Planning Area

Reach# ILP Map # ILP # Site 1.0 093K.091 1990 31

	TEN:	E A		10000000000000000000000000000000000000		PHOTOS
	Ph	oto		Foc Lg	Dir	Comments
R:	4	F:	1A	STD	U	Photo of culvert - partial barrier.
R:	4	F:	2A	STD	D	Downstream photo of channel.
R:	4	F:	3A	STD	U	Upstream photo of representative habitat.
	Alfred			· "我就是你。"		COMMENTS
		Sec	ction			Comments
Ξ		CHA	NNEL	RB captured		
		CHA	NNEL	S3		

Tochcha Lake Planning Area

Reach #

ILP Map #

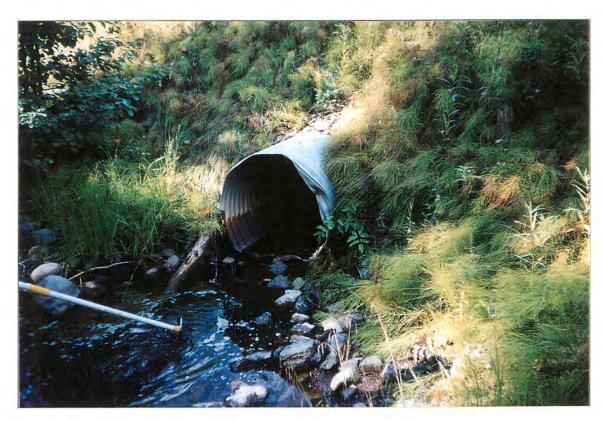
ILP#

Watershed Code:

1.0

093K.091

1000	4-5-	がるほ	1000	W	No.	200	337.4	- 1	WATE	RB	ODY	TY 5 38 3 10	VIZE S	1830	2010	27.90	ANT VERNING	98- 7P
1100	23.1	BINE	5 3	1800	- 150/(3	(m-1)2-0		콘트	A			12 C 1	150			37 70 00		
G	azette	d Name	t									Loca	al:					
	Proje	ct Code	: 1824	819600-6	3300-409	00-0000-0	0000-00	00-000	0-000-000-	000-0								
	W	S Code	: 000-	000000-0	0000-0000	00-0000-0	0000-00	00-000	0-000-000-	000-0	00							
	Water	body ID	:						ILP Map #	: 093	3K.091			ILP	#:	1990	Reach #:	1 -
	Pr	oject ID	: 5271								L	ake/Str	ream:	S		Lake Fro	om Date:	
_	Clab C	Permit #		5269		ate: 200	0/00/00		To: 20	00/00	100			C172	0	ew: SG/JD	D	mple:
	FISH	enni #	. 14	5209	U	ate: 200.	2100129					-	ency:	G172	Cr	ew: SG/JD	Resa	mpie: _
	-	140	¥ 35					SI	TE /	ME.	тно	D		Whi.		300		10000
Site#	NI	D Map	NID)#	UTM:Zone	e/East/No	rth/Mth	d	MTD/NO	Ter	mp	Cond	Turk	oid		Co	omment	
31	09	3K.091	400	31				GPU	EF 1	1:	2	90	С					
4. 10	US E		1	1				١. ٥	BEAR	SE	TTII	VGS			T. M.		. F	X - 4 14
Site#	M	TD/NO	H/P	Date	In Ti	me In	Date C	Out	Time Out						Com	ment		
31	EF	1	1	2002/08	3/29 1	4:10	2002/08	3/29	15:30									
Table 1		Sugar.		- A 12 A	C	ELE	CTI	ROF	ISHE	R S	PE	CIFI	CA	TION	S	200	VW 97 - 11-3	1000
Site#	310	MTD/N	VO.	H/P	En	cl S	Sec	1 1	ength	Wic	dth	Volt	tage	T Frequ	uency	Pulse	Make	Mode
31		F	1	1	0		202	_	100.0		.0	_	00		0	6	SMITH	12E
			_	_			-02	_	00.0		.0	- 00	-	1			ROOT	120
TUE	1-	7 ()	THE STREET	N	20. 3	1,4		FI	SH SI	JMI	MAR	Y	F E	- 201	1		-	
Site#	1	MTD/N	NO.	H/P	Species	s Sta	e T	Age	Tota	1# 1	Lath	(Min/M	ax) T	FishAc	t T		Comment	
31	_	F	1	1	RB	J	-	- 3-	L 14	5	48		95	R	1		34,0004.0	
WE S	-	10000	233		War and		IND	VIC	IDUAL	F	SH	DA	TA	783	700	-27	20 13	19
Site#	MT	D/NO	H/P	Species	Length	Weight	Sex	Mat	Company of the Maria	Age	(FP LE FINAL)	Vch#	955	netic	Roll #	Frame#	Com	ment
	1		24			12.00	200		Str/Sr	npl#//	Age		Str/	Smpl#	1255			
31	EF	1	1	RB	52		U	U			100			T		-		
31	EF	1	1	RB	65		U	U	7									
31	EF	1	1	RB	48		U	U							T			
31	EF	1	1	RB	70		U	U										
31	EF	1	1	RB	60		U	U				1						
31	EF	1	1	RB	95		U	U										
31	EF	1	_1	RB	85		U	U										
31	EF	1	1	RB	90		U	U										
31	EF	1	1	RB	80		U	U	15=10				1=1					
31	EF	1	1	RB	75		U	U					1					
31	EF	1	_10.	RB	65		U	U					1		12=5			
31	EF	1	1	RB	83		U	U										
31	EF	1	1	RB	95		U	U				4-2		. 000				
31	EF	1	1	RB	50		U	U										
31	EF	1	1	RB	60		U	U				1		100				



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

11.0

093M.020

			STR	EAM	REF	EREN	ICIN	G						
Gazetted Name:					Local Name:									
Watershed Code: 000-000000-00000-00000-0000-0000-0000						-000-000-000			ILP Map #: 093M.020			P #:	1450	
With the state of the	1	1 - 1 ×			REA	CH	TA SUB			. 1/4	P		- 19	
Reach #: 11.0 Length (km): .33 Gradient (%): 0.0 US Elev (m): 860 Bars: None)	Co Confin	JTM(Zone/East/N upling: Decoupled ement: Unconfine slands: NONE Mid-channel	d d	Ма	gnitude: Order: parian Ve	2 getation		0	Sample 1 BGC Z pen wat	one:		ed	
4 4		lg. Sy	Maria Maria	2:3	SIT	En y	WE A	14	7.3 W.	York	19	= 1		
Site #: 32 Field UTM Site Length (m):100 GIS UTM 9.685320.6119279						Agency: C172 Crew: SG/JD Date: 2002/08/30 Agency Name: Triton Environmental Consultants (Terrace)								
		Miles J. S.		C	HAN	NEL:	100 m			131	4		î. j	
No Vis.Ch.:	Intermitt			Avg	Min	Max	#			Avg	Min	Max	#	
Dewatered:	Tri		hannel Width (m):	the second second	1.600	2.3	6		Gradient %:	1.25	1	2	4	
Stage: Low			Wetted Width (m): ankfull Depth (m):	0.47	1.200	1.600	6	P	Pool Depth (m):	0.22	0.100	0.300	6	
Med High	Te	emp (C): 8	pH: 7.6	0.47		Conductiv			Turbi		Turbid derate		Low_ Clear 🗸	
' "gii		sinp (O). 0	pri. 7.0			LOG	P. C. H. Z.S.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	WIO	ucrate		Jicai 💽	
Channel Patterr Coupling Confinemen Morphology	: Decoup t: Unconfi	led	Islands; Nor	ic		RBANCE CATORS C2 C	01 3 C4	B1 C5	B2 B3 S1 S2	D1	02 D S4	S5		
110%	782	11-1		sin a li	COV	ER	2.82	611		-111-00				
Total Cover: Abundant Type: LWD: Few LWD Dist: Evenly Distributed Location: P/S/O:					LWI) B		U T			IV T	FS	7. 🗍	
Right Bank: Stank: Right Bank:	Shape: Ov Shape: Ov ip.Veg: De ip.Veg:	verhangi Text	Stag	e: Pole-	Cobble Cobble sapling s sapling s	Bould	ler F	Rock Rock Rock Rock Rock	Manmade Manmade Manmade Manmade Manmade	Ngae 🗌		own Clo 1-2	sure	
	7	I 36 - 7	NEW A		F	EATL	RES	1			1	196	- 220	
NID Map NID Type Hgt Method Lg Met					_	Photo			AirPhoto				M (Z/E/N	
093M.020 8802 Comments: wel		.9 culvert	GE 16	GE	R:	4 F	: 5A	L;		#:	-	9.6854	105.6119	
VA STANCE	288	HI -			FIS	н		8-3						
Site Number C	apture lethod	pture Number of Length fished Total		al	Voltage	Spe	ecies	Total Fish	Minimu Length (C 172 . 200 .		mum h (mm)		
32	EF	1	100	412 s	ec	800	F	RB	3	105		1	40	
32	EF	1	100	412 s	ec	800	P	CC	5	130		- 4	85	

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Site 32

	2117	32.			2010	77		PR	OJE	СТ	1		(V ₁ ,)				SARAN	3,3	
Proj	Proj Stream Na ject Waters): SAK	ENICHE	RIVER		00-0000	-000-00	0-000-00	0-000-0	000	F	Project C	ode:			5271		
21 30	X - Th		1 19	(Server)	28	19.16	-30-3-3	WAT	ERS	HED								17	
Wate	zetted Name ershed Code ILP Mapa ITM (Z.E.N ITM (Z.E.N	e: 000-00 #: 093M.0):	20.6119)279	LP#: 14	450 Method:	NID M		93M.020	F	Loc NID #: 40 Site Loc Ref. Name	g: 100 e:			11 od: HC sh Crd?:		Acce	Site #:3 ss: V2	
		100				150	X SECULIA	100	ANN				100	- 1	ar Gran			ioompic	NO. [_]
		Mtd	width	width	width	width	width	width	100172017	width	width	width	Avg	-		Gadie	-4.0/	Mtd	T Aug 1
Channe	el Width (m)		2.10	1.60	2.30	1.80	1.90	2.20	Widti	Widai	Wider	Width	1.98	Гм	ethod I:	1.0	2.0	C	Avg 1.25
	d Width (m)		1.20	1.60	1.50	1.30	1.40	1.20					1.37		thod II:		1.0	C	1
Poo	l Depth (m)	: MS	0.20	0.30	0.20	0.10	0.20	0.30					0.22					-	1
	Wh Death		-		1								_ ,,,		Vis.Ch.		Intermi	-	4
_	Wb Depth		.5	.5		g: 0.47		Method:	MS	5	stage: L	✓ M	н		Dw	r: 🔲	1	ribs.:	
1	COVER			Tota	al: A														
0.5	Туре	: SWE	_	ND	В	U	DF)	OV	IV	CR	OWN CL							
	Amoun		90	S	T	T	T		D	Т	1		-20%						
112	Loc: P/S/C	~	~				~	V		V	INS	TREAM	VEG:	N	A 🗌	M 🔲	V		
	RIF	e: F P:D S:PS	G	c 🗌	В	R 🗍 A						RIP: STG:	D	G	с	В	R	A	
	*		(E)		1			W	ATE	R	HELD IS					31	EX.	2)
	EMS										R	eq #:							
	Temp							od: T4			C	ond.: 80					Meth	nod: S	3
	pH Flood Signs	: 7.6 . Defined	4-1-4-					od: P2			Т	urb.: T	M	TL	C	~	Meth	nod: G	E
	1000 Olgilis	. I valled	debilo					od: GE											
== 1			15			N.	N	ORI	HOL	OGY		#		250/	50F		11		11-55
	Pattern Islands Coupling confinement FSZ	: 25.0 : SI : N : DC	Dominan D (cm	nt: F): 5.00		Subdon Morph			DISTURE INDICA B:	BANCE TORS	01 C1		C3 (01 D:				1 S5
	102										18.1				-				
	44	Elle.		L. S.		10 S S S		FE	TUR	E\$	37.847		1,0	100	317				
D Map		Туре	Hgt	Method		_	Method		Photo	7,71		AirPh				UTM (Z			Method
3M.020		CV	.9	GE	_ 1	16	GE	R: 4	1 F:	5A	L:		#:		9.6	85405.6	11927	4	GIS
Sommen	ts: well plac	eo cuive	ii L		The same of the sa								OR CO						
300		-117-Sh	100		1	3.6	HAI	BITA	TQL	JALI	I Y			110			1	MIN	
	Name										Comment	ts							
	Winter Habit		None.	for-	unal 14*	ankl-	_												
	vning Habita			fines mix				hitat	-				-				-		
INCA	mig i lavita		IMOUGH	are - and	a rualit U	CACI GIL	hooi ilg	Ullat.											

Tochcha Lake Planning Area

Reach# ILP Map # ILP # Site 11.0 093M.020 1450 32

	3	W	· Fight			PHOTOS
	P	noto		Foc Lg	Dir	Comments
R:	4	F:	5A	STD	U	Photo of well placed culvert.
R:	4	F:	6A	STD	U	Upstream photo of channel.
R:	4	F:	7A	STD	D	Downstream photo of cover.
73				Supplement of the		COMMENTS
		Sec	ction			Comments
		CHAI	NNEL	S3		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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11.0

093M.020

				Will a		T'S		Y	VAT	ERB	ODI		H		H			
	Proje W		182-	819600-63 000000-00				0-000-		0-000-	000	Loc	al:	ILP	#: 1	450 F	Reach #: 11	P
		oject ID:							-,,			_ake/St	ream:	S		Lake Fro	m Date:	
	Fish F	Permit #:	14	5269	Da	ate: 2002	2/08/30		To:	2002/0	8/30	Ag	ency:	C172	Cre	w: SG/JD	Resar	nple:
1	Res	Ser.	1					SI	TE /	ME	THO	D		Maria di				
Site#	IN	ID Map	NIC	# 1	JTM:Zone	e/East/No	rth/Mth	d I	MTD/N	O Te	emp	Cond	Turi	bid		Co	mment	
32	09	3M.020	400	32				GPU			8	80	С					
	1176			· 「原源			Α	. G	EAR	SE	TII	NGS	N/E	in the	STATE OF	A. S. S.	Asis Tri	
Site#	M	TD/NO	H/P	Date I	n Tir	me In	Date C	ut !	Time O	ut					Comr	ment		
32	E	F 1	1	2002/08			2002/08	400	08:13									
1	100		3		C	. ELE	CTF	OF	ISH	ER :	SPE	CIFI	CA	TION	S			1000
Site#	T	MTD/N	10	H/P	End	el S	Sec	Le	ngth	W	idth	Vol	tage	Frequ	ency	Pulse	Make	Mode
32	E	F	1	1	0		112	10	0.00		1.0	8	00	6	0	6	SMITH	12B
			- 41			303	STEE	E11	SH S	11 84	BA A E	v			2.115.2		ROOT	
011 11	300	4450	10	- 20		1 0	-	10	0.5	month day	STREET,		**	FILA	7277		0	-
Site#	1	MTD/N	1	H/P	Species	Stag	ge	Age	10	otal #	Lgth 130	(Min/M	185	FishAc			Comment	
32	_	F	1	1	RB	Ĵ	-	-	-	3	105		40	R	+			
JZ.			TVEST		110	all dec	IND	IVI	DUA			DA		1120	(v)	111	2000	- Am-
ite#	МТ	D/NO	H/P	Species	Length	Weight	Sex	Mat		Age	195940	Vch#		enetic	Roll #	Frame#	Comr	nent
.,,=.,		-1115	17.9	127			1 25.00	10.20	Str/	Smpl#	/Age			Smpl#				
32	EF	1	1	PCC	185		U	U				1			4	4A		
32	EF	1	1	PCC	165		U	U			100							
32	EF	1	1	PCC	130	F3.5	U	U		1.	201	1						
32	EF	1	1	PCC	180		U	U		100								
32	EF	1	1	PCC	150		U	U					_			1 44		
32	EF	1	1	RB	105		U	U				-						
32		1 1	1	RB	110		U	U	1			1		1				



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

0

093M.030

Gradient (%): 3.8 Confinement: Occasionally Conf Order: 3 Open water US Elev (m): 1000 Islands: NONE Riparian Vegetation: Coniferous	
Reach #: 1.0	
Reach #: 1.0	ILP#: 1290
Length (km): .66	
Length (km): .66	e: Biased
SITE	e: SBS
Site #: 33	
Site Length (m): 100 GIS UTM 9.678437.6127306 Agency Name: Triton Environmental Consultar	
No Vis.Ch.:	ate: 2002/08/30 s (Terrace)
Dewatered:	DE LEGET OF
Wetted Width (m): 0.87 0.600 1.200 6 Pool Depth (m): 0.20 0	in Max #
Bankfull Depth (m): 0.50 0.5 0.5 3 Turbidity.: Turbid	1 2 4
Med Bankfull Depth (m): 0.50 0.5 0.5 3 High Temp (C): 8 pH: 7.6 Conductivity: 120 M O R P H O L O G Y Bed Material: Dominant: Gravels Subdominant: Fines D95 (cm): 5.00 Bars: Non ✓ Side Diagonal Mid-charge of Mid-charge	00 0.300 6
High Temp (C): 8 pH: 7.6 Conductivity: 120 Mode MORPHOLOGY	bid Low
Bed Material: Dominant: Gravels Subdominant: Fines D (cm): 5.00 Channel Pattern: Sinuous Coupling: Decoupled Confinement: Occasionally Confine Morphology: RP Riffle Pool COVER Total Cover: Abundant LWD: Few DISTURBANCE O1 B1 B2 B3 D1 D2 INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S COVER	
Subdominant: Fines D (cm): 5.00 Channel Pattern: Sinuous Islands: None Coupling: Decoupled Confinement: Occasionally Confine Morphology: RP Riffle Pool COVER Total Cover: Abundant Type: SWD LWD B U DP OV IN Amount: T T N D T S N	
Coupling: Decoupled Confinement: Occasionally Confine Morphology: RP Riffle Pool COVER Total Cover; Abundant LWD: Few Total Cover: Abundant LWD: Few	nnel Span Braid
Morphology: RP Riffle Pool COVER Total Cover: Abundant LWD: Few Amount: T T N D T S N	D3
Total Cover: Abundant Type: SWD LWD B U DP OV IN Amount: T T N D T S N Location: P/S/O	1 S5
Total Cover: Abundant Type: SWD	
LWD: Few Amount: T T N D T S N	
LWD: FeW	
LWD Dist: Evenly Distributed Location: P/S/O:	
	FSZ:
Right Bank: Shape: Overhangi Texture: Fines Gravel Cobble Boulder Rock Manmade Left Bank: Shape: Overhangi 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 M	Crown Closure 1-20% OSS Vascular
Service of the servic	The second
Site Number Capture Number of Length fished Total Voltage Species Total Minimum Method Events (m) Time Fish Length (m	Maximum Length (mm)
33 EF 1 200 324 sec 300 NFC 0	

Tochcha Lake Planning Area

ILP Map # Reach #

ILP#

Site

PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Watershed Code: 182-819600-63300-40900-0000-0000-000-000-000-0000-00																			
Stream Name	(gaz.)	: SAK	ENICHE	RIVER		00-0000	-000-000	0-000-00	0-000-00	00		Project C	Code:			527	1		
The Total	J.V	新牌	Men/10	10 P	Mary la life		WAT	ERS	HED		1	3712	=51		INC S		. 3		-
Watershed Code: 00 ILP Map#: 01 Field UTM (Z.E.N): 9.	93M.0 .67846	30 66.6127	11 275	LP #: 12	290	NID M			N	ID#: 40	0033 g: 100					Acc			
Date:	2002	2/08/30	1	Time: 08	:45		Agency:	C172	C	rew:	SG/JD			Fish Crd	?: 🗸	1	Incomp	olete:	
	917		A P	E 41474	- "H	1125)	СН	ANN	EL	1777	the second	79.7		(= 20 = 0	/ Sec. 18	- 1		(ISS	
	Mtd	width	width	width	width	Width				width	width	Ava	1		Gar	dient %	I Mtd	TA	N/C
	_						_	Widai	Widat	Widui	WIGHT		f	Method	_	_	_	_	_
	MS	0.90			_	_							1 1		_	_	_	-	
Pool Depth (m):	MS	0.20	0.30	0.20	0.20	0.10	0.20	1.00		2 T.C.	-	0.20	1 -		-			_	
700 50 00 1							CO.	130			F- (-2)					Interr			
Wb Depth:	.5	.5	.5	Avg	g: 0.50		Method:	MS	St	age: L	✓ M	□ н [C	w:		Tribs.:		
COVER			Tota	al: A															
Type:	SWD	LV	VD	В	U	DF		OV	IV	CRO	OWN CL	OSURE							
Amount:	T	11	T	N	D	1		S	N	1	1	-20%							
Loc: P/S/O:	/	V			>	1	V		V	INS	TREAM	VEG:	N	A	M	V	7		
RIP: C STG: M											STG								
		- 13					W	ATE	R							94	3		
EMS:										R	eq #:								
Temp: 8						Meth	od: T4			C	ond.: 12	0				Me	ethod:	S3	
pH: 7.							od: P2			T	urb.: T	ПМ		L 🗆 C		M	ethod:	GE	
Flood Signs: No	one					Meth	od: GE												
	£50			105		N	ORF	HOL	OGY	W	10	Marilla S	133		7	1100	300	100	
Bed Material:	-	ominan	t-G		Subdon	n E				01	B1	B2	В3	D1	D2	D3			
D95: 5): 5.00		Morph			NOTH IDE				ПТ	П						
		- (,		ina.p.		ı	INDICA		04	00	00	~	OF.	04	00	00		or
Pattern: SI Islands: N									10110	C1	C2	C3	C4	C5	S1	S2 :	S3 S	S4	S5
Coupling: Do																			
Confinement: Of																			
FSZ:	ľ							В	ars:	N	SID	E	DIAC		MID	SP	AN		BR
17/1/2	Uis	Visit 1	d			HA	BITA	T QL	JALI.	TY		7)≥ "!							
Name									C	ommen	ts								
OverWinter Habitat		_	observed																
Spawning Habitat		_	ate - gra																
Rearing Habitat		Moder	ate - abu	undant c	over, un	dercut b				pool dep	ths.								
	145	- The same		96		"		ото	5				1/2	# 1 ph 1	3 6	-		1.3	111
Photo		c Lg			Dir							Comme	nts						
4 F: 8A		TD			D				of riffle/po										
4 F: 9A	S	TD			Ų	Ups	tream p	noto of c	hannel s	ubstrate	S.								

Tochcha Lake Planning Area

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	\$4*

Tochcha Lake Planning Area

Watershed Code:

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

Reach #

1.0

ILP Map #

ILP#

093M.030

4 70		4		1) 10		10.5	عظرات	all s	WAT	ER	BOD	Y	117	Sept. 11	S. 111	0 10	W _{Pl} =	
Ga	zette	d Name	1:							-		Loc	al:					
1	Proje	ct Code	: 182-	819600-	63300-	-40900-0	000-0000	-000-00	00-000-0	000-000	0-0							
	W	S Code	: 000-	000000-	-00000	-00000-0	000-0000	-000-00	0-000-0	000-000	0-000							
V		body ID							ILP M	ap #: 0	093M.0	30		ILP#:	1290	Rea	ach #:	1 -
	Pr	oject ID	: 5271									Lake/St	eam:	S	Lak	ce From	Date:	
F	ish F	ermit#	: 14	5269		Date:	2002/08/	30	To:	2002/	08/30	Age	ency:	C172	Crew: J	D/SG	Resa	mple:
M			1 - 1		× 6	"n". " ~ 3 ~ 3		S	ITE	/ M	ETH	O D	V ₃₀ (= 5			A. C.	4 -	
Site#	NI	D Map	NID)#	UTM:	Zone/Ea	st/North/M	Ithd	MTD/I	NO	Temp	Cond	Turi	oid		Com	ment	
33	09:	3M.030	400	33				GPU		1	8	120	С	A lancage				
							. VF	A.	GEA	RS	ETT	INGS			道。			
Site#	M	TD/NO	H/P	Date	e In	Time I	n Date	Out	Time (Out				C	omment			
33	EF	1	1	2002/	08/30	08:45		08/30	09:3	-								
-12-12	N.				Sign.	C. E	LECT	RO	FISH	IER.	SPE	CIFI	CA	TIONS				下一"神"。
Site#		MTD/f	10	H/P		Encl	Sec	1	ength	1	Vidth	Vol	age	Frequenc	/ Pul	se	Make	Model
33	3 EF 1 1 0 32								200.0		1.0	30	00	60	6		SMITH	12B
Sills.	114					000	19 (18)	F	ISH	SUN	MA	RY		- NO.				
Site#		MTD/	10	H/P	Spe	ecies	Stage	Ag	e	Total #	Lgt	h (Min/M	ax)	FishAct		C	omment	2-20
33	E	F	1	1	NF	C			-91	0								



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 #

6.0

ILP# 093M.020

A Jay			WILL CO		STR	EAM	RE	FEREN	ICIN	G		1970	+ 1 = 1	4 - 1 h	
Gazetted Na	me:								Local Na	ame:					
Watershed C	ode: 0	000-000	0-00000-0	0000-0000-	0000-00	0-000-00	00-000	-000-000		ILP	Map #: 093M.	.020	ILP	#:	1394
		3,1	× 2	~	3 34 8	VI I	REA	CH	and the	1	War and	7- 17	-		
Reach #: 6 Length (km) Gradient (%) US Elev (m) Bars: None	: 1.39 : 5.5 : 960	de 🗌		UTM(Zone oupling: De inement: Fr Islands: No Mid-cha	ecoupled requently ONE	1	M.	9.6124051 agnitude: Order: iparian Ve	getation			Sample T BGC Z Open wate	one: S		ed
£ 511 8 × 6	7.7	= -X\	in a	. 155.50	7. 201	9257	\$17	TE	11 1	7		n'= - 0')	111	د الأقل	
Site #: Site Length	J-Y Xv	00	Field UT GIS U	M TM 9.68163	4.61228	77		3.79	cy: C17		Crew: J	D/SG tal Consulta	Date: 2 ants (Te		8/30
San And	1360		13.0		1	C	HAN	INEL	N. V.	/	45	100	±₽.*	-500	(6)
No Vis.Ch.: Dewatered: Stage: Low Med High	V	ntermitte Trib	s.:	Channel Wi Wetted Wi Bankfull De	dth (m):	Avg 1.55 0.40 0.40	Min 1.4 0.300 0.3	Max 1.700 0.5 0.5 Conductiv	# 6 4 3	P	Gradient % ool Depth (m): 0.08 bidity.:	Min 1 0.050 Turbid derate	Max 3 0.100	# 4 4 Low Clear 🗸
Vio.		95/18	Water St.		100000	MOR	PH	OLOG	Υ		Contraction in	15.33	7.215		
Channel Pa	ittem: S pling: D ment: C	Decouple Decasion		D (cm): 20. cm): 5.0 nds: Nor	00 ne [C1		01 3 C4	B1 C5	B2 B3 S1 S2	D1 D		В	pan [
1 2 kg a g (a)	-		300				COV	ER	400		10 July 20	10-	¥		-11
LWD: I LWD Dist: Right Bank: Left Bank: Right Bank: Left Bank: Left Bank:	Few Evenly Sha Sha	Distribu ape: Ove ape: Ove Veg: Co	erhangi Ter erhangi Ter	Location:	✓ Gra ✓ Gra			Bould	ler F	S Rock Rock am Veg	N Manmade Manmade	OV D V		FS: wn Clo 1-2	sure 0%
. 3-11-5	-0,10	3-3		1000	1	- 1	, F	EATL	RES	W 1			- 17-	7	7
NID Map	NID	Туре	Hgt	Method	Lg	Meth	od	Pho			AirPh			_	M (Z/E/N
	88022	CV	1.4 at low flows	GE	24	GE	R	: 4 F	: 10A	L:		#:		9.681	554.6122
Comments:	Partia	barner	at low flows												
Site Number		ture hod	Number of Events	Length (A CONTRACTOR OF THE PARTY OF TH	Tota		H Voltage	Spe	ecies	Total Fish	Minimu Length (mum h (mm)
34		F	1	20		216 se	_	400	N	FC	0	Length (,	Lengt	()

Tochcha Lake Planning Area

Reach #

ILP Map #

34

L 1/2/2-	170				W.		1	PR	OJE	CT	"bland			-5-3			
	Proje Stream Nar ect Watersh	me (gaz.		ENICHE	RIVER	0900-00	00-0000	-000-000	0-000-00	00-000-00	00	-1	Project C	ode:		5271	
AT.	3	111	W. 7 E	3.7	1	10	444	WAT	ERS	HED	h = 1 = -	11/19/1	11/10	~	Television I		
Wate Field U	etted Name rshed Code ILP Map# TM (Z.E.N) TM (Z.E.N)	: 000-00 : 093M.0 :): 9.6816	020 34.6122	877	LP#: 13 M	394 Method:	00-000-0 NID M	000-000- ap #: 09	-000-000 3M.030) N	ID#: 40 Site Lo	g: 200 e:		ch #: Method		Access:	
50-30E	Da	te: 200	2/08/30		ime: 09:	:50		Agency:			crew: .	JD/SG		Fish	Crd?:	Incor	mplete:
	- Allerance					No.	100		ANN						dia a	- M.	
Character	1 1AT JOL / \	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Live			Itd Avg
	Width (m): Width (m):		1.40	1.60	1.50	0.50	1.60	0.40	-			-	0.40		nod II: 2.0		C 2.00
	Depth (m):	_		-	0.40	0.05	0.10	0.40					0.08	Wet	100 11. 2.0	1.0	C
1,00	Dopar (m)	1110			0.10	0.00	0.10	0.00	-	-			0.00	No V	/is.Ch.:	Intermitten	nt: 🗸
	Wb Depth:	.5	.3	.4	Avg	: 0.40	٨	Method:	MS	St	age: L	V M	THE	-	Dw:	Tribs	s.: 🔲
	COVER			Tota	al: A												
1	Туре	SWE	TIV	VD	В	U	DF	, 1	ov T	IV	1 CR	OWN CL	OSURE				
-	Amount	_			N	S	N		D	T		1					
	Loc: P/S/O	_							_	V	-			NIA	M	V	
	RIP STG						Sensit	W	ATE	R	w= 23 - 3	STG					
	EMS:						S. Callada		ALL	O.E. A.A.	Р	4.	11				
	Temp						Metho	od: T4				eq #: ond.: 10(0			Method	. 53
		7.8						od: P2									
F	lood Signs:							od: GE			1	urb.: 1	Пм		CV	Method	: GE
	00/2010	1,51	(ullion)	-		300	N	OPE	HAL	OGY	H car			A BICCO			
	W										01	B1	B2	B3 D1	D2	D3	
В	ed Material:		Dominan			Subdon											
		20.0	D (cm): 5.00		Morph	I: RP		DISTURE								
	Pattern:								INDICA	TORS	C1	C2	C3	C4 C5	S1	S2 S3	S4 S5
	Islands:																
C	Coupling: onfinement:																
· ·	FSZ:								В	ars:	N	SID	E	DIAG	MID	SPAN	BR
	T. Transcon	TEN	Stall 4	H				FEA	TUR	ES			200			111/-1/2	5.75
NID Map	NID :	Туре	Hgt	Metho	d L	g N	Method	-	Photo			AirP	hoto		UTM	(Z/E/N)	Method
093M.030		CV	1.4	GE			GE	R: 4	F:	10A L	.:		#:			4.6122845	GIS
Commen	ts: Partial ba	arrier at	low flow:	S.													
	1	200		5 - 20	900	1/4/1	HAI	BITA	TQL	JALI	TY	X	100		* **	13	- 11
1 2	Name	* ***	AND STREET	3 3						C	commen	ts	221				
OverV	Vinter Habit	at	None.														
	vning Habita					es, low fl											
Rea	ring Habitat		Poor -	low flow	s, dry se	ectinos, s	shallow p	oools.									

Tochcha Lake Planning Area

Reach # ILP Map # ILP # 6.0 093M.020 1394

Site

	Ph	noto		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.
			Harry !	- 3/25		COMMENTS
		8	ection			Comments
		CH	ANNEL	Wetland dov	vnstream may lim	nit upstream fish migration.
	-	CF	ANNEL	S3		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

6.0

093M.020

F 31	F 30.	13				Age No.	WAT	ERB	O D	Υ				W. J. 13	
Ga	zetted Name:									Loca	al:				
F	Project Code:	182-8	19600-6	3300-409	000-000	0-0000-000-00	0-000-0	00-000-	0						
	WS Code:	000-0	00000-0	0000-000	000-000	0-000-000-00	0-000-0	00-000-	000						
V	Vaterbody ID:						ILP Ma	ap #: 09	3M.0	20		ILP #:	1394	Reach #:	6 -
	Project ID:	5271								Lake/Str	ream:	S	Lake F	rom Date:	
F	ish Permit #:	14	5269)ate: 20	002/08/30	To:	2002/0	8/30	Age	ency:	C172	Crew: JD/S	G Res	sample:
3/37	1 - 1 - 1 - 1 - 1	5 54			- 1	S	ITE	ME	TH	Q O	00 J.	92 No. 1		# 3.7/E	
Site#	NID Map	NID	#	UTM:Zor	e/East/I	North/Mthd	MTD/N	10 Te	emp	Cond	Turb	id	(Comment	
34	093M.020	4003	34		5.1	GPU	EF	1	10	100	С				
THE P.		TW.				Α	GEA	RSE	TT	INGS	MAN TO	B		1	
Site#	MTD/NO	H/P	Date	In T	ime In	Date Out	Time C	Out			Hapty Comp	C	Comment		
34	EF 1	1	2002/0	8/30	9:50	2002/08/30	10:20	0							
	38 - 1 July 5 1		19-14	C	EL	ECTRO	FISH	ER :	SPE	CIFI	CA	TIONS		1 1	
Site#	MTD/N	0	H/P	Er	ncl	Sec L	ength.	W	idth	Vol	lage	Frequenc	y Pulse	Make	Model
34	EF	1	1			216	200.0		0.5	40	00	60	6	SMITH ROOT	12B
				156	50x 8	F	ISH	SUM	MA	RY			The same of		·*·
Site#	MTD/N	0	H/P	Specie	s S	tage Age	e 1	Total #	Lgt	h (Min/M	ax)	FishAct		Comment	
34	EF	1	1	NFC	AT .			0							
3-31	1/2/1/2	1019	1		N THE	1.	CON	ME	NTS		7		S		
	Section							NAME OF THE OWNER, THE		Comm	ents				
	WATERBODY	,	Inte	rmittent f	lows.						-				



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

4.0

093M.020

STREAM REFERENCING Gazetted Name: **Local Name:** ILP Map #: 093M.020 ILP#: 1394 REACH Reach #: 4.0 UTM(Zone/East/North): 9.681273.6122395 Sample Type: Biased Length (km): .40 Coupling: Decoupled Magnitude: BGC Zone: SBS Confinement: Unconfined Gradient (%): 0.0 Order: 2 Open water: Present US Elev (m): 880 Islands: NONE Riparian Vegetation: Coniferous Bars: None V Side Diagonal Mid-channel Span Braid Landuse: Not Specified SITE Site #: 35 Field UTM .. Agency: C172 Crew: SG/JD Site Length (m): 300 GIS UTM 9.681432.6122158 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL No Vis.Ch.: Intermittent: Avg Max # Avg Min Max # Dewatered: Channel Width (m): 1.62 Tribs.: 1.4 1.9 6 Gradient %: 1.25 2 4 Wetted Width (m): 0.90 0.600 1.200 6 Pool Depth (m): 0.20 0.100 0.300 6 Low V Bankfull Depth (m): 0.40 0.4 0.4 3 Med Turbidity .: Turbid Low High Temp (C): 12 Conductivity: 100 pH: 7.6 Moderate Clear V MORPHOLOGY Bed Material: Dominant: Cobble D95 (cm): 25.00 Bars: Non 🗸 Side Diagonal ___ Mid-channel Span Subdominant: Fines D (cm): 8.00 Braid Channel Pattern: Sinuous DISTURBANCE Islands: None **INDICATORS** Coupling: Decoupled Confinement: Occasionally Confine C3 C4 C5 S1 S2 **S**3 **S4** \$5 Morphology: RP Riffle Pool COVER LWD SWD Total Cover: Abundant Type: В U DP IV Amount: S Т S T D T LWD: Few Location: P/S/O: ~ ~ LWD Dist: Evenly Distributed 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: Coniferous Stage: Mature forest Left Bank: Rip.Veg: Stage: Mature forest Instream Veg: None Algae Moss Vascular 🗸 FEATURES NID Map NID Method Method AirPhoto Type Hgt Lg Photo UTM (Z/E/N) 093M.030 88023 CV GE 24 GE 4 F: 13A #: 9.681353.6122 Comments: Well placed culvert. FISH Length fished Site Number Capture Number of Total Voltage Species Total Minimum Maximum Method Events (m) Time Fish Length (mm) Length (mm) 35 EF 300 345 sec NFC 0 1 400

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site 35

1-05	14-00-014	- 1	11-24	= = 1/11		185		PR	OJE	СТ			126	776	1	11	The same		
Pro	Proj Stream Na oject Waters		.): SAK	ENICHE	RIVER		00-0000	-000-00	0-000-00	0-000-0	00		Project (Code:			5271		
	200	1/2	*			20%	3-12-1	WAT	ERS	HED	3182		THE T	100	Y.		74		
Ga	zetted Name	e:									Lo	cal Nam	e:						
Field I	ershed Code ILP Map# UTM (Z.E.N UTM (Z.E.N	#: 093M.():): 9.6814	32.6122	158	LP#: 13 M	394 Method:	NID M	ap #: 09	3M.030	R	ID#: 40 Site Luef. Name	0035 g: 300 e:			od: HC	.0	Acces	Site #: 3 ss: V2	
		ate: 200	2/00/30		Time: 10	:34		Agency			Crew:	SG/JD		FIS	h Crd?:	~	In	comple	te:
My Market Company	4 4 50			All to m	- 1700	do h			ANN		h) 92						_	- 15	
- Ol	-1145 10 ()	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	_		Gadie		Mtd	Avg
	el Width (m)		1.60	1.90	1.40	1.60	1.50	1.70					1.62		ethod I:	1.0	2.0	С	1.25
	ed Width (m) of Depth (m)	_	0.20	0.30	0.60	1.10 0.20	0.80	0.70					0.90	Ме	thod II:	1.0	1.0	С	
1	or Deput (III)	- IVIS	0.20	0.30	0.10	0.20	0.10	0.30					0.20	No	Vis.Ch.:	П	Intermit	ttent:	7
	Wb Depth:	.4	.4	.4	Avo	9: 0.40		Method:	MS	SI	age: L	M	ПН		Dw:			ribs.:	ī
-	COVER	_		Total	al: A							V							
-																			
-	Туре			VD	В	U	DF		ov	IV	4		OSURE						
-	Amount	_	-	S	T	S	T		D	T	4								
	Loc: P/S/O	· /				V	V	- V			INS	TREAM	VEG:	N 🗌	A	V .	VV		
	RIP	E: F					ш					RIP		, L		5 U	"니	,, (1)	
he to	A. 1			3			330	W	ATE	R	3/45		41 1, 7,				-	7700	33.3
	EMS:										R	eq #:							
	Temp	: 12					Metho	od: T4			C	ond.: 10	0				Meth	nod: S3	3
	pH:	7.6					Metho	od: P2			7	urb · T	ПМ		7.00	7	Math	nod: GE	=
18	Flood Signs:	Rafted	debris				Metho	d: GE				uib i		U - L			Wear	iou. Gr	
	7-13		-0.7		To 1	Jich !	N	ORE	HOL	OGY	W 175	10 =		(5 d)				-	- 31
						and the same of					01	B1	B2 1	B3 D	1 D2	2 D3	2		2
E	Bed Material:		Dominan	7 . 5 . 1		Subdom							DZ	J C	7	1	7 1		
		25.0	D (cm): 8.00		Morph	: RP	E	DISTURE		بلطا		ш				П		
	Pattern:								INDICA.	TORS	C1	C2	C3	C4 C	5 S1	S2	2 \$3	S4	S5
	Islands:																		
	Coupling:																		
C	Confinement:									ars:	M	SID	E	DIAC	1.0	IDC=	SPAN	u	00
	FSZ:								D	a15.	NV	SID		DIAG	IVII	ID	SPAI		BR
2010-1-1	With the second		9 TO 10	S- 377	577	Contract.		FEA	TUR	EQ	JAN 51	9 300	-		-	00000		-42-3	· F (1)
NID Map	I NID I	Tune	Hat I	Mally		C.	11-11		SERVICE.		1 H		و تحريا	04		- E-	(m. (a	22000	
093M.030		Type CV	Hgt 1.8	Method			lethod GE	R: 4	Photo F:	124	.1	AirP				JTM (Z/			Method
	nts: Well place			GE		-	OL.	R: 4	Ir:I	13A L	·1		#:	_	9.08	1333.0	122253	,]	GIS
	Es el me	70.70					LIA	2174	TQU	I A P.T.	- V	7,01	00000	- 100	I.				
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	Name									C	ommen	ts							
	Winter Habit		None.	C	1 1 1 1 1	0.0													
	wning Habitat			fines and						-			_			_			
rtea	aring Habitat		Imoder	ale - 10W	nows ar	ia snallo	w aepth	umit pro	oduction.										

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

	Wa	atersh	ed Code:	000-000000-00000-0	00000-0000-0000-00	00-000-000-000-000	4.0	093M.020	1394	35					
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	Ph	noto		Foc Lg	Dir	The state of the s		Comments	20/11/15/2011	the self-times					
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 represe	ntative habitat.								
By	HQ.			A Manufacture S	"我就是我们的	COMMENTS				8733					
		Se	ction	Control of the second	- Odelala:	Co	mments	twice in the second							
		CHA	NNEL	Low wetlan	d may limit upstream	n fish migration.									
		CHA	NNEL	S3*											

Tochcha Lake Planning Area

Reach #

ILP Map#

ILP#

Watershed Code:

4.0

093M.020

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		ject ID:								-p 113		Lake/St	ream:			From Da		
F	ish Pe	ermit #:	14	5269		Date: 2	002/08/30		To:	2002/	08/30	Ag	ency:	C172	Crew: JD/	/SG	Resan	nple:
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Site#		MTD/N	О	H/P	Speci	es S	Stage	Age		Total #	Lgt	h (Min/N	lax)	FishAct		Com	ment	
35	EF		1	1	NFC					0	1							



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0

093M.029

Gazetted N			100000000000000000000000000000000000000		5 12 F 15	EAM		P. 100		G TO THE MOTION OF		M =		
	Name:								Local Na	ame:				
Watershed	Code: 0	00-000	000-0000	-00000-0000-	0000-000	0-000-00	0-000-0	000-000		ILP Map #: 093	M.029	IL	P#:	1119
man Mey (//-	elhin's					REA	СН			ruit =			
Reach #: Length (kr Gradient (% US Elev (r Bars: None	m): 1.68 %): 3.0 m): 960	de 🔲	Co	UTM(Zone Coupling: Pa Infinement: Of Islands: No	artially Co ccasiona ONE	ouple Ily Conf	Ma _i	gnitude: Order:	7 3 egetation	: Coniferous ise: Not Specified	Sample BGC Open wa	Zone:		d
			900.		- (0)	-	SIT	E	S Zilyhil	Ex February	7.50	- 10	Y 5 1.	
Site Site Leng	#: 36 th (m): 10	0		JTM UTM 9.67642	3.612356	67			ncy: C17	2 Crew: e: Triton Environme	SG/JD ental Consu		2002/08 errace)	/30
- 1			1/3	We ye	11/19	C	HAN	NEL	机型型	The Sales	2-1- X			
No Vis.Ch	.: 🗌 Ir	ntermitte	ent:			Avg	Min	Max	#		Avg	Min	Max	#
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Stage: Lov	w			Wetted Wi		1.08	0.800	1.3	6	Pool Depth (m): 0.22	0.100	0.300	6
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Total Cover LWD LWD Dis Right Bank Left Bank Left Bank NID Map 093M.029	r: Abunda D: Few st: Evenly sc: Shace: Shace: Rip.V sc: Rip.V sc: Rip.V	Distribution of the control of the c	erhangi 1 erhangi 1 niferous	Location: I exture: Fines exture: Fines Method GE	P/S/O: Gra Gra Stage Stage 16	SWD S vel (vel (vel (vel (vel (vel (vel (vel (Cobble Cobble forest apling s	Bould	der F der F Instre	Rock Manmade Rock Manmade Manmade Manmade Manmade	D Algae	T Cn Moss	own Clos 1-20 Vasc	ure)% cular • // (Z/E/N 43.6123

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0 093M.029 1119 36 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 Local Name: ILP Map#: 093M.029 ILP#: 1119 NID#: 40036 NID Map #: 093M.029 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 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 No Vis.Ch.: Intermittent: Wb Depth: .4 .6 .6 Avg: 0.53 Method: MS Stage: L V M H Dw: Tribs.: COVER Total: A **CROWN CLOSURE** Type: SWD LWD В DP OV IV S S N S D 1-20% Amount Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: E LB SHP: O Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: D RIP: C STG: PS STG: MF WATER Reg #: EMS: Method: T4 Temp: 10 Cond.: 90 Method: S3 pH: 7.8 Method: P2 Turb.: T M L C Method: GE Flood Signs: Rafted debris Method: GE MORPHOLOGY 01 B1 **B2** D3 **B**3 D1 D2 Bed Material: Dominant: G Subdom: C D95: 15.0 D (cm): 8.00 Morph: RP DISTURBANCE **INDICATORS** C2 C3 Pattern: SI C1 C4 C5 **S1** S2 **S3** S4 \$5 Islands: N Coupling: PC Confinement: OC Bars: NV SIDE DIAG MID SPAN BR FSZ: FEATURES NID Map NID Method Lg Method Photo AirPhoto Hgt UTM (Z/E/N) Method Type 093M.029 88024 CV 1.2 GE 16 GE R: 4 F: 16A 9.676343.6123683 GIS Comments: HABITAT QUALITY Name Comments OverWinter Habitat None. Spawning Habitat Moderate - abundant gravels suitable for spawning.

Moderate - abundant cover and pools.

Rearing Habitat

Tochcha Lake Planning Area

ILP Map # Reach# ILP#

Site

				- y - 3 5		PHOTOS
	Ph	oto		Foc Lg	Dir	Comments
R:	4	F:	16A	STD	U	Photo of culvert - possible velocity barrier.
R:	4	F:	17A	STD	U	Upstream photo of spanning LWD.
R:	4	F:	18A	STD	D	Downstream photo of gravel substrates.
100			W			COMMENTS
		Se	ction			Comments
	CHANNEL		RB captured	I.		
		CHA	NNEL	S3		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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3.0

093M.029

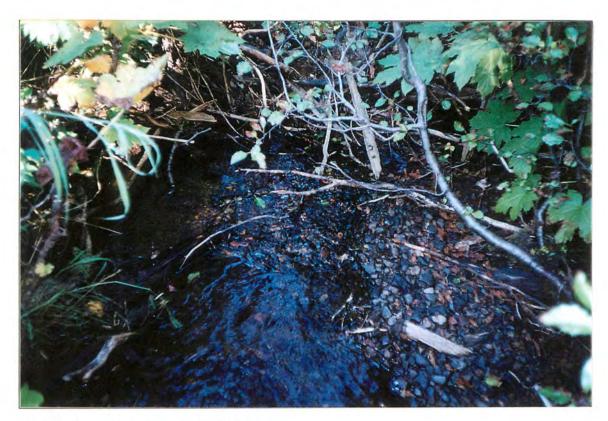
11:30	-800 F	N. W.			100-2	6		397	WATE	RBOD	Y	GUIVO.	0.532		189	Share To	
G	Proje W Water	d Name ct Code S Code body ID	: 182- : 000-	819600-63 000000-00	3300-409	00-0000-0	0000-0	00-000	0-000-000- 0-000-000- ILP Map #	000-0	Loc		ILP				1 -
	Pr	oject ID	: 5271								Lake/St	ream:	S		Lake Fro	om Date:	
	Fish F	Permit #	: 14	5269	D	ate: 200	2/08/30		- 101 094	02/08/30		ency:	C172	Cr	ew: SG/JD	Resar	mple:
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Site#	NI	D Map	NID	# (JTM:Zone	/East/No	rth/Mth	ıd	MTD/NO	Temp	Cond	Tur	bid		Co	omment	
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Site#	T	MTD/N	10	H/P	Species	Sta	ge	Age	Tota	I# Lgt	h (Min/M	ax)	FishAc	t		Comment	
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75 . 3	BASIS	E V	7	1	W 200	31.025	INE	1710	DUAL	FISH	DA	TA	12 3	V17:115	Part of		5-3
Site#	MT	D/NO	H/P	Species	Length	Weight	Sex	Mat	1	\ge	Vch#	G	enetic	Roll#	Frame#	Comr	nent
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36	EF	1	1	RB	100		U	U			11						
36	EF	1	1	RB	140		U	U	STA		TITE!						
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36	EF.	1	1	RB	90		U	U				Te.					
36	EF	1	1	RB	140		U	U									
36	EF	1	1	RB	120		U	U									
36	EF	1	1	RB	75		U	U				1	10.1				
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36	EF	1	1	RB	65		U	U					nl_r				
36	EF	1	1	RB	90		U	U	in c		1 - 3	1	THE H		100		
36	EF	1	1	RB	85		U	U									



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

1.0

093M.029

Gazetted Name:						ocal Na	me:			
Watershed Code: 0	000-000000-000	00-00000-0000-	0000-000-0	000-000-000	-000-000		ILP N	Map #: 093M.	029	.P#: 1123
	. 3	AME OF THE PARTY.		REA	CH	Set/"		35 35 78		
Reach #: 1.0 Length (km): .83 Gradient (%): 6.3 US Elev (m): 940		Coupling: Pa Confinement: Oc Islands: NO	artially Coup ccasionally ONE	Conf R	agnitude: Order: iparian Ve	getation:		erous	Sample Type: BGC Zone: Open water: Ab	
Bars: None 🗸 Sic	e Diagon	al Mid-cha	nnel 📋 🤄	Span	Braid 🔲	Landus	se: Not	Specified		
Site #: 37 Site Length (m): 200		d UTM IS UTM 9.67524	8.6124212	01	Agen	cy: C172			G/JD Date: al Consultants (2002/08/30 Terrace)
Tell and the second	11-11-11-11-11-11-11-11-11-11-11-11-11-		S 114	CHAN	INEL	-inter	1	All lang	Ülü -	
Dewatered: ☐ tage; Low ✓	Tribs.:	Channel Wi Wetted Wi Bankfull De	dth (m): 1 dth (m): 0	.70 1.5 .82 0.600 .53 0.5	1.9 1 1 0.6	6 6 3	P	Gradient % ool Depth (m	0.12 0.100	
Med High	Temp (C):	10 pl	1: 7.6		Conductiv	ty: 80		Turi	oldity.: Turbic Moderate	
	Salte.	THE PARTY OF THE P	M	ORPH	OLOG	1938	- 1	A COURT	4-1	508
Channel Pattern: S Coupling: P. Confinement: O Morphology:	artially Coupled ccasionally Co	l nfine	nds: None		JRBANCE CATORS C2 C	01 3 C4	C5	S1 S2		D3 S5
edente pos			CY)	COV	ER	Market 1		1400		
Total Cover: Abunda LWD: Few LWD Dist: Evenly	Distributed	Location:	mount:	WD LW	77	_	U T	DP N	OV IV	FSZ:
Left Bank: Sha	pe: Overhangi eg: Coniferous	Texture: Fines Texture: Fines	Gravel Stage: N		Bould	er R	ock ock am Veg	Manmade Manmade None		rown Closure 1-20% Vascular
The man of the same	ir Jan		E 25%		FEATU	RES	1	A Aller		11 1
NID Map NID 093M.029 88025 Comments: Bridge	Type Hgt BR 1.0		Lg 10	Method GE F	Phote: 4 F	19A	L:	AirPho	#:	UTM (Z/E 9.675232.61
		S 5- 5-17 - 5-4	AND THE ASSESSMENT	F15	H	New Charles	11) -		
NA NAME OF TAXABLE				-	APPLICATION.	1	200	10000		
Site Number Capt Meti		Charles III I though a start of		Total Time	Voltage	Spec	cies	Total Fish	Minimum Length (mm)	Maximum Length (mm

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

093M.029 1.0 1123 37 PROJECT Project Name: Babine and Tochcha 5271 Project Code: Stream Name (gaz.): SAKENICHE RIVER WATERSHED Local Name: Gazetted Name: Site #: 37 Reach #: 1.0 NID#: 40037 ILP Map#: 093M.029 ILP#: 1123 NID Map #: 093M.029 Access: V4 Site Lg: 200 Method: HC Method: Field UTM (Z.E.N): .. Ref. Name: GIS UTM (Z.E.N): 9.675248.6124212 V Incomplete: Crew: SG/JD Fish Crd?: Time: 12:02 Agency: C172 Date: 2002/08/30 CHANNEL Gadient % Mtd Avg width width width width width width width width Avg width Mtd width C 5.00 5.0 6.0 Method I: 1.70 1.70 1.70 1.80 1.50 1.90 1.60 Channel Width (m): MS 6.0 C Method II: 3.0 0.90 0.82 0.70 0.60 0.90 0.80 Wetted Width (m): MS 1.00 0.12 0.10 0.20 0.10 0.10 0.10 Pool Depth (m): MS 0.10 No Vis.Ch.: Intermittent: V Tribs.: Dw: Stage: L V M H Wb Depth: .5 .5 .6 Avg: 0.53 Method: MS Total: A COVER IV CROWN CLOSURE OV DP SWD LWD В U Type: 1-20% D N N S N Amount INSTREAM VEG: N A M V Loc: P/S/O: DIST: E LWD: F LB SHP: O Texture: F G G C B R A Texture: F G C B R A RIP: C RIP: C STG: MF STG: MF WATER Reg #: EMS: Cond.: 80 Method: S3 Method: T4 Temp: 10 Method: P2 pH: 7.6 Method: GE Turb.: T M L C Flood Signs: Rafted Debris Method: GE MORPHOLOGY D2 D3 **B2 B3** D1 01 **B1** Dominant: G Subdom: C Bed Material: D (cm): 10.00 Morph: CP D95: 15.0 DISTURBANCE **INDICATORS** S1 S2 **S**3 \$5 C3 C4 C5 C1 C2 Pattern: SI Islands: N Coupling: PC Confinement: OC BR MID SPAN Bars: NV SIDE DIAG FSZ: FEATURES UTM (Z/E/N) Method AirPhoto Method Photo Method Lg NID Map NID Type Hgt 9.675232.6124302 GIS GE 4 F: 19A #: GE 10 093M.029 88025 BR 1.0 Comments: Bridge HABITAT QUALITY Comments Name OverWinter Habitat None Poor - substrates large, small pockets of suitable gravel. Spawning Habitat

Poor - shallow residual pools, isolated sections of stream.

Rearing Habitat

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

1.0

093M.029

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			6.1			PHOTOS
	Ph	noto		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.
1100	Will		TOP OF	e-reconstitution des	Carrio Miliana	COMMENTS
	Section					Comments
	CHANNEL S3					

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

1.0

093M.029

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Gaz	etted Nam	e:								Loca	al:					
F	Project Cod	e: 182-	819600-6	3300-40900-	-0000-0000-	000-00	0-000-00	0-000-	0							
	WS Cod	e: 000-	000000-0	0000-00000-	-0000-0000-	000-00	0-000-00	0-000-	000							
M	aterbody II						ILP Map	#: 09	3M.02	9		ILP#:	1123	Reach #:	1 -	
	Project II): 5271								Lake/Str	eam:	S	Lake	From Date:		
F	ish Permit	t: 14	5269	Date	: 2002/08/	30	To:	2002/0	8/30	Age	ency:	C172	Crew: SG/	JD F	Resample	: [
12 170	202		1000	可能。可	THE PARTY	S	ITE /	ME	TH	O D	7153		, the	3/1/	77	141
Site#	NID Map	NIE	NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment													
37	093M.029	400	37			GPU	EF 1		10	80	С					
alaten.			1700			A. (GEAR	SE	TII	NGS	201	Tree - 200	3	, 4		192
Site#	MTD/NO	H/P	Date	In Time	In Date	Out	Time O	ıt			-	C	omment			
37	EF 1	1	2002/0	and the same of the same	the state of the s	08/30	12:30	J. J.								
355			14.	C.	ELECT	RO	FISHI	ER S	SPE	CIFI	CA	TIONS	到到有人	(mg)		
Site#	MTD	NO	H/P	Encl	Sec	L	ength	W	idth	Volt	age	Frequency	Pulse	Make	е	Mode
37	EF	1	1	0	100		200.0		8.0	50	00	60	6	SMIT		12B
	NF.	8.8	(TH	1777年	12.20	F	SH S	UM	MAI	RY		**************************************				4-71
Site#	MTD	NO	H/P	Species	Stage	Age	e To	tal #	Lgth	(Min/Ma	ax)	FishAct		Commen	t	
37	EF I	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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

2.0

093M.020

Gazetted N	lame:								Local N	ame:					
Watershed	Code: 0	00-000	000-00000	-00000-0000-	0000-000	0-000-00	0-000-	000-000		ILP	Map #: 093M.0	20	ILI	P#:	1429
					4	F	REA	СН	1			-11/7	n i		
Reach #: Length (kn Gradient (% US Elev (n	n): 2.96 %): 1.4 n): 860			UTM(Zone Coupling: Donfinement: O Islands: N	ecoupled ccasiona ONE		Ма	.6116845 gnitude: Order: parian Ve		n: Conif	c		Type: Zone: iter: Abs		ed
Bars: None	Si Si	de 🔲	Diagonal	Mid-cha	nnel	Span		raid	Land	use: Not	Specified				
		No.	to Sur	y de file		THE SE	SIT			2000	\$100		100		#V 3
Site Leng	#: 38 th (m): 10	0		JTM UTM 9.68464	8.611658	30			cy: C17 cy Nam		Crew: SC Environmenta	S/JD Il Consu		2002/08 errace)	/30
	Ar Is	2/2		- "		CI	HAN	NEL	1000	1	" - ANTON				J. V.
No Vis.Ch	.: 🗌 Ir	termitte	int: 🔲 _			Avg	Min	Max	#			Avg	Min	Max	#
Dewatered	d:	Trib	s.:	Channel W	, ,	1.42	1.3	1.600	6		Gradient %:	1.00	1	1	4
	w ~		-	Wetted Will De		0.50	0.400	0.600	6	[]	Pool Depth (m):		0.050	0.100	6
Me Hig		Te	mp (C): 10		1: 7.6	0.01		Conductiv			Turb	idity.: M	Turbid oderate		Low _
247	-1	333		17.7		MOR	PHC	LOG	Y			2	San C	. 33	330
Confir	oupling: D nement: C hology:	ccasion	ed nally Confi Riffle Pool	ne			C1	C2 C	3 C4	4 C5	S1 S2	S3	S4	\$5	
	A		WI .			C	OV	ER			No. 11	- 11	* V = _		-
Total Cover	r: Abunda	int		4 1 7	Туре:	SWD	LWI	-	_	U		OV	IV		
1000000	: Few	Distrib.	I	Location:	nount:	T	S			T	N		T	507	. 🗆
LWD Dis Right Bank Left Bank Right Bank Left Bank	c: Sha c: Sha c: Rip.\	ape: Ov ape: Ov /eg: Co	erhangi 7	exture: Fines	✓ Gra ✓ Gra Stage	vel (Cobble Cobble forest	Bould	er F	Rock Rock	Manmade Manmade g: None	Algae	Cre	FSZ own Clos 1-20	ure
	v +√¶*		Ty RE	1942	3 - 1	y = 4 10	F	EATL	RES		11 (1 (1 (1 (1 (1 (1 (1 (1 (1	14 1		0.8	
NID Map	NID	Туре	Hgt	Method	Lg	Metho	_	Pho			AirPho				M (Z/E/N
093M.020	88026 ts: Partia		.6	GE	20	GE	R:	4 F	: 22A	L		#:		9.6846	43.6116
Commen		-		11-30-31		- 700	FIS	Н	72 - 1 -	62.0	. 7%	1 - 2	. = 1		- 1
Commen	7,		1.50												
Site Numbe	r Cap		Number			Total Time		Voltage	Spe	ecles	Total Fish	Minin		Maxir	

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site 38

115 00			114		5 1925	TO STATE	1110	PR	OJE	c T	100 m	1 18				-3		3	
Pro	Proj Stream Na iject Waters	me (gaz	.): SAK		RIVER		00-0000	-000-00	0-000-00	0-000-0	00		Project C	ode:		5	271		
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Wate Field U	zetted Name ershed Code ILP Mapa JTM (Z.E.N JTM (Z.E.N	e: 000-00 #: 093M.):): 9.6846	020 648.6116	5580	LP#: 14	429 Method:	00-000-0 NID M	000-000 ap #: 09	-000-000 3M.020) N	IID#; 40 Site Li ef. Name	g: 100 e:	e: Read	Metho	2.0 od: HC	,	Access: \		
		ate: 200	2/08/30		Time: 12	:57	0	Agency:			Crew:	SG/JD		Fis	h Crd?:	~	Incom	plete	الا
All California		12.045	1131	Ť.	- i - i'	3,000			ANN	208-0301		1000	Nes A		1				(1/11) I
		Mtd	width	width	width	width	width	width	width	width	width	width	Avg		_	Gadient		-	Avg
	el Width (m)		1.60	1.40	1.30	1.50	1.40	1.30					1.42			_		_	1.00
	d Width (m)		0.60	0.40	0.50	0.60	0.50	0.40					0.50	Me	thod II:	1.0 1	.0	С	
Poo	Depth (m)	MS	0.10	0.10	0.05	0.10	0.10	0.10					0.09						
	140 D W		1 .	1 .		Like									Vis.Ch.;	Int	termittent	-	
	Wb Depth	.5	.3	.3	Avg	g: 0.37		Method:	MS	Si	tage: L	V M	ПН		Dw:		Tribs.	: 📙	
	COVER			Tota	al: A														
	Туре	SWE) I 1V	VD	В	U	DF		ov T	IV	1 CR	OWN CI	OSURE						
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-	Loc: P/S/O	-		3	IA		IN.		_		1				400.000				
	LUC. F/3/C		V			V		V		/	INS	TREAM	VEG:	N .	A \square M	V	~		
	LWD	· E		D	IST: E						7								
	LVVL			U	13 I. E														
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	Texture	: F V	G	C	B	RIA						Texture	: F .	G	C	BIR	A		
	RIF		-		-														
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14.38	14, 118	5 7 7	-27	<		4000	9 - 3	W.	ATE	D			Tally and				70	1000	
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	EMS										R	eq #:							
	Temp							od: T4			C	ond.: 60					Method:	S3	
	pH	7.6					Metho	od: P2			т	urh : T	C M	71.7	CV		Method:	GE	
1	Flood Signs	None					Metho	od: GE				u	П.,,	1 - 1		1	wearou.	OL	
//accessor		207700	A 1000								50 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -								
	No.						IV	IORF	HOL	UGY		10	Library	J				*	
В	ed Material		Dominan	t: F		Subdom	: C				01	B1	B2 E	33 D	1 D2	D3			
		15.0	D (cm): 2.00		Morph							TIT	7 [III	IT	Ī		
			D (0	, 2.00		Могр	. ()		DISTURE				1111						
	Pattern								INDICA	TORS	C1	C2	C3 C	C4 C	5 S1	S2	S3	S4	S5
	Islands																		
	Coupling	DC																	
C	onfinement	OC																	
	FSZ:								В	ars:	NV	SID		DIAG	MIE		SPAN		BR
		. 19 13	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	HTY I		3 3		FEA	TUR	ES	TENE		1	50-18			31		
NID Map	NID I	Туре	Hgt	Method	1 1 1	g N	lethod		Photo			AirP	hoto	20000	1 177	TM (Z/E/	'N) I	Me	ethod
093M.020		CV	.6	GE		-	GE	R: 4		22A L			#:			643.611		-	GIS
	ts: Partial b			JL		- 1	JL	1,	1,1			_	185	-	3.004		5405		510
Commen	o ditial b	urriot.																	
	Let's	3/	100	13.05		1400	HAI	BITA	TQL	ALI.	TY	- =		F-1		1			= =
	Name		1		- 0.20					C	omment	s			Contract of the Contract of th	-			
Over	Vinter Habit	at	None.			_		-	_		Similari							-	
	vning Habita		_	gravels	mived	ith finas	_	_						_					
			_					oter	at wat								_		
Rea	ring Habitat		Poor -	shallow	residual	pools, ic	W HOWS	, stagna	nt water.										

Tochcha Lake Planning Area

ILP Map # Reach #

ILP#

Site

Wa	aters	hed Cod	le: 000-000000-00000-	00000-0000-0000-0	000-000-000-000-000	2.0	093M.020	1429	38
N	170		1 - 1 A THE		PHOTOS		SARAN INC.		all the same
Ph	noto		Foc Lg	Dir			Comments		
4	F:	22A	STD	U	Photo of culvert partial barrie	er.			

	P	hoto		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.
			ightéle i	July mykisty myster		COMMENTS
		Se	ction			Comments
		CHA	NNEL	RB captured		
		F: 23A STD D Downstream photo of channel. F: 24A STD U Upstream photo of channel. COMMENTS				
-	_	_				

Tochcha Lake Planning Area

Watershed Code:

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

Reach #

ILP Map #

ILP#

2.0

093M.020

1		1		- 100		MACIFILITY OF THE PARTY OF THE	TIP.	3/4	WA	TER	BO	DY				11-10-	1-16		101
	Pro		e: 182	-819600-6 -000000-0					0-000-	000-0			Loca	al:	ILF	· #:	1429	Reach #:	2 -
		Project II	D: 527	1								L	ake/Str	eam:	S		Lake Fr	om Date:	
	Fish	Permit #	<i>‡</i> : 1	45269	D	ate: 200	02/08/30		To	: 200	2/08/3	0	Age	ncy:	C172	Cr	ew: JD/SC	G Re	sample:
	0	(1) - y (1)		Ang Alle	· ·			S	ITE	1 N	MET	H O	D		10年20日	J	/ - W	· 有三位	
Site#		NID Map	NI	D#	UTM:Zone	e/East/N	orth/Mth	d	MTD	/NO	Tem	0	Cond	Tur	bid		С	omment	
38									EF	1	10		60						
10 10	6	AL ALE	0.1	$= \tilde{q}(\tilde{q}_{i}) \cdot \tilde{q}_{i} =$	8 8 U		1	١. ٥	BEA	R S	SET	TIP	4 G S				70 - 70 -	Mr. V	
Site#	T	MTD/NO	H/P	Date	In Ti	me In	Date C	Out	Time	Out						Com	ment		
38		EF 1	1	2002/0	8/30 1	2:57	2002/08	3/30	13:	20									
	2010			7 1145	C	. EL	ECTI	ROI	FIST	HER	S	E	SIFI	CA	TION	IS	3/2/1/2	Alexander of	- 200/1
Site#		MTD	NO	H/P	En	cl	Sec	L	ength		Width	1	Volt	age	Freq	uency	Pulse	Make	Model
38	1	EF	- 1	1	0		102	100	100.0		0.5	ri er	70	00	(60	6	SMITH	12B
		57. X.	6	110	100	41		FI	SH	SU	MM	AR	Y		No. 1		5,0		
Site#	T	MTD/	NO	H/P	Species	s Sta	age	Age		Total	#	gth	(Min/Ma	ax)	FishAc	t		Comment	
38	1	EF	1	1	RB	J	1		_ ·	- 1	V. L	65	1	35	R				
- SV	18	T. T.	1	701 W	All and	W 2018	INC	IV	IDU	AL	FIS	Н	DA.	FA	- % - K	10.00			
Site#	N	TD/NO	H/P	Species	Length	Weight	Sex	Mat		Α	ge		Vch#	G	enetic	Roll #	Frame#	Co	mment
				1		1			S	Str/Sm	pl#/Ag	е		Str	/Smpl#				
38	EF	1	1	RB	65		U	U					7			1	1.3.41		



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

5.0

093M.020

			SIR	EAMRE	FEREN	ICING	u prete e j	100 A	T W
Gazetted Name: Watershed Code: 00	00-000000-004	000-00000-0000	-0000-000	1.000.000.00		Local Name		4.020	D# 410:
Watershed Code: 00	00-000000-000	000-00000-0000	-0000-000				LP Map #: 093N	A.020 II	_P#: 1404
	11 第三			K.E	ACH	100			
Reach #: 5.0 Length (km): 1.73 Gradient (%): 6.0 US Elev (m): 1023 Bars: None 🗸 Sid		UTM(Zon Coupling: D Confinement: C Islands: N nal Mid-ch	ecoupled occasional	lly Conf	96.6115995 Magnitude: Order: Riparian Ve	getation: D	eciduous Not Specified	Sample Type: BGC Zone: Open water: Ab	25.5
19-17	Prints I	100	200	SI	TE	377-V-3	Trest.		
Site #: 39 Site Length (m): 100		Id UTM GIS UTM 9.68156	63.611539	90		cy: C172 cy Name: T	ATT TO STATE OF THE STATE OF TH	SG/JD Date:	2002/08/30 Terrace)
1246 V2.				CHA	NNEL		-2980	11-1-6-71	
No Vis.Ch.: Int	ermittent:			Avg Mir	n Max	#		Avg Min	Max #
Dewatered:	Tribs.:	Channel W		1.12 0.9	1.3	6	Gradient '	%: 1.50 1	2 4
Stage: Low		Wetted W	idth (m):	0.55 0.5	0.600	4	Pool Depth (r	n): 0.20 0.100	0.300 4
Med		Bankfull De	epth (m):	0.40 0.4	0.4	3	To	urbidity.: Turbid	Low
High	Temp (C):	10 p	H: 7.4		Conductivi	ty: 60	15	Moderate	
三发了他众为然对于 安				MORPH	OLOG			33. 11.1527	
Channel Pattern: Si Coupling: De Confinement: On Morphology: F	ecoupled ecasionally Co	onfine	ands: Non		C2 C	O1 B	1 B2 B3 C5 S1 S		S5
				CO	VER		1 1		0), 21
Total Cover: Abundar LWD: Few LWD Dist; Evenly I		A Location:	mount:	SWD L	WD B	U S	DP N	OV IV D T	FSZ:
Left Bank: Sha	oe: Overhangi eg: Deciduous	Texture: Fines	Grav Stage	vel Cobb vel Cobb : Pole-saplin : Pole-saplin	ole Bould	er Rock			1-20% Vascular
	he show		Te Te	jih.	FEATU	RES		- 3-1/4 a	
NID Map NID	Type Hgt	Method	Lg	Method	Phot	_	AirPh	noto	UTM (Z/E/I
093M.020 88027	CV .8	GE	16	GE	R: 4 F:	25A L		#:	9.681479.611
Comments: well pla	ced (photo Ro	oll 5 Frame 01)							
THE SECTION		\bar{q}''		FI	SH			300 311	
Site Number Capte Meth			April 1997	Total Time	Voltage	Specie	s Total Fish	Minimum Length (mm)	Maximum Length (mm)
39 EF	1	20	0	262 sec	700	NFC	0		

Tochcha Lake Planning Area

ILP Map #

ILP#

Site

5.0 093M.020 1404 39

								PR	OJE	CT			18 Marie			1	2/8	3-1	
	Proje Stream Nar ect Watersh	ne (gaz): SAK		RIVER		000-0000	-000-00	0-000-00	0-000-0	00		Project C	ode:			5271		
	v. 5	200	0 (a) (7)		3.7.7	28 - O. T.	- 1000	WAT	ERS	HED	100	1			1500	150	100	9.71	
Gaz	etted Name							THE COLUMN			Lo	cal Nam	е.						
	rshed Code		00000-00	000-000	000-000	0-0000-0	000-000-0	000-000	-000-000)		ou. main	·.						
	ILP Map#	: 093M.0	020	4	LP#: 14	104	NID M	ap #: 09	3M.020	٨	IID#: 40	0039	Rea	ch #:	5.0	0	S	ite #: 3	9
Field U	TM (Z.E.N)					Method:					Site L	n: 100		Metho	d: HC		Acces	s: V2	
	TM (Z.E.N)		63.6115	390						R	ef. Name			1114615	71017		3.000	20.00	
	Do	to: 200	2/08/30		Timo: 12	-25		A =====	. C172		20000	COUID		Cia!	· 0-40.		14.		
	Da	te. 200	2/06/30		Time: 13	.35		Agency			Crew:	SG/JU		FISI	h Crd?:	~	Inc	complet	.е:
1 1						1 1		- Constitution	ANN		May 1 - 1			Solin					
-	LIAC ML ()	Mtd	width	width	width	width	width	width	width	width	width	width	Avg			Gadier		Mtd	Avg
	Width (m): Width (m):	MS	0.60	0.50	0.60	1.30	0.90	0.50	-				1.12 0.55			1.0	1.0	С	1.50
1	Depth (m):		0.30	0.20	0.10			0.20					0.20	ivie	1100 11.	1.0	1.0		
							-	775							Vis.Ch.:		Intermitt	-	2
	Wb Depth:	.4	.4	.4	Avg	g: 0.40		Method:	MS	S	tage: L	✓ M	H		Dw:	Ш	Tri	ibs.:	1
	COVER			Tota	al: A														
	Type:	SWE	L	ND	В	U	DF	9	OV	IV	CR	OWN CL	OSURE						
	Amount:			S	N	S	N		D	Т	1		-20%						
	Loc: P/S/O:	V	~			V		V		V	INS	TREAM	VEG:	N 🗌	A M		1		
	LWD:	F		D	IST: E														
	LB SHP	:0										RB SHP	:0						
			G	C	В	RI	A							G	C 🗌 I	В	R	A	
	RIP											RIP				0-1			
	STG											STG							
	1 144	-6.7			7-4-		- 1	W	ATE	R	43.77	12.0	15					-	
	EMS:											eq #:							
	Temp:							od: T4			С	ond.: 60					Metho	od: S3	1
	pH: lood Signs:							od: P2 od: GE			1	urb.: T	M	1	C		Metho	od: Gl	Ε
	loud olgilo.	110110							10 P - 7					_					
	\$ F	- 1					A	ORE	HOL	OGY	(10)(2010)		Ten"			15		Val-	
Be	ed Material:		Dominar	nt: G		Subdon	n: C				01	B1	B2 I	33 D	1 D2	D3			
	D95:	15.0	D (cm): 5.00		Morpi	h: RP	1	DISTUR	BANCE									
	Pattern:	SI							INDICA	TORS	C1	C2	C3 (C4 C	5 S1	S2	S3	S4	S5
	Islands:																		
	Coupling:										-								
C	onfinement:								В	ars:	NV	SID	E	DIAG	MI	D	SPAN		BR
	FSZ:										•			-Mes [9.0
7.3 (4.5)	24.1	11= 07	- 12	Lag Sall	-1-	- 7	150	FE/	TUR	ES	Ciry.	01/12	34	1 (4)	100	7-7		rej- ,-	3 40
NID Map	NID 1	Гуре	Hgt	Metho	d I	g I	Method	Mary 1984	Photo			AirP	hoto		U	TM (Z/	E/N)	T	Method
093M.020		CV	.8	GE		16	GE	R: 4	4 F:	25A	L:		#:		9.68	1479.6	115427		GIS
Comment	ts: well plac	ed (phot	o Roll 5	Frame 0	11)														
	10-	100	Tall of	35 3	200		HA	BITA	TQ	JALI	TY	10			1300		- ilii		
	Name			1						(Commen	ts							
	Vinter Habita		None																
	ning Habita			low flow															
Rea	ring Habitat		Poor -	· intermit	tent flow	, shallov	v residua	al pools.											

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Site

5.0

093M.020

1404

	Ph	ioto		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.
			NIPAN.			COMMENTS
		Se	ction	- Marie Mari		Comments
	CHANNEL S4*			S4*		

Tochcha Lake Planning Area

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

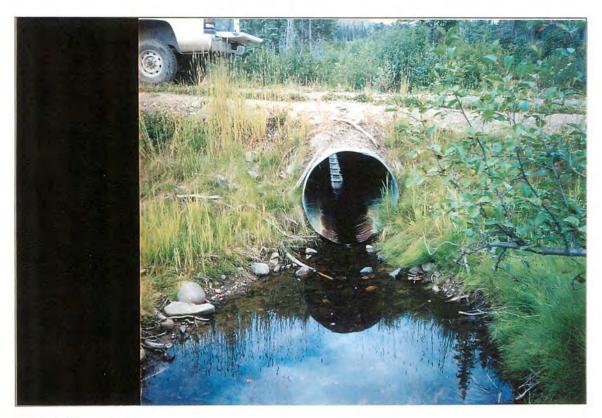
Reach # ILP Map # ILP#

Watershed Code:

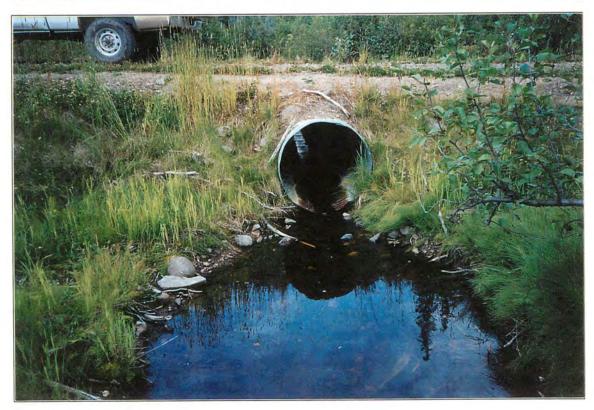
5.0

093M.020

100	70,4		3				100 M	WA	TER	BOD	Υ	100	in the first of	12 A 12		1,344
Ga	zetted	Name:									Loc	al:				
1	Project	Code:	182-8	319600-6	3300-	40900-000	00-0000-000-0	000-000	0-000-00	0-0						
	WS	Code:	000-0	000000-0	00000-	00000-000	00-0000-000-0	000-000	0-000-00	0-000						
٧	Vaterbo	ody ID:						ILP	Map #:	093M.0	20		ILP#:	1404	Reach #: 5	-
	Proj	ect ID:	5271								Lake/St	ream:	S	Lake Fi	rom Date:	
F	ish Pe	rmit #:	14	5269		Date: 2	2002/08/30	To	o: 2002	2/08/30	Ag	ency:	C172	Crew: SG/JI	D Resar	nple:
-4-0	27/3	alt.	3/2					SITE	/ M	ETH	O D				the second	- 1
Site#								MTE	O/NO	Temp	Cond	Turi	bid	C	Comment	
39	093	M.020	4003	39			GP	U EF	1	10	60	C				
							Α.	GEA	AR S	ETT	INGS				Tall val	(A.)
Site#	MTI	D/NO	H/P	Date	In	Time In	Date Out	Time	e Out				С	omment		
39	EF	1	1	2002/0	8/30	13:35	2002/08/30	13	:52							
				33.6×	7/1	C. El	LECTRO	FIS	HER	SP	ECIFI	CA	TIONS		1656 1971 3	(E)
Site#		MTD/N	Ю	H/P	-jin	Encl	Sec	Length		Width	Vol	tage	Frequency	Pulse	Make	Mode
39	EF		1	1		0	262	200.0	1	0.6	7	00	60	6	SMITH ROOT	12B
العرائد ا						100	OTN N	ISH	SU	MMA	RY			74-1		
Site#	U.E.U	MTD/N	О	H/P	Spe	ecies S	Stage A	ge	Total i	# Lg	th (Min/M	lax)	FishAct		Comment	
39	EF		1	1 NFC				0		- 1						



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

Tochcha Lake Planning Area

Reach # ILP Map #

093M.020

3.0

Instream Veg: None Algae Moss Vascular

ILP#

STREAM REFERENCING **Gazetted Name:** Local Name: ILP Map #: 093M.020 1408 REACH Reach #: 3.0 UTM(Zone/East/North): 9.681167.6115969 Sample Type: Length (km): 1.07 Coupling: Decoupled Magnitude: 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 SG/JD Date: 2002/08/30 Crew: Site Length (m): 100 GIS UTM 9.681854.6115517 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL No Vis.Ch.: 🗸 Intermittent: Avg Min Max Min # Avg Max # Dewatered: Tribs.: Channel Width (m): 0.00 0 Gradient % 0.00 0 0 Wetted Width (m): 0.00 0 0 Pool Depth (m): 0.00 0 Stage: Low Bankfull Depth (m): 0.00 0 0 0 Med Turbidity.: Turbid Low High Temp (C): pH: Conductivity: Moderate Clear MORPHOLOGY Bed Material: Dominant: Side Diagonal D95 (cm): Bars: Non Mid-channel Span Braid Subdominant: D (cm): Channel Pattern: Islands: DISTURBANCE **INDICATORS** Coupling: Confinement: C5 S1 S2 **S3** Morphology: COVER Total Cover: Type SWD LWD В IV Amount LWD: Location: P/S/O: LWD Dist: FSZ: Texture: Fines Gravel Cobble Boulder Rock Right Bank: Shape: Crown Closure Left Bank: Texture: Fines Gravel Cobble Boulder Rock Manmade Shape: Right Bank: Rip.Veg: Stage:

Stage:

Left Bank:

Rip.Veg:

Tochcha Lake Planning Area

ILP Map # Reach #

ILP#

Site

3.0

093M.020

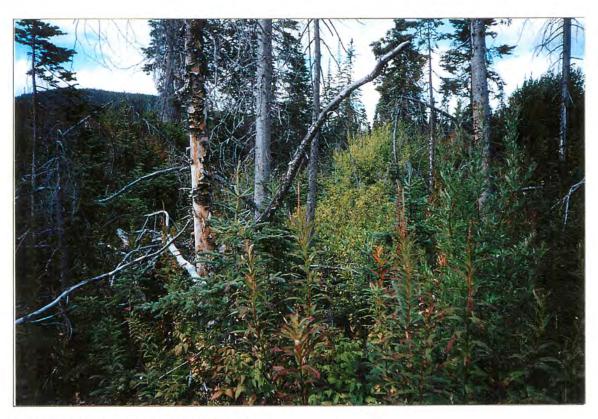
1408

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Proje Stream Nar Project Watersh	ne (gaz.): SAK	ENICH			00-0000	-000-000	0-000-00	0-000-00	00	F	Project Co	ode:		(5271		
	-1-1-1-		Su u			E MOSE	WAT	ERS	HED	Property of	35			and the second	30	-11- 57	5-	700
Gazetted Name										Lo	cal Name	e:						
Watershed Code ILP Map#	: 093M.0	020		ILP#: 1	408	NID M	000-000- ap #: 09			ID#: 40		Read			0.0		e #: 40)
Field UTM (Z.E.N) GIS UTM (Z.E.N)	9.6818	54.6115			Method:				Re	Site L			М	ethod: HC		Access		
Da	te: 200	2/08/30		Time: 14	:20		Agency:	1.11		rew:	SG/JD			Fish Crd?:		Inco	mplet	е: 🔲
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r oor bepar (iii).	IVIO		1			-	-	-				0.00		No Vis.Ch.	: V In	termitte	nt:]
Wb Depth:			-	Av	g: 0.00		Method:	MS	St	age: L	_ M	THE		Dw	: 🗌	Trib	s.: []
COVER			To	otal:														
Type:	SWD	LV	ND T	В	U	T DF		ov T	IV	CR	OWN CL	OSURE						
Amount:										1 30								
Loc: P/S/O:										INS	TREAM	VEG:	N	A	мпу			
LWD				DICT												-		
LWD:				DIST:														
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Bed Material:	E	Dominan			Subdom							D2 C	7		2 03	7		
D95:		D (cm):		Morph	:	0	ISTURE	BANCE				4		1111	1		
Pattern:								INDICA	TORS	C1	C2	C3 C	24	C5 S	1 S2	S3	\$4	S5
Islands:																		
															4 -			
Coupling:															41.4			
Confinement:								В	ars:	N	SIDE		DIAC	GCT N		SPAN	7	BR
								В	ars:	N	SIDE		DIA	G M	IID	SPAN		BR
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Confinement: FSZ:			715			HAI	ВІТА		JALI	Υ			DIAC	G N	NID	SPAN		BR
Confinement:		No Vis	sible C	hannel, ve	egefated s			TQU	JALIT C	Γ Y ommen			DIAG	G M	ND	SPAN		BR
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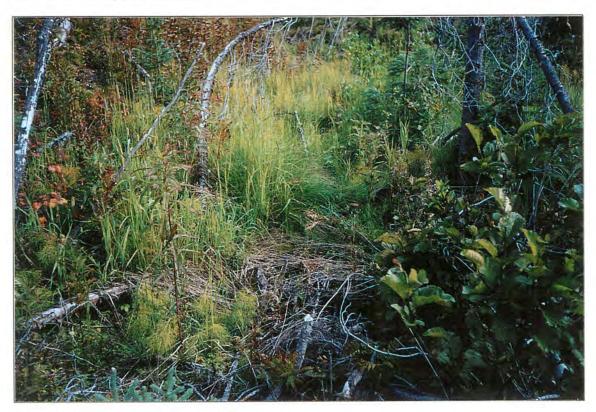
Tochcha Lake Planning Area

Reach # ILP Map # ILP # Site 3.0 093M.020 1408 40

	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

Tochcha Lake Planning Area

Reach # ILP Map #

3.0

ILP# 093M.029

	1 100		STR	EAM.	REF	EREN	CING	SAMPLE !		S. Millo		W di
Gazetted Na	ime:					L	ocal Name:					
Watershed C	Code: 000-00	0000-00000-00	000-0000-0000-00	0-000-00	0-000-0	000-000	ILP	Map #: 093M.0	29	IL	P#:	1141
	7 7 4		Avail (Comment)	e F	REA	CH	Victor Will		1			
Reach #: 3	1.0	-9/1046	UTM(Zone/East/N	orth): 9.6	72410	6126144		100	Sample	Type:	Biase	ed
Length (km) Gradient (%) US Elev (m) Bars: None): .33): 4.8): 916	Confir I	pupling: Decoupled nement: Occasiona Islands: NONE	d ally Conf	Ma Rij	gnitude: Order: 3	7 Betation: Decident	duous (BGC	Zone: ater: Abs	SBS	
1-1-1	1	1 - 2 T TV			SIT	E	224	W W W	874.0	(4) E (6)	1	
Site #:		Field UTM GIS UT	м М 9.672395.61263	26			y: C172 cy Name: Tritor	Crew: SO	G/JD al Consu		2002/09 errace)	9/28
			7	CI	I A N	NEL		34	1/23		3.27	13
No Vis.Ch.:	Intermit	tent:		Avg	Min	Max	#		Avg	Min	Max	#
Dewatered:	Tr	7.7	hannel Width (m):	1.68	1.5	1.9	6	Gradient %		3	5	4
Stage: Low	~		Wetted Width (m):		0.800	1.200		Pool Depth (m)	0.15	0.100	0.200	6
Med [Bankfull Depth (m):	0.43	0.4	0.5	3	Turb	idity.:	Turbid	=	Low
High [T	emp (C): 10	pH: 8.0		(Conductivit	y: 100		М	oderate		Clear 🗸
869		site V		MOR	PHC	LOGY	物的力工。		1900			5 5 5 5
	: Dominant: Subdominant:		D95 (cm): 15.			Bars: Non	✓ Side	Diagonal	Mid	-channel		pan 🗌
Channel Pa	attern: Sinuou	s	Islands: Nor	ne I		RBANCE	O1 B1	B2 B3	D1	D2 D	03	
	pling: Decoup					CATORS						
	ment: Occasio ology: RP	onally Confine Riffle Pool		_	C1	C2 C3	C4 C5	S1 S2	S3	S4	S5	
Widiplic	ology. 141	rume r oor		L								
		-W -347			OV							- 1
Total Cover:	Abundant		Type:	SWD	LW	~	U		OV	IV		
LWD: I			Amount: Location: P/S/O:	T	S	N	D		S	T		
LWD Dist:	Evenly Distrib	outed	Education: F7670.		V	لبالبالثا				/	FSZ	Z:
Right Bank: Left Bank: Right Bank: Left Bank:		verhangi Text				Boulde		Manmade Manmade Sig: None Manmade	Algae [Cre	own Clos	
31 31					FIS	H		50x, \$10x	= 1		7	3,00
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	-	Voltage	Species	Total Fish	Minin Length	1.0	Maxi	mum h (mm)
53	CC	1	200	362 co	_	400	NEC	0				

Tochcha Lake Planning Area

Reach #

ILP Map #

Comments

ILP#

Site

3.0 093M.029 1141 53 PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 WATERSHED Gazetted Name: Local Name: 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 Avg Gadient % Mtd Avg Channel Width (m) 1.60 1.80 1.70 1.90 1.50 1.60 1.68 Method I: 4.0 3.0 С 4.00 Wetted Width (m): Т 1.10 1.00 0.80 1.20 1.10 0.80 1.00 Method II: 4.0 5.0 C Pool Depth (m): 0.20 T 0.10 0.20 0.20 0.10 0.10 0.15 No Vis.Ch.: Intermittent: Wb Depth: .4 .4 .5 Avg: 0.43 Method: T Stage: L V M H Dw: Tribs.: COVER Total: A SWD LWD В **CROWN CLOSURE** Type: U DP OV IV S Amount N D Ν 1-20% S Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: E LB SHP: O RB SHP: O Texture: F G C B R A Texture: F G G C B R A RIP: D RIP: D STG: MF STG: MF WATER EMS: Req #: Temp: 10 Method: T4 Cond.: 100 Method: S3 pH: 8.0 Method: P2 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY 01 B1 **B2 B3** D1 D2 D3 Bed Material: Dominant: G Subdom: C D (cm): 8.00 D95: 15.0 Morph: RP DISTURBANCE **INDICATORS** Pattern: SI C1 C2 C3 C4 C5 S1 **S3** S2 **S5 S4** Islands: N Coupling: DC Confinement: OC Bars: SIDE DIAG MID SPAN BR FSZ: HABITAT QUALITY Name Comments OverWinter Habitat Spawning Habitat Poor - substrates poor quality for resident fish. Rearing Habitat Poor - shallow overall depth, low flows. PHOTOS Photo Foc Lg Dir

Upstream photo of riffle / pool habitat.

Downstream photo of pool habitat.

18A

STD

STD

U

D

F: 17A

Tochcha Lake Planning Area

Reach # ILP M

3.0

ILP Map #

093M.029

ILP#

Site

To West In the	COMMENTS
Section	Comments
CHANNEL	Beaver activity downstream may limit access to this reach.
CHANNEL	S3*

Tochcha Lake Planning Area

Reach#

ILP Map #

ILP#

Watershed Code:

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

3.0

093M.029

W. S.Y.	1		U)		E	4		211		WA	TER	BOD	Υ			in Miles				
Gaz	zet	ted	Name										Loc	al:						
F	Pro	ject	Code	182-	319600-	63300-	40900-0	0000-	0000-000-00	00-000	-000-00	0-0								
		ws	Code	000-	000000-	00000-	-00000-0	0000-	0000-000-00	00-000	-000-00	000-000								
V	Vat	erbo	dy ID:							ILP	Мар #:	093M.C	29		ILP#	1	141	Reach #:	3 -	
		Proje	ect ID:	5271									Lake/St	ream:	S		Lake F	rom Date:		
F	Fish	Pe	rmit #:	14	5269		Date:	200	2/09/28	To	: 2002	2/09/28	Ag	ency:	C172	Cre	w: SG/J	D R	esampl	e: 🗌
112			1 110	413			1	d	S	ITE	/ M	ETH	O D	HIE.	727 - 12	70				-
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Site#	T	MTE	O/NO	H/P	Date	e In	Time	ln	Date Out	Time	Out					Comm	nent			
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	3			15		42 - 3	C.	ELE	ECTRO	FIS	HER	SP	ECIFI	CA	TIONS	(T.E.)		75011	1	110
Site#	T	1	MTD/N	10	H/F	,	Encl		Sec L	ength		Width	Vol	tage	Freque	ncy	Pulse	Make	9	Mode
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21 747	3	8	177			w/26.		76	F	ISH	SU	MMA	RY	1 1	120	1997	9.20	A 40.20	10	3.3
Site#	T	1	MTD/N	10	H/P	Spe	ecies	Sta	ge Ag	e	Total :	# Lg	th (Min/M	lax)	FishAct			Comment		
53	T	EF		1	1	NE	С				0									



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0

093M.029

	STR	EAM	REF	EREN	CING			920)		
Gazetted Name:				1	ocal Name:					
Watershed Code: 000-000000-00000-0	0000-0000-0000-00	00-000-00	00-000-	000-000	ILI	Map #: 093M.0	29	IL	P#:	1182
			REA	CH		Same De		Inv. S	10 M	0,1
	UTM(Zone/East/N coupling: Partially C inement: Occasiona Islands: NONE Mid-channel	Couple ally Conf	Ma Rij	gnitude: Order: 2	4 2 etation: Con Landuse: N	diferous	Sample BGC Open wa	Zone:	2.25	ed
			SIT	E			7	- 378		= -1/_(gi)
	M 9.677020.61265 TM 9.677026.61266	70			y: C172 cy Name: Trit	Crew: SC on Environmenta	JD Consul	3336.334	2002/09 errace)	9/28
		C	HAN	NEL			(19)	1. 23		
No Vis.Ch.: Intermittent: Dewatered: Tribs.:	Channel Width (m):	Avg 0.90	Min 0.600	Max 1.200	# 6	Gradient %:	Avg 6.00	Min 5	Max 7	#
Stage: Low ✓	Wetted Width (m): Bankfull Depth (m):	0.58	0.300	0.800	6	Pool Depth (m):	0.10	0.100	0.100	6
Med ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	pH: 8.0	3.54		Conductivity	y: 80	Turb	idity.: Mo	Turbid oderate		Low_ Clear
	78 - 1° - 3	MOR	PHO	LOGY	Article E	Tream of			Serie Arri	
Bed Material: Dominant: Gravels Subdominant: Cobble	D95 (cm): 15 D (cm): 5.			Bars: Non	✓ Side	Diagonal	Mid-	channel		pan 🔲
Channel Pattern: Sinuous Coupling: Partially Coupled Confinement: Occasionally Confine Morphology: RP Riffle Pool	Islands: No	ne [RBANCE CATORS C2 C3	01 B1	B2 B3 5 S1 S2	D1 S3	D2 C S4	S5	
			COV	ER	174 34		0.0	= 110		
Total Cover: Abundant LWD: Few LWD Dist: Evenly Distributed	Type: Amount: Location: P/S/O:	SWD T	LWI S	D В Т	U D		S V	IV T	FSZ	ž: 🔲
Right Bank: Shape: Overhangi Te: Left Bank: Shape: Overhangi Te: Right Bank: Rip.Veg: Coniferous Left Bank: Rip.Veg:	kture: Fines 🗸 Gra Stag			Boulde Boulde	-	Manmade Manmade Manmade Manmade Manmade	Algae		21-4 Vas	0%
			FIS	H	W.		376		100	
Site Number Capture Number of Method Events	Length fished (m)	Tota Time		Voltage	Species	Total Fish	Minim Length		D 7. (120.0)	mum h (mm)
54 EF 1	200	280 se	ec	600	NFC	0				

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0 093M.029 1182 54 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: 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 Avg Gadient % Mtd Avg Channel Width (m): 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 Method II: 0.58 6.0 5.0 C Pool Depth (m): 0.10 0.10 0.10 0.10 0.10 0.10 0.10 No Vis.Ch.: Intermittent: 🗸 Wb Depth: .3 .4 .3 Stage: L V M H Avg: 0.33 Method: T Dw: Tribs.: COVER Total: A Type: SWD LWD В DP CROWN CLOSURE 11 OV IV Amount: D N S 21-40% Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: E RB SHP: O Texture: F G G C B R A Texture: F G C B R A RIP: C RIP: C STG: MF STG: MF WATER EMS: Req #: Temp: 6 Method: T4 Method: S3 pH: 8.0 Method: P2 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY 01 **B1 B2 B3** D1 D2 D3 Bed Material: Dominant: G Subdom: C D95: 15.0 D (cm): 5.00 Morph: RP DISTURBANCE **INDICATORS** Pattern: SI C1 C2 C3 C4 C5 S1 S2 **S3 S5** Islands: N Coupling: PC Confinement: OC Bars: DIAG MID SPAN BR SIDE FSZ: HABITAT QUALITY Comments OverWinter Habitat None. Spawning Habitat Poor. Rearing Habitat Poor. PHOTOS Photo Foc Lg Dir Comments 19A STD U Upstream photo of moss covered substrates. 20A STD D Downstream photo of pool habitat.

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

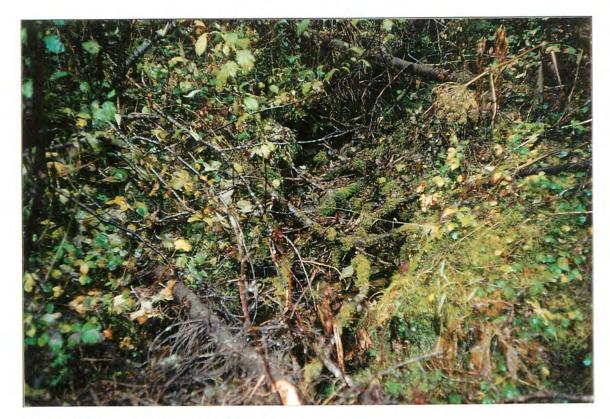
Watershed Code:

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Gaz	zetted Name	:								Loc	al:				
F	Project Code	: 182-	819600-6	63300-40900	-0000-0000-00	00-000	0-000-0	000-000	-0						
			000000-0	00000-00000	-0000-0000-00	00-000	0-000-0	000-000	-000						
W	aterbody ID						ILP Ma	ap #: 09	3M.0			ILP#:	1182	Reach #:	3 -
	Project ID	5271								Lake/St	ream:	S	Lake F	rom Date:	
F	ish Permit#	14	5269	Date	e: 2002/09/28		To:	2002/0	9/28	Age	ency:	C172	Crew: JD/S	G Resar	nple:
	NEW P		- W.W.		7/ 5	SI	TE	/ ME	TH	O D	N.	7.700	an		
Site#	NID Map	NIC	#	UTM:Zone/E	ast/North/Mth	d	MTD/I	NO T	emp	Cond	Turt	bid	(Comment	
54	093M.029	400	54			GPU	EF	1	6	80	С				
Link		81 3	10		4	۱. G	EA	RSE	TT	NGS		7.0		10 34 32	
Site#	MTD/NO	H/P	Date	In Time	e In Date C	Out	Time (Out				C	omment		
54	EF 1	1	2002/0				10:4								
70	- Araki			C.	ELECTI	ROF	ISH	IER	SPE	CIFI	CA	TIONS		#1 MT N	T H
Site#	MTD/N	10	H/P	Encl	Sec	Le	ength	W	idth	Vol	age	Frequency	Pulse	Make	Mode
54	EF	1	1	0	280	2	0.00		8.0	60	00	60	6	SMITH	12B
19100	Marile :	119	0	NE - 10	4 11 11	FI	SH	SUM	MA	RY		71		Men man	
Site#	MTD/N	10	H/P	Species	Stage	Age	Park L	Total #	Lgt	h (Min/M	ax)	FishAct		Comment	
54	EF	1	1	NFC				0							



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0 093M.029

914 NO.3	W =	William .	STR	EAMR	EFERE	NCING	4000		10 10 1
Gazetted Name	:					Local Name:			
Watershed Cod	e: 000-000	000-00000-000	000-0000-0000-00	0-000-000-0	000-000-000	ILP	Map #: 093M	.029 IL	P#: 1181
	1.5	/// ====	AND THE RES	RE	ACH			100	1900
Reach #: 3.0		ı	JTM(Zone/East/N	orth): 9.676	542.6127576			Sample Type:	Blased
Length (km): 1. Gradient (%): 3. US Elev (m): 93	1 37	Confin	upling: Decoupled ement: Occasiona slands: NONE	l ally Conf	Magnitude: Order: Riparian Vo	6 2 egetation: Conif		BGC Zone: Open water: Abs	
Bars: None 🗸	Side _	Diagonal	Mid-channel		Braid	Landuse: No	Specified		
C#+ #- FF		Diele CON				0470	0	D/00 D-1	0000/00/00
Site #: 55 Site Length (m		Field UTM GIS UTI	1 M 9.676513.61271	55		ncy: C172 ncy Name: Tritor		D/SG Date: tal Consultants (T	2002/09/28 errace)
		9.45		CH	ANNEL		00,000	Lettle Syle.	
No Vis.Ch.:	Intermit	tent:		Avg N	fin Max	#		Avg Min	Max #
Dewatered:	Tr	ibs.:	hannel Width (m):	1.28 1.	100 1.5	6	Gradient 9	6: 1.00 1	1 4
Stage: Low			Wetted Width (m):	21221 122	300 1.100		Pool Depth (m	1): 0.15 0.100	0.200 6
Med		В	ankfull Depth (m):	0.30	.2 0.4	3	Tur	bidity.: Turbid	Low
High 🗌	T	emp (C): 7	pH: 8.0		Conductiv	vity: 80		Moderate	Clear ✓
MANAGE A		3/200		MORP	HOLOG	Y	3 July 278 E	严酷 (1910)	
	Dominant: dominant:		D95 (cm): 10 D (cm): 5.		Bars: No	on 🗸 Side	Diagonal	Mid-channe	Span Braid
Channel Patter	n: Sinuous	3	Islands: No		STURBANCE	O1 B1	B2 B3	D1 D2 I	03
	g: Decoup				NDICATORS				
Confinemen		4777		C	1 C2 (C3 C4 C5	S1 S2	2 S3 S4	S5
Morpholog	y: RP	Riffle Pool							
	10%	15 7		CC	VER	10 - 10 m	(m)	JF 5 198	
Total Cover: Abu	undant		Type:	SWD	LWD	3 U	DP	OV IV	
LWD: Abu	undant	_	Amount:	T	S	V D	N	S T	
LWD Dist: Eve		outed	Location: P/S/O:						FSZ:
		verhangi Text					Manmade Manmade Services	Cr	own Closure 1-20% Vascular
MILE A				T.	ISH			400	
	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		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

3.0 093M.029 55 1181 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: Reach #: ILP Map#: 093M.029 ILP#: 1181 NID Map #: 093M.029 NID #: 40055 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 1 Incomplete: Fish Crd?: CHANNEL width Avg Avg Mtd width width width width width width width width width Gadient % Mtd Channel Width (m): 1.30 1.20 1.40 1.10 1.50 1.20 1.28 1.00 Method I: 1.0 1.0 C Wetted Width (m): T 1,00 1.10 1.00 0.90 0.80 1.10 0.98 Method II: 1.0 1.0 С Pool Depth (m): T 0.10 0.20 0.20 0.10 0.20 0.10 0.15 No Vis.Ch.: Intermittent: Wb Depth: .3 .2 .4 Avg: 0.30 Method: T Stage: L M H Dw: Tribs.: COVER Total: A SWD **CROWN CLOSURE** LWD Type: В U DP OV IV 1-20% Amount D N S Loc: P/S/O: INSTREAM VEG: N A M V LWD: A DIST: E LB SHP: O RB SHP: O Texture: F G C B R A Texture: F G C B R A RIP: C RIP: C STG: MF STG: MF WATER EMS: Req #: Temp: 7 Method: T4 Cond.: 80 Method: \$3 Method: P2 pH: 8.0 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY 01 **B**1 **B2** D1 D2 Dominant: G Subdom: C Bed Material: D95: 10.0 D (cm): 5.00 Morph: RP DISTURBANCE **INDICATORS** Pattem: SI C3 C5 S1 S3 **S5** Islands: N Coupling: DC Confinement: UN Bars: SIDE DIAG MID SPAN BR FSZ: HABITAT QUALITY Name Comments OverWinter Habitat Spawning Habitat Poor - poor spawning substrates, low flows. Rearing Habitat Poor - shallow pools, disturbed channel, low flows PHOTOS Photo Foc Lg Dir Comments 21A STD U Upstream photo of pool habitat.

Downstream photo of riffle habitat.

STD

D

F: 22A

R

Tochcha Lake Planning Area

Reach # ILP Map #

093M.029

3.0

1LP#

Site 55

	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#

Watershed Code:

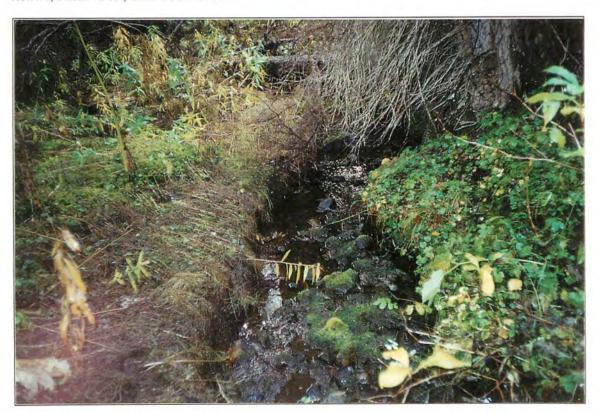
3.0

093M.029

				120	1 1676			WA.	TERE	3 O D	Υ					2 30
Gaz	zetted	Name:									Loc	al:				
F	roject	Code:	182-8	319600-6	3300-40900	-0000-000	00-000-00	00-000-0	000-000	-0						
			000-0	0-00000	0000-00000	-0000-000	00-000-00			-7.5%						
W		dy ID:						ILP M	lap #: 0				ILP#:	1181	1010111111	3 +
	Proj	ect ID:	5271								Lake/Str	ream:	S	Lake F	rom Date:	
F	ish Pe	rmit #:	14	5269	Dat	e: 2002/0	9/28	To:	2002/0	09/28	Age	ency:	C172	Crew: SG/J	D Resar	nple:
				7-11		5-10-2	S	ITE	/ M E	THO	O D		- 35.140	AUG E ENG		37
Site#	NID	Мар	NID	#	UTM:Zone/I	East/North	/Mthd	MTD/	NO T	emp	Cond	Turt	oid	(Comment	
55	0931	A.029	400	55			GPU	EF	1	7	80	С				
			100		Col Can		Α.	GEA	R SE	TTI	NGS					
Site#	MT	O/NO	H/P	Date	In Time	In Da	ate Out	Time	Out				C	omment		
55	EF	1	1	2002/09			2/09/28	11:5								
	4			10	C.	ELEC	TRO	FISH	HER	SPE	CIFI	CA	TIONS			7
Site#	5	MTD/N	0	H/P	Encl	Sec	c L	ength	V	Vidth	Volt	age	Frequency	Pulse	Make	Mode
55	EF		1	1	0	316	5	300.0		1.0	50	00	60	6	SMITH	12B
******	7				-/-	187 Test	F	ISH	SUM	MAI	RY				100	1
Site#		MTD/N	0	H/P	Species	Stage	Ag	e	Total #	Lgth	(Min/M	ax)	FishAct		Comment	
55	EF		1	1	NFC				0							



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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

5.0

093M.029 1181

	STR	EAM	REF	ERE	NCINC	3			10 A 15	the the
Gazetted Name:					Local Na	me:				
Watershed Code: 000-000000-0000	00-0000-0000-0000-00	0-000-0	00-000-	000-000		ILP Map #: 093M.02	29	IL	P#:	1181
	2 m 2 m 2 m		REA	CH	9	Sant-way		=_0'-		- S- Mr.
Reach #: 5.0	UTM(Zone/East/N	orth): 9	.675610	6129354		S	ample	Туре:	Biase	ed .
Length (km): .42	Coupling: Partially C	Transfer .		gnitude:			BGC	Zone:	SBS	
	onfinement: Occasiona	lly Con		Order:		- 4	pen wa	ter: Abs	ent	
US Elev (m): 1030	Islands: NONE		-	-	egetation	: Not Specified				
Bars: None 🗸 Side 🗌 Diagona	al Mid-channel _	Span		raid	Landu	se: Not Specified				
		72%	SIT	E	N _E - 1		1 .			
Site #: 56 Field	UTM 9.675616.61291	50		Ager	icy: C172	Crew: SG	/JD	Date:	2002/09	/28
Site Length (m): 100 GI:	S UTM 9.675661.61290	86		Age	ncy Name	: Triton Environmental	Consu	Itants (T	errace)	
		C	HAN	NEL	S. Sall A.		112			3.7
No Vis.Ch.: Intermittent:		Avg	Min	Max	#		Avg	Min	Max	#
Dewatered: Tribs.:	Channel Width (m):	0.00	0	0	0	Gradient %:	1.25	1	2	4
Stage: Low	Wetted Width (m):	0.00	0	0	0	Pool Depth (m):	0.00	0	0	0
Med 🗌	Bankfull Depth (m):	0.00	0	0	0	Turbio	dity.:	Turbid		Low
High Temp (C):	pH:		(Conductiv	rity:		M	oderate[_ c	lear
90.	4	MOF	RPHC	LOG	Y . (1)	N- 07-5-24-1-1	900			
Bed Material: Dominant:	D95 (cm):			Bars: No	on 🗌 3	Side Diagonal	Mid-	channel	☐ Sp	oan 🗌
Subdominant:	D (cm):								Br	aid 🗌
Channel Pattern:	Islands:		DISTU	RBANCE	01	B1 B2 B3	D1	D2 D	3	
Coupling:			INDIC	ATORS						
Confinement:			C1	C2 (C3 C4	C5 S1 S2	S3	S4	S5	
Morphology:										
			COVI	ER	THE WA	100 1000	1			in a
Total Cover:	Type:	SWD	LWE) E	3	U DP O	V	IV		
LWD:	Amount:									
LWD Dist:	Location: P/S/O:								FSZ	
Right Bank: Shape:	Texture: Fines Gra	vel	Cobble	Bould	der R	ock Manmade		Cro	own Clos	ure
Left Bank: Shape:	Texture: Fines Gra	vel	Cobble	Boule	der R	ock Manmade				
Right Bank: Rip.Veg:	Stage	2:								
Left Bank: Rip.Veg:	Stage	e:			Instre	am Veg: None A	lgae _	Moss	Vasc	ular

Tochcha Lake Planning Area

Reach # ILP Map #

5.0

P Map # 093M.029

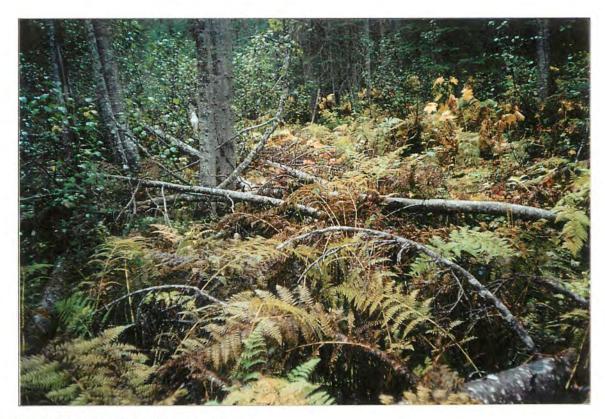
ILP#

Site 56

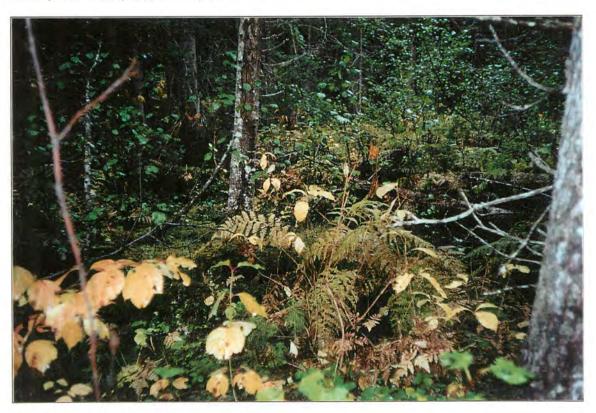
PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 WATERSHED Gazetted Name: Local Name: ILP Map#: 093M.029 ILP#: 1181 NID Map #: 093M.029 NID#: 40056 Reach #: 5.0 Site #: 56 Field UTM (Z.E.N): 9.675616.6129150 Method: GPU Site Lg: 100 Method: HC Access: H 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 width Avg Gadient % Mtd Avg Channel Width (m): 0.00 Method I: 20 1.25 1.0 C Wetted Width (m): Method II: 0.00 1.0 1.0 C Pool Depth (m): 0.00 No Vis.Ch.: 🗸 Intermittent: Wb Depth: Stage: L M H Avg: 0.00 Method: MS Dw: Tribs.: COVER Total: SWD LWD CROWN CLOSURE B U DP Type: OV IV Amount Loc: P/S/O: 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: Req #: Temp: Method: Cond .: Method: Method: pH: Turb.: T M L C Method: GE Flood Signs: Method: MORPHOLOGY 01 B1 B₂ **B3** D1 D2 D3 Bed Material: Dominant: Subdom: D95: D (cm): Morph: DISTURBANCE **INDICATORS** Pattern: C1 C2 S1 C5 S2 **S3 S4 S5** Islands: Coupling: Confinement: Bars: SIDE DIAGE MID SPAN BR FSZ: 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 7 F: 23A STD U Upslope photo of a vegetated seepage. R F: 24A STD D Downslope photo of a vegetated seepage. COMMENTS Section Comments

Tochcha Lake Planning Area

<u> </u>	!
COVER	No fish habitat.
CITE CADD	N. V. III. O
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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

3.0 093M.030

	0	STR	REAM	REF	EREN	CING	and that of				- 1
Gazetted Name:				-	Lo	ocal Name:					
Watershed Code: 000-	000000-00000-00	0000-0000-0000-0	00-000-00	0-000-0	000-000	ILP	Map #: 093M.	.030	IL	P#:	1296
1990 SAL 1500			7 St - 5 St	REA	C H	建 型 2	- A	100			- No. 10
Reach #: 3.0		UTM(Zone/East/N	North): 9.6	77076.	6130682			Sample	Туре:	Biase	ed
Length (km): .94		oupling: Decouple		Mag	gnitude:	5		BGC	Zone:	SBS	
Gradient (%): 2.9		nement: Occasion	nally Conf		Order: 3	V-6-1-2-5		Open wa	ter: Abs	ent	
US Elev (m): 1187		Islands: NONE		Rip	arian Vege	etation: Conife	erous				
Bars: None 🗸 Side	Diagonal	Mid-channel	Span	B	raid 🗌	Landuse: Not	Specified				
		r And A		SIT	E .		45. 1	- 4	B	1	110
Site #: 57 Site Length (m): 100	17 7515. 5 11	M 9.677173.6130 M 9.677190.6130	77.70			: C172 y Name: Tritor	7,717	D/SG tal Consu		2002/09 errace)	9/28
	15 6		C	HAN	NEL "		agi ag We		e re	174	- 111
No Vis.Ch.: Intern	mittent:		Avg	Min	Max	#		Avg	Min	Max	#
Dewatered:	Tribs.:	Channel Width (m)	: 1.52	1.4	1.600	6	Gradient %	6: 3.75	3	5	4
Stage: Low		Wetted Width (m)	: 1.02	0.9	1.200	6 F	ool Depth (m): 0.33	0.200	0.5	6
Med Med	E	Bankfull Depth (m)	: 0.37	0.3	0.4	3	Tur	bidity.:	Turbid		Low
High	Temp (C): 8	pH: 8.1		C	Conductivity	: 70	100		oderate		lear 🗸
			MOR	PHO	LOGY	War y			Villa -	10000	
Bed Material: Domina Subdomina		D95 (cm): 15			Bars: Non	✓ Side	Diagonal	☐ Mid-	-channel		pan 🔲
Channel Pattern: Sinu	ous	Islands: No	one I	DISTUR	RBANCE	O1 B1	B2 B3	D1	D2 D	03	
Coupling: Deco	upled			INDIC	ATORS						
Confinement: Occa	sionally Confine			C1	C2 C3	C4 C5	S1 S2	2 S3	S4	S5	
Morphology: RP	Riffle Pool										
		Werning - 19	C	OVE	E R				gry .	DR 30	
Total Cover: Abundant		Type:	SWD	LWD	В	U	DP	OV	IV		
LWD: Few		Amount:	T.	S	N	D	Т	S	N		
LWD Dist: Evenly Dis	tributed	Location: P/S/O:		V			V			FSZ	z: 🔲
		ture: Fines 🗸 Gr		Cobble	Boulder		Manmade		Cri	own Clos	sure
	Overhangi Text	The second second		Cobble	Boulder	Rock	Manmade			21-4	0%
Right Bank: Rip.Veg. Left Bank: Rip.Veg.	Coniferous	100	ge: Mature ge: Mature			Instream Veg	g: None 🗸	Algae [Moss	Vas	cular [
	SAWA	- 1 - 3 ×	S. VIII	FISI	HOMO	Wilder S	- 10, 5 5	- W		200	(- T
Site Number Capture Method	1.000011-45.000	Length fished (m)	Total Time	NA CHESTON	Voltage	Species	Total Fish	Minim Length	1 1 100 0 10		mum h (mm)
57 EF	1	100	109 se	С	600	RB	7	70			10

Tochcha Lake Planning Area

ILP Map # Reach #

ILP#

Site

093M.030 3.0 1296 57 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: 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 Avg Gadient % Mtd Avg Channel Width (m): 1.50 1.60 1.50 1.40 1.60 1.50 1.52 Method I: 3.0 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 No Vis.Ch.: Intermittent: Wb Depth: .3 .4 Stage: L V M H .4 Avg: 0.37 Method: T Dw: Tribs.: COVER Total: A Type: SWD LWD В U DP OV CROWN CLOSURE IV Amount S D S N 21-40% Loc: P/S/O: INSTREAM VEG: N A M V LWD: F DIST: E RB SHP: O Texture: F G C B R A Texture: F G C B R A RIP: C STG: MF STG: MF WATER EMS: Req #: Temp: 8 Method: T4 Cond.: 70 Method: S3 pH: 8.1 Method: P2 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY **B1 B2 B3** D1 D2 D3 Bed Material: Dominant: G Subdom: C D95: 15.0 D (cm): 10.00 Morph: RP DISTURBANCE INDICATORS Pattern: SI C1 C2 C3 C4 C5 S1 S2 **S3** S4 \$5 Islands: N Coupling: DC Confinement: OC Bars: SIDE DIAG MID SPAN BR FSZ: HABITAT QUALITY Name Comments OverWinter Habitat Spawning Habitat Poor - poor spawning substrates. Rearing Habitat Moderate - moderately deep pool, abundant cover and adequate flow. PHOTOS Photo Foc Lg Dir Comments R: 1A 8 F STD U Upstream photo of stream channel. R: 8 F 2A STD D Downstream photo of pool habitat.

Tochcha Lake Planning Area

Reach # ILP Map #

093M.030

3.0

ILP# 1296 Site 57

	COMMENTS
Section	Comments
CHANNEL	RB captured.
CHANNEL	\$3

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

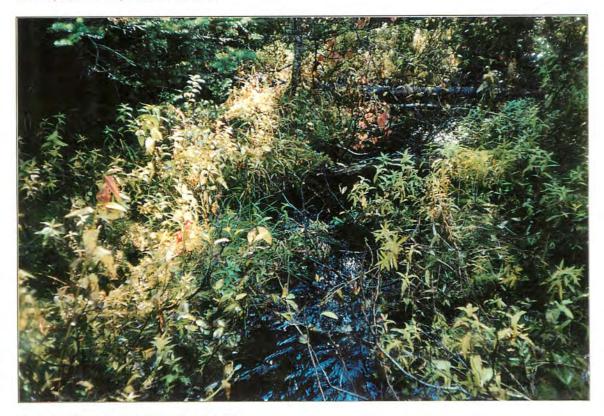
3.0

093M.030

															27			1771
	13	E	50. JES	il,	1876			TO ST	WAT	ERE	3 O D	Y	1917 13			7		
G	azett	ed Nam	e:									Loca	al:					
	Proj	ect Cod	e: 182	819600-6	3300-409	00-0000-	0000-0	00-00	0-000-00	0-000	-0							
	1	NS Cod	e: 000-	-000000-0	0000-000	00-0000-	0000-00	00-00	0-000-00	0-000	-000							
		erbody II							ILP Man			30		ILP	#:	1296	Reach #:	3 -
			D: 527	1							221/42	Lake/Str	ream:			Lake Fro	The state of the s	
	Fish	Permit	#: 14	45269	D	ate: 200	2/09/28	3	To:	2002/	09/28	Age	ency:	C172	Cr	ew: JD/SG	Resa	mple:
0,5%	100	W26 W	×. 3	7 V. 4 VA	a Plan	全地位		S	ITE /	ME	TH	O D		p(1) 245	12.76	767	71/1927	S - W - 30
Site#	1	VID Map	NII	D#	UTM:Zone	e/East/No	orth/Mth	90 P.H	MTD/N	A STATE OF THE PARTY OF	emp	Cond	Turt	id I	chill and	Co	omment	
57	0	93M.02	9 400	057		1		GPU	EF 1	_	8	70	С	3/12				
		-4.42				1001	1	4 . (GEAR	SI	TT	NGS					31.45.	
Site#	1	MTD/NC	H/P	Date	In Ti	me In	Date 0	Out	Time O	ut			9=15-51		Com	ment		1000
57	1	F 1	1	2002/09	9/28 1	2:40	2002/09	9/28	13:10									
17					C	. ELE	CT	RO	FISH	ER	SPE	CIFI	CA	TION	S			The Way
Site#	T	MTD	/NO	H/P	En	cl :	Sec	L	ength	V	Vidth	Volt	age	Frequ	uency	Pulse	Make	Mode
57		EF	1	1	0		109		100.0		1.1	60	00	6	0	6	SMITH ROOT	12B
	-			20 192		- h - h -	. 70	F	SHS	UN	MA	RY	300	State of the	Cympan	311/28	1 4	
Site#		MTD	/NO	H/P	Specie	s Sta	ge	Age	To	otal #	Lgt	h (Min/M	ax)	FishAc	1	- A+1 - 30	Comment	
57	-	EF	1	1	RB	J		7.5	210	7	7	0 1	10	R				
1100	183	50.5	35.3		21100		INE	VIC	IDUA	L F	ISH	DA	TA	三 以其市人	Sens Advisor			Fi (2)
Site#	М	TD/NO	H/P	Species	Length	Weight	Sex	Ma	1	Age	50-	Vch#	Ge	netic	Roll #	Frame#	Comr	nent
							7		Str/	Smpl#	#/Age		Str/S	Smpl#		1		
57	EF	1	1	RB	90		U	U										
57	EF	1	1	RB	95		U	U						-				
57	EF	1	1	RB	75		U	U	ile t									
57	EF	1	1	RB	70		U	U				1		75				
57	EF	1	1	RB	80		U	U						1				
57	EF	1	1	RB	110	-	U	U				()	THE S			-		
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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

6.0

093M.029

	The same of the sa	STR	EAM	REF	EREN	CING	AM. = V	1977	- Wal		
Gazetted Name:					L	ocal Name:					
Watershed Code: 000	-000000-00000-00	0000-0000-0000-00	0-000-00	0-000-	000-000	ILF	Map #: 093M.0	129	IL	P#:	1173
(%) (%)			· Topic	REA	CH						11. W. T. S.
Reach #: 6.0 Length (km): .52 Gradient (%): 6.3 US Elev (m): 1021 Bars: None ✓ Side	Confir	UTM(Zone/East/No pupling: Decoupled nement: Occasiona Islands: NONE Mid-channel	i	Ma	gnitude: Order:	1 1 getation: Con Landuse: No	(iferous	Sample BGC Open wa	Zone:	BBB	ed
hard the		Sufference of the first	n/A	SIT	E				19		
Site #: 58 Site Length (m): 200		M 9.674668.61322 M 9.674708.61322				ry: C172 cy Name: Trito	Crew: JD on Environmenta	/SG al Consu		2002/09 errace)	9/28
		1000年11日第二日	CH	IAN	NEL	Line and			400	-111-	1,30
Dewatered: ☐ Stage: Low ✓		Channel Width (m): Wetted Width (m): Bankfull Depth (m):	Avg 1.53 1.00 0.37	Min 1.4 0.600 0.3	1.700 1.3 0.4	6 6	Gradient %: Pool Depth (m):		Min 3 0.200	Max 5 0.300	4 6
Med High	Temp (C); 8	pH: 8.1	0.01	70.10-1	Conductivit		Turb	idity.: Me	Turbid oderate	=	Low_ Clear 🗸
AND STAKE OF E	11-1	A THINK I	MOR	PHO	LOGY				2007	100	
Bed Material: Domin. Subdomin.		D95 (cm): 15. D (cm): 10.		-1/	Bars: Non	Side	Diagonal	Mid-	channel		pan 🔲
Channel Pattern: Sint Coupling: Dec Confinement: Occ Morphology: RF	oupled asionally Confine	Islands: Nor	ne I		RBANCE CATORS C2 C3	01 B1 3 C4 C	B2 B3 5 S1 S2	D1 S3	D2 D S4	S5	
	- Alphanit		C	OVI	ER	YER I-		** 3	1 16	- 101	1 1
Total Cover: Abundant LWD: Few LWD Dist: Evenly Di	stributed	Type: Amount: Location: P/S/O:	SWD S	LWI	D B	U S		T C	IV N	FSZ	Z: [
Left Bank: Shape	e: Overhangi Text	Stage			Boulde Boulde	er Rock	Manmade Manmade Manmade Manmade Manmade	Algae		own Clos 21-4 Vaso	
March March 18				FIS	H	All the second	1-11	12.10	12		
Site Number Captur Metho		Length fished (m)	Total Time	IJ.	Voltage	Species	Total Fish	Minim Length	7.34		mum h (mm)
58 EF	1	200	216 se	С	600	NFC	0				

Tochcha Lake Planning Area

Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 Project Watershed Code: 182-819600-63300-40900-0000-000-000-000-000-0000-000
WATERSHED
Gazetted Name: Local Name: Watershed Code: 000-00000-0000-0000-0000-000-000-000-0
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 Avg Gadient % Mtd Avg
Channel Width (m): T 1.60 1.50 1.70 1.50 1.40 1.50 1.50 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
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
No Vis.Ch.: Intermittent:
Wb Depth: .3 .4 .4 Avg: 0.37 Method: T Stage: L ✓ M ☐ H ☐ Dw: ☐ Tribs.: ☐ COVER Total: A
Type: SWD LWD B U DP OV IV CROWN CLOSURE Amount: S D N S T T N 2 21-40%
Loc: P/S/O: A M V I
LWD: F DIST: E
LB SHP: O
LB SHP: O RB SHP: O
LB SHP: O RB SHP: O Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐
LB SHP: O RB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C
LB SHP: O Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: C RIP: C STG: MF STG: MF
LB SHP: O RB SHP: O Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F ✓ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: C RIP: C STG: MF STG: MF WATER
LB SHP: O RB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C STG: MF STG: MF Req #: Temp: 8 Method: T4 Cond.: 80 Method: S3 Method: S3 Method: P3 Method: P4 Method: P4
LB SHP: O RB SHP: O Texture: F ✓ G C B R A R A Texture: F ✓ G C B R A R A R A R A R A R A R A R A R A R
LB SHP: O RB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C STG: MF STG: MF WATER EMS: Flood Signs: Sediment wedges Req #: Cond.: 80 Method: S3 Method: P2 Turb.: T M L C ✓ Method: GE Method: GE
LB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C STG: MF WATER EMS: Req #: Temp: 8 Method: T4 Cond.: 80 Method: S3 pH: 8.1 Method: P2 Turb.: T M L C ✓ Method: GE Flood Signs: Sediment wedges Method: GE
LB SHP: O RB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C STG: MF STG: MF WATER EMS: Flood Signs: Sediment wedges Req #: Cond.: 80 Method: S3 Method: P2 Turb.: T M L C ✓ Method: GE Method: GE
LB SHP: O Texture: F ✓ G │ C │ B │ R │ A │ Texture: F ✓ G │ C │ B │ R │ A │ RIP: C RIP: C STG: MF WATER EMS: Req #: Temp: 8 Method: T4 Cond.: 80 Method: S3 pH: 8.1 Method: P2 Turb.: T │ M │ L │ C ✓ Method: GE Flood Signs: Sediment wedges MORPHOLOGY Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
LB SHP: O RB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C RIP: C STG: MF STG: MF RB SHP: O
LB SHP: O Texture: F
LB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A RIP: C RIP: C STG: MF STG: MF STG: MF RB SHP: O Texture: F ✓ G C B R A Texture: F ✓ G C B R A Texture: F ✓ G C B R A Texture: F ✓ G C B R R A Texture: F ✓ G C C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C B R R A Texture: F ✓ G C C B R R R A Texture: F ✓ G C C B R R R A Texture: F ✓ G C C B R R A Texture: F ✓ G C C B R R R A Texture: F ✓ G C C B R R A Texture: F ✓ G C C B R R R A Texture: F ✓ G C C B R R R R A Texture: F ✓ G C C C B R R R A Texture: F ✓ G C C C B R R R A Texture: F ✓ G C C C B R R R A Texture: F ✓ G C C C B R R R A Texture: F ✓ G C C C B R R R R R R R R R R R R R R R R
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: O Texture: F
LB SHP: 0 Texture: F
LB SHP: 0 Texture: F

Tochcha Lake Planning Area

ILP Map #

ILP#

Site

Reach # 6.0

093M.029

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	7	e.	٦	

1 1/2		("/AIN-		HITE DE TO		PHOTOS
Р	hoto		Foc	Lg	Dir	Comments
R: 8	F	: 6A	ST	D	D	Downstream photo of wedges.
	n n				-134	COMMENTS
	S	ection				Comments
	CH	IANNEL	-	Very poor connectio	n to down	stream wetland - could limit fish access to this reach.
	CH	ANNEL		S3*		

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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

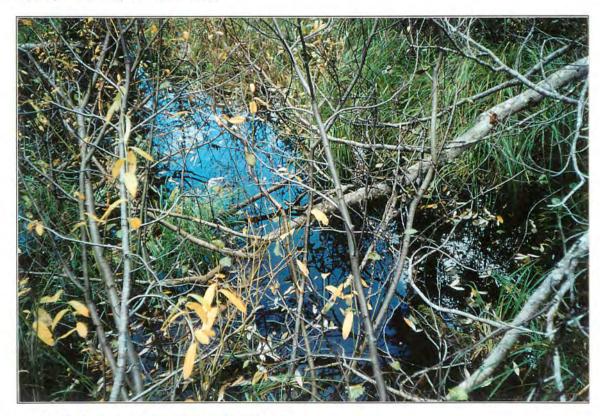
6.0

093M.029

1 11				-1.	T. H. Varg		WAT	TER	BOD	Y	3	Mr Sell	- 15 A.			
Ga	zetted Name	:								Loc	al:					
1	Project Code	: 182-	819600-6	3300-40900	-0000-0000	-000-00	00-000-0	000-00	0-0							
	WS Code	: 000-	000000-0	0000-00000	-0000-0000	-000-00	00-000-0	000-00	0-000							
٧	Vaterbody ID	:					ILP M	lap #:	093M.0	29		ILP#:	1173	Reach #:	6 -	
	Project ID	: 5271								Lake/St	ream:	S	Lake F	From Date:		
F	Fish Permit #	: 14	5269	Date	2002/09/	28	To:	2002	/09/28	Age	ency:	C172	Crew: JD/S	G R	esample:	
		200		N. P.	Grand V	S	ITE	/ M	ETH	O D		THE WAY	10 1400	S. 157		
Site#	NID Map	NIC)#	UTM:Zone/E	ast/North/M	Ithd	MTD/	NO	Temp	Cond	Turt	oid		Comment		
58	093M.039	400	58			GPU	EF	1	8	80	С					
- 11					100	Α.	GEA	R S	ETT	INGS	All -	VS. The				
Site#	MTD/NO	H/P	Date	In Time	In Date	Out	Time	Out				С	omment			
58	EF 1	1	2002/0			09/28	14:0									
30				, C .	ELECT	rro	FISH	IER	SPI	CIFI	CA	TIONS				-
Site#	MTD/I	10	H/P	Encl	Sec	1	ength		Width	Vol	tage	Frequency	Pulse	Make	N	Model
58	EF	1	1	0	216		200.0		1.0	60	00	60	6	SMITH		12B
1-31-10	NF NF	12 2	IF.	VIII 15		F	ISH	SUI	M M N	RY	3-11-	7 y y y y			37.9	
Site#	MTD/I	10	H/P	Species	Stage	Ag	е	Total #	Lg	h (Min/M	ax)	FishAct		Commen		
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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

1.0 093M.039 1018

	The state of the s	100	STR	EAM	REF	EREN	CING	1.7%	1/2			
Gazetted Na		0000 00000 00	2000 0000 0000 00	000.00	0.000		ocal Name:					
watersned C	Jode: 000-00	0000-00000-00	000-0000-0000-00		REA	PYONETH	(LP	Map #: 093M.	039	IL.	P#:	1018
with the last of	y = 1,5	Marin L		and Gill) FA		Take A	an milk	Yeron,		i din	10 3
Reach #: 1 Length (km) Gradient (%) US Elev (m) Bars: None	: .69 : 6.2 : 1020	Confir	UTM(Zone/East/Noupling: Decoupled nement: Occasional slands: NONE Mid-channel	d	Ma Ri	gnitude: Order:	2 2 getation: Mixe Landuse: No	ed C/D	Sample BGC 2 Open wat	Zone:		ed
Mr. W			E TOP		SIT	E - 7.	all a second		T Service	= 1	1	3.5
Site #: Site Length		Field UTM GIS UT	и М 9.674454.61327	05			y: C172 cy Name: Trito	Crew: Son Environment	G/JD al Consul		2002/09 errace)	9/28
		4.		C	HAN	NEL	aller A. 31	The House	- E - B	7		
No Vis.Ch.:				Avg	Min	Max	#		Avg	Min	Max	#
Dewatered:	Tr		channel Width (m):	1.32	1.100	1.600	6	Gradient %		1	3	4
Stage: Low	~		Wetted Width (m):	0.62	0.5	0.800		Pool Depth (m)	0.15	0.100	0.300	6
Med			Bankfull Depth (m):	0.37	0.3	0.4	3	Turt	oidity.:	Turbid]	Low
High	Т	emp (C): 8	pH: 7.9		(Conductivi	y: 80		Mo	derate		Clear 🗸
700			\$ W	MOR	PHC	LOGY		-5 -1 - "\"	0 = 0		* 1	
Bed Material	: Dominant: Subdominant:		D95 (cm): 10. D (cm): 5.0			Bars: Nor	Side [Diagonal	Mid-c	channel	_	pan 🗌
Confine	ettern: Sinuou pling: Decoup ment: Unconf blogy: RP	oled	Islands: Nor	ne		RBANCE CATORS C2 C:	01 B1 3 C4 C	B2 B3 5 S1 S2	D1 [S3	D2 D S4	S5	
		Contract of	-902		OV	ER			- 3-1			
Total Cover:	Abundant		Type:	SWD	LWI) В	U	DP (OV	IV		
LWD; I	Few Evenly Distrib	outed	Amount: Location: P/S/O:	T	s	N O	D	T	T	T	FS	z: 🔲
Right Bank: Left Bank: Right Bank: Left Bank:		verhangi Text verhangi Text lixed C/D	ture: Fines Gra			Boulde	er Rock	Manmade Manmade	Algae	Cro Moss [own Clos 1-2 Vas	
Trans			Survey Valley	ve ale	FIS	H						7.7
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time		Voltage	Species	Total Fish	Minime Length			mum h (mm)
59	EF	1	300	323 se	c	500	NFC	0				

Tochcha Lake Planning Area

Reach # ILP M

ILP Map #

ILP#

Site

Project Stream Nam Project Watershe): SAK	ENICHE	RIVER		00-000	-000-00	0-000-00	0-000-00	10	-	Project C	oue.			5271		
Colored Tolker			970 E			100 M	WAT	ERS	HED	50° -								33
Gazetted Name:										Loc	cal Nam	e;						
Watershed Code:	000-00	0000-00	000-000	00-0000)-0000-00	00-000-0	000-000	-000-000										
ILP Map#:	093M.0)39	u	LP #: 10	018	NID M	ap #: 09	3M.039	N	D#: 40	0059	Rea	ch #:		1.0	5	Site #: 59	
Field UTM (Z.E.N):					Method:					Site Lo	g: 300		Met	thod: MA	Р	Acces	ss: H	
GIS UTM (Z.E.N):	9.6744	54.6132	705						Re	f. Name	e:							
Date	. 2003	2/09/28	4	Time: 14:	-20		Agency	C172	C	rew:	ec/ID			Fish Crd?	: 🗸			
- Date	J. 2007	300120		mile. 14.	.20		17.77			iew.	30/30			rish Clu?	. 🔽	in	complete	-
	11/12	= /-		a caled	- 33			ANN				7 - 1		"			e etit.	
Changel Width (m)	Mtd	width	width	width	width	width	width	width	width	width	width	Avg	-		Gadie		Mtd	Avg
Channel Width (m): Wetted Width (m):	T	1.30 0.60	0.50	0.80	0.60	0.70	0.50			_		1.32	—	Method I:	-	2.0		1.75
Pool Depth (m):	T	0.10	0.20	0.30	0.10	0.10	0.10		200		-	0.62	L	Method II:	1.0	1.0	С	
					1.4.14		01.10	-	_	-	_	0.10	N	lo Vis.Ch	.: 🗆	Intermit	tent:	
Wb Depth:	.4	.3	.4	Avg	g: 0.37	٨	Method:	MS	Sta	age: L	VM	H		Dv	v: 🔲	Tr	ribs.:	
COVER			Tota	al: A									_					
Type:	SWD	LW	VD I	В	U	DF		ov I	IV	CRO	OWN CI	OSURE						
Amount:	T	5		N	D	T	-	T	T	1		-20%						
Loc: P/S/O:				_														
LWD: I LB SHP: Texture: RIP: STG:	0 F 🗸 М			IST: E	R A					-	RB SHP Texture RIP	0 F 🗸		^			A 🗔	
LB SHP: Texture: RIP:	0 F 🗸 М			IST: E			w			-	RB SHP Texture	0 F 🗸					A 🗆	
LB SHP: Texture: RIP: STG:	0 F 🗸 М			IST: E			W	ATE			RB SHP Texture RIP STG	0 F 🗸					A .	
LB SHP: Texture: RIP:	O F ✓ M MF			IST: E			wod: T4			Re	RB SHP Texture RIP	0 F 🗸				R		
LB SHP: Texture: RIP: STG:1	O F ✓ M MF			IST: E		Metho				Reco	RB SHP. Texture RIP: STG:	O F ✓ M MF	G	c	В	R	od: \$3	
LB SHP: Texture: RIP: STG: EMS: Temp: 8	O F ✓ M MF			IST: E		Metho	od: T4			Reco	RB SHP. Texture RIP: STG:	O F ✓ M MF	G		В	R		
LB SHP: Texture: RIP: STG: EMS: Temp: 8 pH: 7	O F ✓ M MF			IST: E		Metho Metho Metho	od: T4 od: P2 od: GE		R	Reco	RB SHP. Texture RIP: STG:	O F ✓ M MF	G	c	В	R	od: \$3	
LB SHP: Texture: RIP: STG: EMS: Temp: 8 pH: 7	O F M M MF		С	IST: E		Metho Metho Metho	od: T4 od: P2 od: GE	ATEI	R	Reco	RB SHP. Texture RIP: STG:	O F V	G [c	В □	R	od: \$3	
LB SHP: Texture: RIP: STG: I EMS: Temp: 8 pH: 7 Flood Signs: N	O F V M MF	G	c _	IST: E	R 🗆 A	Metho Metho Metho	od: T4 od: P2 od: GE	'ATEI	R O G Y	Re Cc	RB SHP. Texture. RIP: STG:	O F V	G [_ c _	В □	R	od: \$3	
LB SHP: Texture: RIP: STG: I EMS: Temp: 8 pH: 7 Flood Signs: N	MMF 3 7.9 None	G _	c _	IST: E	R	Metho Metho Metho	od: T4 od: P2 od: GE	ATEI	R O G Y	Re Co	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	M MF	G [C C	B	Meth Meth	od: \$3	
EMS: Temp: 8 ph: 7 Flood Signs: N Bed Material: D95: 1	M M MF 7.9 None	G _	c _	IST: E	R	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	R O G Y	Re Cc	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	M MF	G [_ c _	B	Meth Meth	od: \$3	S
EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1	M M MF 7.9 None	G _	c _	IST: E	R	Metho Metho Metho	od: T4 od: P2 od: GE	HOL	R O G Y	Re Co	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	M MF	G [C C	B	Meth Meth	od: \$3	S
EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N	MMF MS 7.9 None	G _	c _	IST: E	R	Metho Metho Metho	od: T4 od: P2 od: GE	PHOL	O G Y	Re Co	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	M MF	G [C C	B	Methode Method	od: \$3 od: GE	
EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N Coupling: D	M MF 3 7.9 None	G _	c _	IST: E	R	Metho Metho Metho	od: T4 od: P2 od: GE	PHOL	R O G Y	Re Co	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G [C C C	B	Meth Meth	od: \$3 od: GE	SS
EMS: Texture: RIP: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: Pattern: S Islands: N Coupling: D Confinement: U	M MF 3 7.9 None	G _	c _	IST: E	R	Metho Metho Metho F: RP	od: T4 od: P2 od: GE	PHOL	O G Y ANCE FORS	Re Co	RB SHP. Texture: RIP: STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B	Methode Method	od: \$3 od: GE	
EMS: Texture: RIP: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: Pattern: S Islands: N Coupling: D Confinement: U	M MF 3 7.9 None	G _	c _	IST: E	R	Metho Metho Metho F: RP	od: T4 od: P2 od: GE	PHOL	O G Y ANCE FORS	Re Co	RB SHP. Texture: RIP. STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	
LB SHP: Texture: RIP: STG: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N Coupling: D Confinement: U FSZ: Name OverWinter Habitat	M MF 3 7.9 None	G _	c _	IST: E	R	Metho Metho Metho F: RP	od: T4 od: P2 od: GE	PHOL	O G Y ANCE FORS	Re Cc Ti	RB SHP. Texture: RIP. STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	
LB SHP: Texture: RIP: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N Coupling: D Confinement: U FSZ: Name OverWinter Habitat Spawning Habitat	M MF 3 7.9 None	Oominant D (cm)	c t: G): 5.00	gravels	R _ A Subdom Morph	Method Me	od: T4 od: P2 od: GE IORF	PHOL DISTURB INDICAT Ba	O G Y ANCE FORS	Re Cc Ti	RB SHP. Texture: RIP. STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	
LB SHP: Texture: RIP: STG: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N Coupling: D Confinement: U FSZ: Name OverWinter Habitat	M MF 3 7.9 None	Oominant D (cm)	c t: G): 5.00	gravels	R _ A	Method Me	od: T4 od: P2 od: GE IORF	PHOLISTURB INDICATE BATT QU	O G Y ANCE FORS	Re Cc Ti	RB SHP. Texture: RIP. STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	
LB SHP: Texture: RIP: STG: EMS: Temp: 8 ph: 7 Flood Signs: N Bed Material: D95: Pattern: S Islands: N Coupling: D Confinement: U FSZ: Name OverWinter Habitat Spawning Habitat Rearing Habitat	M M MF 3 7.9 None	Oominant D (cm)	c t: G): 5.00	gravels	R _ A Subdom Morph	Method Me	od: T4 od: P2 od: GE IORF	PHOL DISTURB INDICAT Ba	O G Y ANCE FORS	Re Cc Ti	RB SHP. Texture: RIP. STG: eq #: ond.: 80 urb.: T	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	
LB SHP: Texture: RIP: STG: EMS: Temp: 8 pH: 7 Flood Signs: N Bed Material: D95: 1 Pattern: S Islands: N Coupling: D Confinement: U FSZ: Name OverWinter Habitat Spawning Habitat	M M MF 3 7.9 None	Oominant D (cm)	c t: G): 5.00	gravels	Subdom Morph.	Method Me	od: T4 od: P2 od: GE I O R P	PHOLISTURB INDICATE BATT QU	ANCE FORS	Re Co	RB SHP. Texture. RIP: STG: eq #: ond.: 80 urb.: T B1 C2 SIDE	O F ✓ M MF MF C3 (C3 (C) (1	G L	C C C	B 2 D3	Methode Method	od: \$3 od: GE	

Tochcha Lake Planning Area

Reach # ILP Map #

1.0

Map # 093M.039

ILP#

Site 59

	COMMENTS
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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1.0

093M.039

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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

Tochcha Lake Planning Area

Reach # ILP Map #

ILP#

Crown Closure

Instream Veg: None Algae Moss Vascular 🗸

1-20%

093M.039

1.0 1015 STREAM REFERENCING **Gazetted Name:** Local Name: 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: Min Max Avg # Min Max Avg Dewatered: Tribs.: Channel Width (m): 1.42 1.600 1.3 6 Gradient %: 3.25 2 4 Wetted Width (m): 0.93 0.600 1.200 6 Pool Depth (m): 0.23 0.200 0.300 6 Low V Bankfull Depth (m): 0.43 0.4 0.5 Med Low Turbidity.: Turbid High Temp (C): 8 pH: 7.5 Conductivity: 80 Moderate Clear V MORPHOLOGY Bed Material: Dominant: Gravels Side Diagonal Mid-channel D95 (cm): 15.00 Bars: Non 🗸 Span [Subdominant: Cobble D (cm): 8.00 Braid ___ Channel Pattern: Sinuous Islands: None **INDICATORS** Coupling: Decoupled Confinement: Occasionally Confine C1 C4 C5 C3 S1 S2 **S3 S5** Morphology: RP Riffle Pool COVER Total Cover: Abundant SWD LWD Type: В Amount N D S T LWD: Few Location: P/S/O: LWD Dist: Evenly Distributed FSZ:

				FI	SH	Section 1		10.50	
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		

Shape: Overhangi Texture: Fines ✔ Gravel Cobble Boulder Rock Manmade

Shape: Overhangi Texture: Fines ✓ Gravel Cobble Boulder Rock Manmade

Stage: Mature forest

Stage: Mature forest

Right Bank:

Left Bank:

Right Bank:

Left Bank:

Rip. Veg: Coniferous

Rip.Veg:

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Site

1.0 093M.039 1015 60 PROJECT Project Name: Babine and Tochcha Stream Name (gaz.): SAKENICHE RIVER Project Code: 5271 Project Watershed Code: 182-819600-63300-40900-0000-000-000-000-000-000-000 WATERSHED Gazetted Name: Local Name: 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 Avg width 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 3.25 C Wetted Width (m): MS 1.00 0.90 0.60 1.20 0.80 1.10 Method II: 0.93 4.0 4.0 C Pool Depth (m): MS 0.20 0.20 0.30 0.20 0.30 0.20 0.23 No Vis.Ch.: Intermittent: Wb Depth: .4 .5 .4 Avg: 0.43 Method: MS Stage: L V M H Dw: Tribs.: COVER Total: A Type: SWD LWD 8 CROWN CLOSURE U DP OV IV Amount D N S 1-20% Loc: P/S/O: INSTREAM VEG: N A A M V LWD: F DIST: E LB SHP: O RB SHP: O Texture: F G G C B R A Texture: F G C B R A RIP: C RIP: C STG: MF STG: MF WATER EMS: Reg #: Temp: 8 Method: T4 Cond.: 80 Method: S3 pH: 7.5 Method: P2 Method: GE Turb.: T M L C Flood Signs: None Method: GE MORPHOLOGY 01 B1 B₂ D1 D2 D3 Bed Material: Dominant: G Subdom: C D95: 15.0 D (cm): 8.00 Morph: RP DISTURBANCE **INDICATORS** Pattern: SI C1 C2 C3 C4 S1 C5 S2 **S3 S5** Islands: N Coupling: DC Confinement: OC BR Bars: NV SIDE DIAG MID SPAN FSZ: HABITAT QUALITY Name Comments OverWinter Habitat None observed. Spawning Habitat Poor - limited spawning substrates suitable for resident fish. Poor - shallow pool depths, low habitat complexity. Rearing Habitat PHOTOS Photo Foc Lg Dir Comments 8 10A STD F: D Downstream photo of stream channel. 9A STD U Upstream photo of stream channel.

Tochcha Lake Planning Area

ILP Map # Reach#

ILP#

Site

1.0 093M.039 1015

· 网络维纳尼	COMMENTS
Section	Comments
CHANNEL	S4*

Tochcha Lake Planning Area

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Reach #

ILP Map #

ILP#

Watershed Code:

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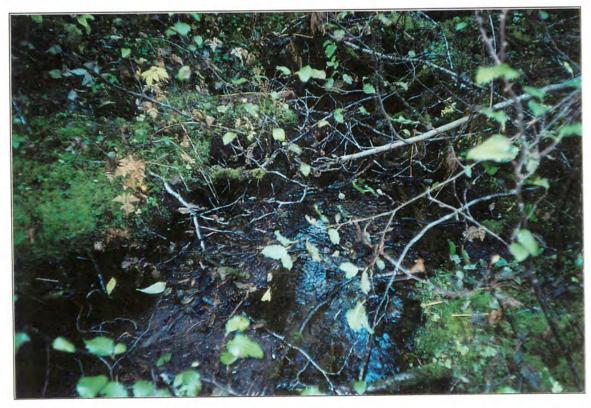
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093M.039

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	Project	ID:	5271									Lake/St	ream:	S	La	ke From	Date:	
F	ish Perm	t #:	14	5269		Date:	2002/09/2	28	To	: 2002	/09/28	Ag	ency:	C172	Crew:	SG/JD	Resar	mple:
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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

Reach # ILP Map # ILP # 1.0 093M.039 1091

STREAM REFERENCING **Gazetted Name:** Local Name: ILP Map #: 093M.039 ILP# 1091 REACH Reach #: 1.0 UTM(Zone/East/North): 9.670289.6137242 Sample Type: Biased Length (km): .36 Coupling: Decoupled Magnitude: BGC Zone: SBS Gradient (%): 5.3 Confinement: Occasionally Conf Order: 1 Open water: Absent US Elev (m): 1020 Islands: NONE Riparian Vegetation: Grass Bars: None V Side Diagonal Mid-channel Span Braid Landuse: Not Specified SITE Site #: 61 Field UTM .. Agency: C172 Crew: SG/JD Date: 2002/09/28 Site Length (m): 300 GIS UTM 9.670471.6137228 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL No Vis.Ch.: Intermittent: Avg Max # Min Avg Min Max Channel Width (m): Dewatered: Tribs.: 1.78 1.5 2.200 6 Gradient %: 1.00 1 1 4 Wetted Width (m): 1.78 2.200 1.5 6 Pool Depth (m): 0.88 0.600 1.3 6 Stage: Low Bankfull Depth (m): 0.8 1 3 Med 🗸 Turbid Turbidity .: Low High Temp (C): 12 pH: 7.9 Conductivity: 100 Moderate Clear V MORPHOLOGY Bed Material: Dominant: Fines D95 (cm): 1.00 Diagonal Bars: Non V Side Mid-channel Span Subdominant: Not Applicable D (cm): 1.00 Braid Channel Pattern: Irregular Meanders Islands: None DISTURBANCE **B**3 Coupling: Decoupled **INDICATORS** Confinement: Unconfined C2 C3 C4 C5 SI **S**3 S2 **S4 S5** Morphology: LC Large Channel COVER Total Cover: Abundant Type SWD LWD В U DP OV IV Amount N D S S S LWD: None Location: P/S/O: LWD Dist: Not Applicable ~ 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 0% Right Bank: Rip.Veg: Grass Stage: Non-vegetated or initi Left Bank: Rip.Veg: Stage: Non-vegetated or initi Instream Veg: None Algae Moss Vascular V FISH Site Number Capture Number of Length fished Total Voltage Total Minimum Species Maximum Method **Events** (m) Time Fish Length (mm) Length (mm) 61 EF 300 261 sec 600 NFC 0

Tochcha Lake Planning Area

Reach # ILP Map #

Comments

10#

ILP#

Site

1.0 093M.039 1091 61 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: 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 Avg width Gadient % Mtd Avg Channel Width (m) 2.00 1.60 2.20 1.50 1.60 1.80 1.78 Method I: 1.00 1.0 1.0 C Wetted Width (m): 2.00 1.60 2.20 1.50 1.60 1.80 1.78 Method II: 1.0 1.0 C Pool Depth (m): 1.00 0.60 1.00 1.30 0.60 0.80 88.0 No Vis.Ch.: Intermittent: Wb Depth: .8 .8 1.0 Avg: 0.87 Method: GE Stage: L M H Dw: Tribs.: COVER Total: A LWD Type: SWD В U DP CROWN CLOSURE OV IV Amount D S s S Loc: P/S/O: INSTREAM VEG: N A M V LWD: N DIST: NA RB SHP: O Texture: F G C B R A Texture: F G C B R A RIP: G STG: INIT STG: INIT WATER EMS: Req #: Temp: 12 Method: T4 Cond.: 100 Method: S3 pH: 7.9 Method: P2 Turb.: T M L C Method: GE Flood Signs: None Method: GE MORPHOLOGY 01 **B2 B**3 D1 D2 D3 Bed Material: Dominant: F Subdom: NA D95: 1.00 D (cm): 1.00 Morph: LC DISTURBANCE **INDICATORS** Pattern: IM C2 C3 C4 C5 S1 S2 **S3 S4 S5** Islands: N Coupling: DC Confinement: UN DIAG Bars: SIDE MID SPAN BR FSZ: HABITAT QUALITY Name Comments OverWinter Habitat Present - deep pools. Spawning Habitat None - 100% fines and organics Rearing Habitat Moderate - deep pools, abundant cover. PHOTOS

Upstream photo of wetland channel.

Downstream photo of wetland habitat.

Foc Lg

STD

STD

Dir

U

D

Photo

F: 12A

8 F: 11A

Tochcha Lake Planning Area

ILP Map# Reach #

ILP#

Site

1.0 093M.039 1091

	COMMENTS
Section	Comments
CHANNEL	S3*

Tochcha Lake Planning Area

Reach #

ILP Map #

ILP#

Watershed Code:

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093M.039

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	Project	ID: 5	271									Lake/Str	eam:	S		Lake I	From Date:			
F	ish Permi	t #:	1452	69	11	To: 2002/09/28				Agency: C172			rew: JD/S	Resample:						
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V	VATERB	ODY		Diffic	cult fishing	due to	o deep wetl	and ch	annel.											



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

Tochcha Lake Planning Area

Reach # ILP Map #

8.0

ILP# 093M.039 1022

STREAM REFERENCING **Gazetted Name:** Local Name: ILP Map #: 093M.039 ILP#: 1022 REACH Reach #: 8.0 UTM(Zone/East/North): 9.670528.6137909 Biased Sample Type: Length (km): 1.21 Coupling: Coupled Magnitude: 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 V Side Diagonal Mid-channel Span Braid Landuse: Not Specified SITE Site #: 62 Field UTM .. Agency: C172 JD/SG Date: 2002/09/28 Crew: Site Length (m): 200 GIS UTM 9.670651.6137222 Agency Name: Triton Environmental Consultants (Terrace) CHANNEL No Vis.Ch.: Intermittent: Avg Min Max # Avg Min Max # Channel Width (m): Dewatered: Tribs.: 1.55 1.4 1.700 Gradient %: 6 1.25 4 Wetted Width (m): 1.20 1.4 Pool Depth (m): 6 0.30 0.200 0.5 6 Low V Bankfull Depth (m): 0.57 0.6 0.5 3 Med Turbidity .: Turbid Low High Temp (C): 10 pH: 7.9 Conductivity: 90 Clear V Moderate MORPHOLOGY Bed Material: Dominant: Gravels D95 (cm): 10.00 Side Diagonal Mid-channel Bars: Non V Span Subdominant: Fines D (cm): 5.00 Braid ___ Channel Pattern: Sinuous Islands: None **INDICATORS** Coupling: Coupled Confinement: Confined C3 C4 C5 S1 S2 **S3** S4 **S5** Morphology: RP Riffle Pool COVER Total Cover: Abundant SWD LWD Type: В DP U OV IV Amount: N S S D T T LWD: Few Location: P/S/O: ~ LWD Dist: Clumped 1 FSZ: Right Bank: Shape: Overhangi Texture: Fines V Gravel Cobble Boulder Rock Manmade Crown Closure Left Bank: Shape: Overhangi 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 V Algae Moss Vascular FISH Site Number Capture Number of Length fished Total Voltage Species Total Minimum Maximum Method **Events** (m) Time Fish Length (mm) Length (mm) EF 62 200 216 sec 600 NFC 0

Tochcha Lake Planning Area

ILP Map #

ILP#

Site 62

8.0 093M.039 1022

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Gazetted Name Watershed Code ILP Mape Field UTM (Z.E.N GIS UTM (Z.E.N	e: 000-00 #: 093M.):	039	11	LP #: 10		00-000-0		-000-000	N	ID#: 40	g: 200		ch #: Me	thod: Gl	8.0 E		Site #: 6:	2
Da	ate: 200	2/09/28	1	Time: 16:	:08		Agency	C172	C	crew:	JD/SG		1	Fish Cro	i?: 🗸	lr	ncomplet	te:
7.17.80	7190	1 300		The William	-0.30	ST 18		ANN		NY EN	S- N311	-16					3	
10 (2) (2)	Mtd	width	width	width	width	width	width	width	width	width	width	Avg			Gad	ient %	Mtd	Avg
Channel Width (m) Wetted Width (m) Pool Depth (m)	T	1.50 1.40 0.20	1.60 1.20 0.30	1.40 1.10 0.20	1.60 1.30 0.40	1.70 1.00 0.50	1.50 1.20 0.20					1.55 1.20 0.30	I	Method Method	l: 2.0 ll: 1.0	1.0	C	1.25
Wb Depth	.6	.5	.6	Avg	g: 0.57	٨	Method:	Ť	St	age: L	✓ M	ПН	1	No Vis.C	h.: bw:	Intermi	ittent:	
COVER			Tota	al: A														
Туре	-		VD	В	U	DF		OV	IV	1		OSURE.						
Loc: P/S/O	_		D	N	S	S		T	T	1		-20% VEG:						
RIF	: F 🗸	G	c 🗆	В	R 🗌 A						RB SHP Texture RIP STG	F V	G] c	В] R □	A _	
- WIL		-	_ X		- 2.10	- 34	W	ATE	R								mile	
EMS Temp pH Flood Signs:	: 10 : 7.9					Metho	od: T4 od: P2 od: GE			C	eq #: ond.: 90 urb.: T	□ м [L	c	V		hod: S3	
To the same of	3	- 55		1) ru = 1	P(-)	M	ORP	HOL	OGY							3533		200
Bed Material: D95: Pattern: Islands: Coupling: Confinement: FSZ:	SI N CO CO	Dominani D (cm)	t: G): 5.00		Subdom Morph	:E	D	ISTURB INDICA	ANCE	01 C1	B1 C2 SIDE	C3 C	33 C4 DIAG	C5		03 52 S3 SPAN		S5
	-47	11/2	5 . 3	1		HAE	BITA	TQU	ALIT	Y		70-7		· "y	371			
Name									С	omment	ts			00.0	11 - 7 - 7			
OverWinter Habita Spawning Habita		Preser	nt. beaver c	omnlevi	ina leade	to pond	ing and	ahuadas	ot fines									
Rearing Habitat		the second second	ate - abu		_		-		it imes.	_								
1.4	75.			2/3				ото	S	107.00	111 22	2.117						
Photo		c Lg		Di	ir		SHEET PARK		1000	ni -	2 10	Commen	ts					
8 F: 13A		TD		Ü					presenta		oitat.							
: 8 F: 14A	S	TD		D)	Dow	nstream	photo o	f pool ha	bitat.								

Tochcha Lake Planning Area

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

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

Reach #

ILP Map #

ILP#

Watershed Code:

8.0

093M.039

300		72	4/10		200		WA	TER	BOD	Y	FILE		r (a)		Par I				
Ga	zetted Name:									Loc	al:								
F	Project Code:	182-8	319600-	63300-40	0900-000	0-0000-000-0	000-000	0-000-00	0-00										
	WS Code:	000-0	000000-	00000-00	000-000	0-0000-000-0	000-000	0-000-00	000-00										
V	Vaterbody ID:						ILP	Map #:	093M.0	39		ILP#	: 1	022	Reach #:	8 -			
	Project ID:	5271								Lake/St	ream:	S		Lake F	rom Date:				
F	ish Permit #:	14	5269		Date: 2	002/09/28	Т	o: 2002	2/09/28	Ag	ency:	C172	Cre	w: JD/S	G Res	sample:			
1-15	and the		1000	e access	7674		SITE	E / M	ETH	OD.		100000		12 45	Sp.				
Site#	NID Map	NID# UTM:Zone/East/North/Mthd				MT	MTD/NO Temp Cond Turbid						Comment						
62	093M.039	400	62	1 Incom		GP	U EF	1	10	90	C								
			C INC		19/60	Α.	GE.	AR S	ETT	INGS					10.7	The same			
Site#	MTD/NO	H/P	Date	e In	Time In	Date Out	Tim	e Out			-		Comn	mment					
62	EF 1	1	2002/0	09/28	16:08	2002/09/28	16	5:30											
			41	1	C. EL	ECTRO	FIS	HER	SPI	ECIFI	CA	TIONS	5	200	AND THE RES				
Site#	MTD/N	Ю	H/P	E	Encl	Sec Length		h	Width	Vol	tage	Freque	ency	Pulse	Make	Mode			
62	EF	1	1	1	0	216	200.0		1.2		00	60		6	SMITH	12B			
5 20	F F	305	10	3.6	100		ISH	SU	MMA	RY	200		7.5			Par se			
Site#	MTD/N	Ю	H/P	Spec	ies S	Stage A	ge	Total a	# Lg	th (Min/M	ax)	FishAct			Comment				
62	EF	1	1	NFC				0											



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