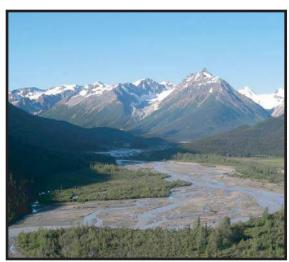


# Schaft Creek Project 2006 Fisheries Baseline Report









Prepared by: March 2007

Rescan Tahltan Environmental Consultants Vancouver, British Columbia





# **EXECUTIVE SUMMARY**



# **Executive Summary**

CopperFox Metals' proposed Schaft Creek Project has mineral claims situated within the Cassiar Iskut-Stikine Land and Resource Management area which encompasses a total of 5.2 million hectares. The mineral claims of interest are situated near the headwaters of Schaft Creek, a tributary of Mess Creek, which flows into the Stikine River downstream of the community of Telegraph Creek. This report presents the results of field studies conducted in July, August and September 2006 on the morphology, habitat quality, and fish community of the Schaft Creek Project Area.

Fish habitat and community surveys were conducted in the proposed Schaft Creek Project Area. Fish communities in streams, wetlands and lakes were assessed using a combination of backpack electrofishing, gillnetting and minnow trapping gear. Sixteen receiving environment sites, 9 road crossing sites, 8 wetland sites and 7 lake sites along Schaft, Mess and Skeeter creeks were surveyed. A total of 223 fish were captured, all of which were rainbow trout. Among receiving environment sites, average fish condition was generally near a value of 1, indicative of healthy salmonid body morphology.

Fish habitat quality was generally fair to good at all sites along Mess, Schaft and Skeeter creeks. Receiving environment sites were mostly large, fast flowing and turbid. Comparatively, road crossing sites were small, slow, and clear. Though more fish were captured in the receiving environment sites (90 fish in the receiving environment versus 44 fish in the road crossings), average catch-per-unit-effort (CPUE) at road crossing sites was more than twice as high as receiving environment sites.

A total of 8 wetlands in the Schaft Creek Project Area were surveyed between July and September 2006 and a total of 77 rainbow trout were captured. Most of the wetlands were associated with the mainstem rivers, and were part of larger wetland complexes.

Seven lakes were surveyed for fish habitat and fish community composition, though only 2 lakes were fish bearing. Lakes ranged from cold lakes tinted by glacial sediments to clear, productive lakes. Using a combination of minnow traps and gillnets, 12 fish were captured between 2 lake sites.

# **ACKNOWLEDGMENTS**



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# 1. INTRODUCTION



## 1. Introduction

#### 1.1 Overview

The Schaft Creek property is located in the mountainous terrain of northwestern British Columbia, approximately 1,000 km northwest of Vancouver (Latitude: 130° 58' 48.9", Longitude: 57° 22' 4.2" - Figure 1.1-1). The area is located 80 kilometers southwest of Telegraph Creek and approximately 76 kilometers west of the Stewart-Cassiar paved highway (Highway 37). The mineral claims of interest are situated near the headwaters of Schaft Creek, a tributary of Mess Creek, which flows into the Stikine River downstream of the community of Telegraph Creek.

Schaft Creek is located in the coastal climate zone of British Columbia and is characterized by cool summers and cold humid winters. Elevations on the property range from 500 to 2,000 m above sea level. Average annual precipitation (using PRISM data) is estimated to be between 665 mm and 859 mm. Temperatures are strongly influenced by the Coast Mountains and may range from above 20°C in the summer to below -20°C in winter.

All mineral claims are contained within the Cassiar Iskut-Stikine Land and Resource Management area which encompasses a total of 5.2 million hectares. The area is part of the Telegraph Creek Community Watershed identified in the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP).

The Schaft Creek deposit was discovered in 1957, and the site has been subject to periodic exploratory drilling since then. CopperFox Metals began a preliminary feasibility assessment in 2004, and Rescan Tahltan Environmental Consultants (RTEC) were retained in 2005 to begin baseline environmental studies.

## 1.2 Objectives

This report presents the results of the 2006 baseline fisheries assessment. The distribution of fish in Mess Creek and its tributaries is not well documented. Salmon and mountain whitefish can be found in Mess Creek near its confluence with the Stikine River; however, a canyon and waterfall located in the lower reaches act as a barrier to fish migration. Rainbow trout are known to inhabit Mess Creek and Schaft Creek (FFSBC, 2005); however, their distribution through the upper reaches of the watershed and among tributary streams is not known. The objectives of this assessment were:

- to determine fish distribution and abundance, and fish habitat quality in the mine site receiving environment; and,
- to collect baseline fish and fish habitat information on potential stream crossings along the most likely proposed access corridor.





Location Map for Schaft Creek Project





# 2. MATERIALS AND METHODS



# 2. Materials and Methods

#### 2.1 Overview

Fish habitat consists of environmental components required by fish to carry out their life processes. These components may affect the fish directly or indirectly and include spawning, rearing, food supply, and migration area. The purpose of the fish habitat surveys was to characterize fish habitat within the Schaft Creek Project Area and associated proposed road route watersheds prior to any development activities. Fish communities were also assessed to quantify fish populations and determine presence/absence at designated sites within the Project Area.

Survey sites sampled fell under two categories: 1) mine site and receiving environment, and 2) proposed road route. Mine site and receiving environment sites are those that may be directly influenced by mine development, and are located at streams, lakes and wetlands downstream of proposed mine features. Sites along the proposed road route consist of streams, lakes and wetlands that may potentially be affected by road development.

## 2.2 Receiving Environment

#### 2.2.1 Streams

#### 2.2.1.1 Study Design

Two major watersheds were surveyed for fish habitat and communities in the area surrounding the Schaft Creek Project; Schaft Creek and Mess Creek. The confluence of Schaft Creek and Mess Creek is downstream of the proposed mine site. Further north, Mess Creek enters the Stikine River. The Stikine River was not sampled for fish during the 2006 survey as extensive historical fisheries data already exists for this watershed. In 2006, a total of 17 sites were assessed for both fish habitat and community (Figure 2.2-1).

#### **2.2.1.2** Fish Habitat

Habitat assessments were based on the Reconnaissance (1:20,000) Fish and Fish Habitat Inventory Protocol (RIC, 2001) and the BC Watershed Restoration protocol (Johnston and Slaney, 1996). At each site, assessments were conducted on individual habitat units (pools, glides, riffles, cascades) within a 100 to 200 m section of stream. Pools were defined as areas of slow flow where water collects in a deeper section of channel that may be dammed by debris or scoured by high flows. The gradient of a pool should be less than 1%. Glides are areas of smooth, laminar flow where the streambed is relatively flat (*i.e.*, not scoured). Riffles are areas of turbulent flow with a gradient between 1 and 4%. Cascades are defined as areas of turbulent flow with a gradient exceeding 4%. The physical features of each habitat unit was measured and assessed. Features included slope, mean stream width and depth, mean residual pool depth, substrate composition, fish cover availability and type, potential barriers, bank stability, and bank height. Measurements were collected with a measuring tape, meter stick, clinometer (for slopes) or visually estimated. A complete list of the variables measured is presented in Table 2.2-1.

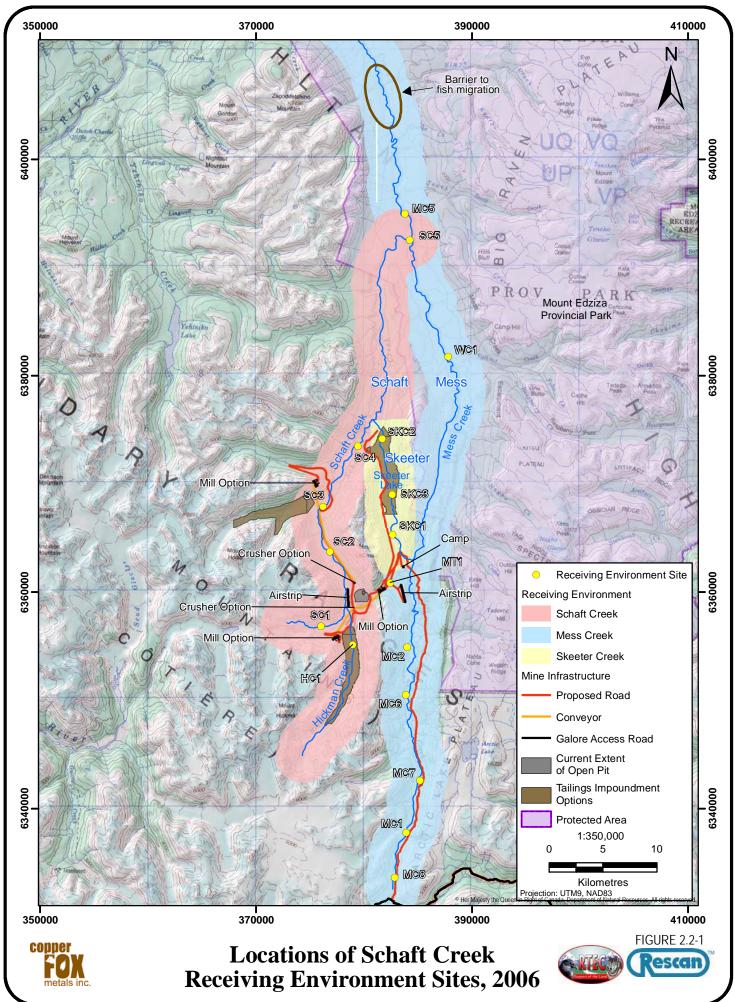


Table 2.2-1
Variables Measured during Habitat Assessments at Receiving
Environment and Road Corridor Stream, Wetland, and Lake Sites

Substrate Type	Physical Measurements	Habitat	Cover
% Sand	Length (m)	Habitat type	% Deep pool
% Gravel	Mean depth (m)	Pool type	% Boulder
% Cobble	Bankfull depth (m)	Residual pool depth (m)	% Instream vegetation
% Boulder	Wetted width (m)	Fish passage barriers	% Overhanging vegetation
% Bedrock	Bankfull width (m)	Bank stability	% Undercut bank
Bank texture	Gradient (%)	Confinement	% LWD
	Bank height (m)	Hillslope coupling	% SWD
	Temperature (°C)	Stream pattern	Canopy closure (%)
	Turbidity	Islands/Bars	Riparian vegetation

#### 2.2.1.3 Fish Community

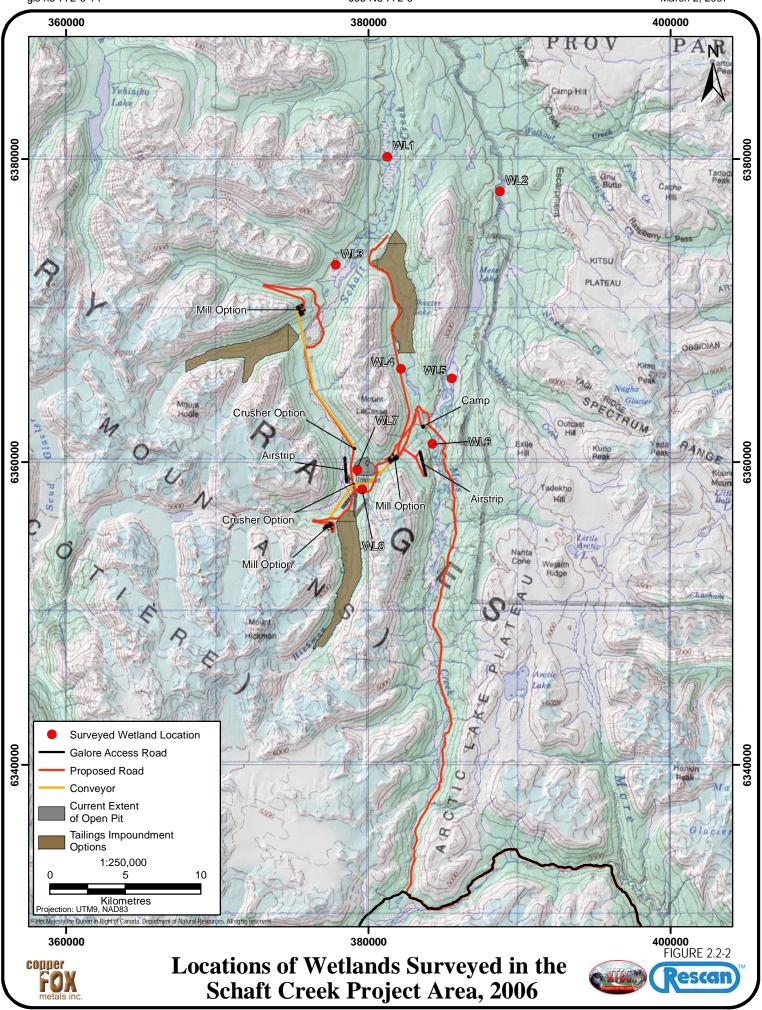
Stream fish communities were sampled in the same location where habitat assessments occurred. Sampling was conducted using backpack electrofishers in small streams and at the margins of large rivers, and minnow traps in streams with slow moving water. Because species composition was the primary purpose of sampling, only one electrofishing pass of a reach was made and no stop nets were used to prevent fish from moving into or out of the sampling area.

Biological data were collected on captured fish, including species, fork length, wet weight, and general physical observations. Scales and/or fin rays were collected from fish for aging purposes. All aging samples were collected in the field and analyses were conducted by North Shore Environmental Services, Thunder Bay, ON. Fish age was assessed primarily through the use of fin rays. This introduces a measure of inaccuracy into the results, as fin ray aging should be backed up by a secondary measurement. However, collecting scales from young fish of certain species with small scales, *e.g.*, rainbow trout (*Oncorhynchus mykiss*), was difficult and time consuming, while taking otoliths for aging requires sacrificing the fish.

#### 2.2.2 Wetlands

## 2.2.2.1 Study Design

In 2006, 8 wetlands in the receiving environment were surveyed for fish habitat and community (Figure 2.2-2). Sampling occurred in July and September, with most sites being visited on both occasions to confirm fish presence or absence. The objective of this sampling was to quantify fish habitat in receiving environment wetlands that will be directly impacted, or potentially receive discharge during mine operations.



#### 2.2.2.2 Fish Habitat

Wetland fish habitat was quantified using a combination of transects and point measurements of open-water habitat. Channels within each wetland were mapped using a handheld GPS unit. Average channel width and depth were measured and dominant cover type and amount was estimated every 20 to 30 m. Small ponds within wetlands were surveyed with a single point. The width and length of the ponds were estimated and the amount of cover and dominant cover type were recorded. For large ponds, several GPS points were taken around the perimeter so that area estimates could be obtained using geographical information systems (GIS), and the habitat characteristics were noted.

In addition, for wetland and lake sites the general quality of habitat for rearing, overwintering, spawning and migration was noted.

#### 2.2.2.3 Fish Community

The fish community of wetlands and lakes were sampled using a combination of electrofishing and minnow traps. Electrofishing was conducted in narrow or shallow channels found in the wetlands, while minnow traps were set in deeper water habitats and ponds within the wetland.

Information on fish species richness, size distribution, fish condition and relative abundance was obtained. Captured fish were identified, measured, and weighed before being release back into their habitat. Pelvic fin clips and/or scales were collected from fish for aging purposes.

#### 2.2.3 Lakes

#### 2.2.3.1 Study Design

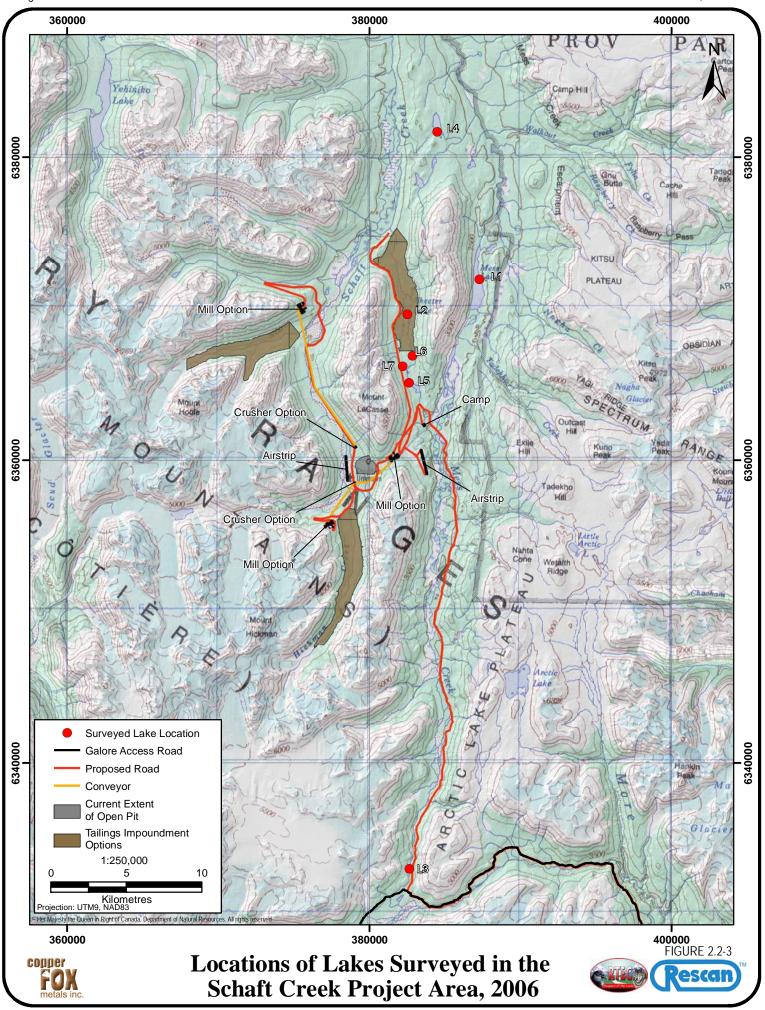
Seven lakes were surveyed in 2006 as part of the receiving environment studies (Figure 2.2-3). Lakes were chosen for their proximity to mine features and the proposed road, and a reference lake (L4) was added for comparison. Sampling occurred from late August to early September. The objective of the lake survey was to identify important fish rearing and overwintering habitat, and to further determine the extent of fish distribution in the Project Area.

#### 2.2.3.2 Fish Habitat

Fish habitat was characterized using a combination of methods. First, an aerial survey was conducted using a helicopter at low altitude. Areas with different substrate types were delineated from the air on a map of the lake or wetland and substrate zones were identified. Once zones of substrate were delineated, emergent vegetation and other cover types were noted and recorded on the map. Spot measurements of depth were also taken, as well as surface temperature, pH, and conductivity. Inlets and outlets were mapped, photographed, and described.

#### 2.2.3.3 Fish Community

The experimental gillnets consisted of three panels each (1", 1.5") and 2" stretched mesh size), and measured approximately  $183 \text{ m}^2$ . Gillnets were set for one hour to minimize mortality, and if no fish were captured, sets were extended up to 2 hours in duration. The location and set times were recorded.



## 2.3 Stream Crossings

#### 2.3.1 Study Design

Stream crossing sites were located along the proposed southern road route that follows Mess Creek south to connect with the proposed Galore Creek Access Road (Figure 2.3-1). Survey sites were chosen based on stream order and gradient in a biased selection approach. Sites with higher stream order and lower gradient are more likely to contain fish and were therefore sampled at higher frequency.

#### 2.3.2 Fish Habitat

Stream crossings were assessed using a method based on the Reconnaissance (1:20,000) Fish and Fish Habitat Inventory Protocol (RIC, 2001). The physical features of each habitat unit was measured and assessed. Features included slope, mean stream width and depth, mean residual pool depth, substrate composition, fish cover availability and type, potential barriers, bank stability, and bank height. Measurements were collected with a measuring tape, meter stick, clinometer (for slopes) or visually estimated. Habitat features such as barriers and deep pools were noted and GPS coordinates were recorded. A complete list of the variables measured is presented in Table 2.2-2.

### 2.3.3 Fish Community

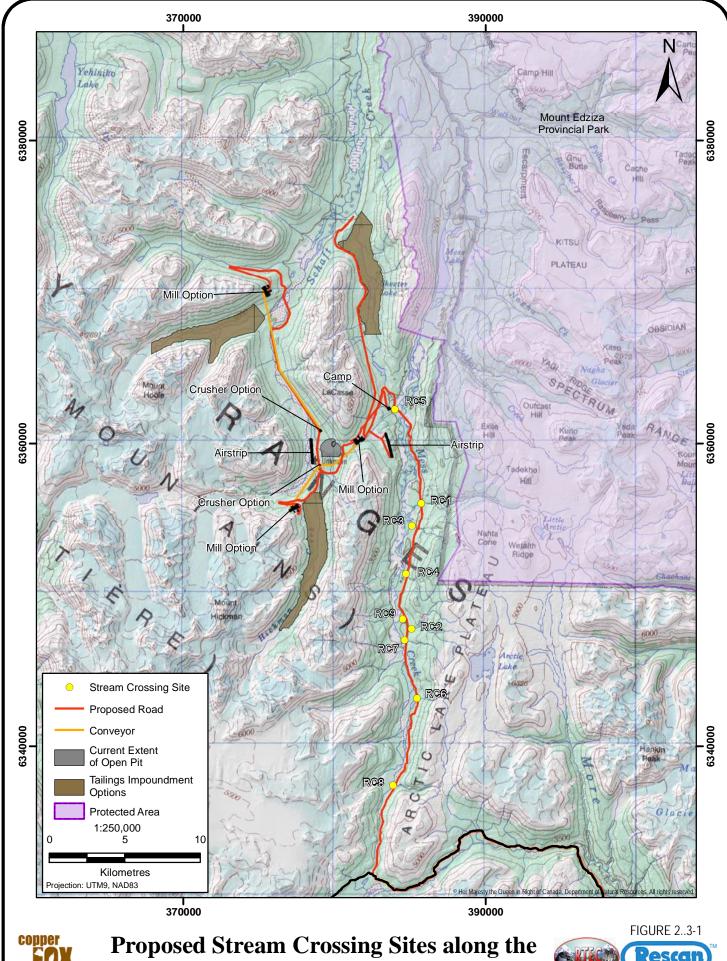
Fish community at each stream crossing site was assessed using backpack electrofishing over a 100 m reach. Because species composition was the primary purpose of sampling, only one electrofishing pass of a reach was made and no stop nets were used to prevent fish from moving into or out of the sampling area.

Biological data were collected on captured fish, including species, fork length, wet weight, and general physical observations. Scales and/or fin rays were collected from fish for aging purposes. All aging samples were collected in the field and analyses were conducted by North Shore Environmental Services, Thunder Bay, ON. Fish age was assessed primarily through the use of fin rays.

## 2.4 Data Analysis

Data analysis was conducted with SigmaPlot and Systat 11 (Systat Software Inc., 2004, 2006) statistical software. Normal probability plots were employed to test for normality among variables. Data were transformed with natural logarithms to meet assumptions of normality. Analyses of variance (ANOVA) and analyses of covariance (ANCOVA) were used to test for differences among means.

Fish communities were characterized using relative abundance, catch-per-unit-effort (CPUE), length-frequency distributions, weight-length regressions, age-frequency distributions, and condition factor.



**Schaft Creek Access Corridor, 2006** 



Catch-per-unit-effort is an index of relative abundance that can be used to compare fish populations among different areas. It is defined as the number of fish captured per sampling device per unit time. For gillnetting, CPUE was calculated as:

(1) 
$$CPUE = \frac{\text{number of fish caught}}{100m^2 \bullet day}$$

Where m<sup>2</sup> refers to the surface area of the gillnet. For minnow trapping, CPUE is calculated as the number of fish captured per trap hour in a standard minnow trap. Condition is an index of the relative health of fish. It was calculated for all fish for which length and weight data were obtained, and was based on the following formula from Ricker (1975):

(2) 
$$Condition = \frac{Weight(g) \cdot 10^5}{Length(mm)^3}$$

A general linear model (GLM) was used to test for equality in the slopes of the weight-length regressions among sites. If slopes were equal (*i.e.*, there was no significant effect of the interaction between length and site on the weight of fish tested), then analysis of covariance (ANCOVA), with length as the covariate, was used to test for differences in weight (*i.e.*, the *y* intercepts of the regressions) among sites. If the slopes of the regressions were not equal, this indicated that the relationship between length and weight differed among sites and the *y*-intercepts of the regressions could not be compared. In this case, differences in the length-weight relationships were described but further analyses could not be performed.

Von Bertalanffy growth models were fit to length-age data using SigmaPlot's non-linear regression function. The equation for this model is:

(3) 
$$L_{t} = L_{\infty} (1 - e^{(-K^{(t-t_{0})})})$$

where  $L_t$  is the length (mm) at age t (years),  $L_{\infty}$  is the length (mm) that the fish would attain if it were allowed to grow for an infinitely long time, K is a growth coefficient (year<sup>-1</sup>) and  $t_{\theta}$  is the age (years) at zero length. Length-frequency distributions were constructed to visualize the distribution of fish among size classes. Age-frequency distributions were also used to present the distribution of fish by age. These plots are useful in looking for differences in population structure among sites.

# 3. RESULTS AND DISCUSSION



## 3. Results and Discussion

## 3.1 Receiving Environment

#### 3.1.1 Streams and Rivers

#### **3.1.1.1** Fish Habitat

Fish habitat was surveyed at 17 receiving environment sites within the Schaft, Mess and Skeeter Creek watersheds in June and September 2006. Mess Creek is a major tributary of the Stikine River and flows northwards from its headwaters near the Spectrum Range to its confluence with the Stikine River near Telegraph Creek. Schaft Creek is a tributary of Mess Creek, and flows northeast from its headwaters near Mount Hickman to its confluence with Mess Creek, which is located approximately 33 km south of the Stikine River. The Skeeter Creek watershed is located in a small valley between Schaft Creek and Mess Creek near the proposed Schaft Creek Project location. A height of land divides the watershed such that the northern half (which includes Skeeter Lake) flows north to Schaft Creek, while the southern half (which includes an unnamed lake nicknamed "Little Skeeter Lake") flows south to Mess Creek.

#### Physical Measurements

Both Mess Creek and Schaft Creek are large, turbid rivers with wide floodplains and abundant secondary wetlands. They are largely low-gradient; however, canyon and cascade reaches are present in some areas. South of Mess Lake, Mess Creek meanders across a wide floodplain with abundant wetlands, ponds and side-channels (Plate 3.1-1). It has a low gradient and is characterized by sandy or silty substrates, multiple channels, and abundant off-channel habitat. Downstream of Mess Lake, it becomes steeper and more confined, and is characterized by gravel/cobble substrates. Sites surveyed within the Mess Creek watershed had a mean gradient of 2%, and ranged from 0 to 9% (Table 3.1-1). The bankfull width of sites in the Mess Creek watershed ranged from 4.5 to 160.0 m, and averaged 55.1 m, while the wetted width ranged from 3.0 to 80.0 m and averaged 27.1 m. The bankfull depth ranged from 0.2 to 1.7 m, and averaged 1.0 m.

In its upper reaches where it emerges from its glacial origins, Schaft Creek flows across a wide gravel-cobble-boulder floodplain and displays a moderate gradient (Plate 3.1-2). There is evidence of frequent bedload movement and bed instability. A short canyon is located approximately 30 km upstream of the confluence of Schaft Creek and Mess Creek and likely serves as a barrier to fish migration. Downstream of the canyon, the main channel of Schaft Creek becomes more defined as it flows past numerous wetlands (Plate 3.1-3). Sites surveyed in the Schaft Creek watershed had an average gradient of 2.4%, and ranged from 0.5 to 4%. Bankfull widths ranged from 60.0 to 250.0 m in the Schaft Creek watershed, and averaged 178.3 m. Wetted widths had a mean of 111.8 m, and ranged from 16.0 to 200.0 m. Bankfull depth at Schaft Creek sites ranged from 0.8 to 2.5 m, and averaged 1.4 m.



Plate 3.1-1. Aerial view of Mess Creek looking upstream (south).

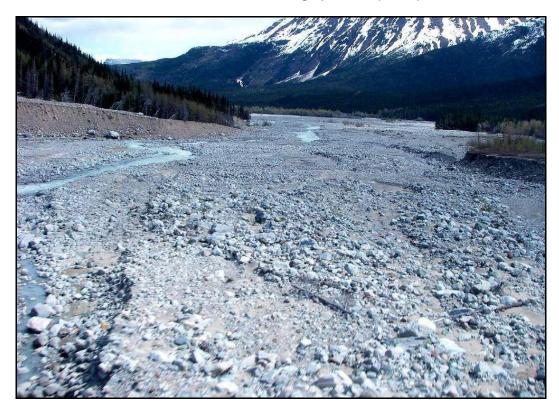


Plate 3.1-2. Schaft Creek headwaters looking downstream from site SC-1.

Table 3.1-1
Physical Habitat Measurements at Receiving Environment Sites in the Mess, Schaft, and Skeeter Creek Watersheds

	M	ess (N=	:9)	Sc	haft (N	=6)	Skeeter (N=10)			
	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	
Temperature (°C)	6.7	5.0	9.0	5.3	4.0	6.0	8.4	8.0	12.0	
рН	8.1	7.9	8.2	8.5	8.2	8.7	-	-	-	
Conductivity (µS/cm)	93	50	140	70	60	80	164	160	200	
Slope (%)	2.0	0	9	2.4	0.5	4	1.3	0	3	
Bankfull Width (m)	55.1	4.5	160.0	178.3	60.0	250.0	2.4	1.2	4.5	
Wetted Width (m)	27.1	3.0	80.0	111.8	16.0	200.0	2.5	1.5	4.5	
Bankfull Depth (m)	1.0	0.2	1.7	1.4	8.0	2.5	0.5	0.2	1.3	
Wetted Depth (m)	0.6	0.2	1.2	0.7	0.5	1.0	0.4	0.2	1.1	
Left Bank Height (m)	0.49	0.10	1.00	1.18	0.50	2.00	0.56	0.30	1.20	
Right Bank Height (m)	0.58	0.10	1.50	1.27	0.40	4.00	0.56	0.25	1.20	
Left Bank Stability	0.44	0	1.00	0.25	0	0.50	0.50	0.50	0.50	
Right Bank Stability	0.44	0	1.00	0.33	0	0.50	0.50	0.50	0.50	

Bank stability: 0 = unstable, 1 = highly stable



Plate 3.1-3. Schaft Creek looking upstream (south), with associated wetlands.

Streams in the Skeeter Watershed are mainly clear, and vary in morphology among sites (Plate 3.1-4). Sites range from low gradient, meandering channels through wetlands to higher gradient, gravel-bottomed streams. Skeeter Lake in the northern part of the watershed is located upstream of a steep cascade section that extends for 100 to 200 m and isolates the upper Skeeter Creek watershed from Schaft Creek (Plate 3.1-5). Skeeter Lake, its tributaries and outflow all have low turbidity or clear water. In the southern half of the watershed, Little Skeeter Lake is heavily clouded by glacial sediments, and some of its inflows and outflows are turbid. No barriers to fish migration were observed in the south Skeeter Watershed between Little Skeeter Lake and Mess Creek. Sites surveyed in the Skeeter Watershed had a mean slope of 1.3%, and ranged in gradient from 0 to 3%. Bankfull width ranged from 1.2 to 4.5 m, and averaged 2.4 m, while wetted width averaged 2.5 m, and ranged from 1.5 to 4.5 m. Bankfull depth among these sites ranged from 0.2 to 1.3 m, and averaged 0.5 m.



Plate 3.1-4. Skeeter Creek at site SKC-2 looking downstream. Wide, deep channel flows at a low gradient through a bog.

#### Habitat Type and Substrate

Due to relatively higher gradients, sites in the Schaft Creek and Mess Creek watersheds were dominated by riffle and cascade habitat units (Table 3.1-2). Sites in the Skeeter Creek watershed were dominated by glides and riffles. Most sites had no pools. These results reflect the large-channel morphology that was present at most of the sites. Pool habitat is scarce in larger rivers, especially where the mean gradient is over 1%.



Plate 3.1-5. Cascade reach of Skeeter Creek looking upstream.

Gradient and morphology are also reflected in the substrate composition at most sites. In the Mess Creek and Schaft Creek watersheds, cobble and gravel dominated the substrate at most sites; whereas, in the Skeeter Creek watershed gravel and sand were abundant (Table 3.1-2). Sites in the Skeeter Creek watershed were generally located on smaller streams with lower gradients; hence, the smaller bed material.

#### Cover and Canopy

Overall in-stream cover was very low among sites in the Mess Creek and Schaft Creek watersheds, but relatively high in the Skeeter Creek watershed (Table 3.1-2). In the Mess Creek watershed, most of the cover was provided by overhanging vegetation which shaded 7.4% of the stream on average. Small woody debris provided most of the cover in the Schaft Creek watershed, covering 7.0% of the stream area. In the Skeeter Creek watershed, pools and overhanging vegetation provided most of the cover, sheltering 30% and 23.3% of the stream area, respectively. Undercut banks also provided a significant amount of cover (15.6%).

Canopy cover was virtually non-existent at sites in the Mess and Schaft Creek watersheds (0 to 0.1%), and was low in the Skeeter Creek watershed (7.8%). This is typical of larger river

systems where the canopy does not reach over the majority of the wetted width of the stream. Riparian cover was similar among watersheds, and ranged from 32.2% to 78.3% on average.

Table 3.1-2
Habitat Characteristics of Receiving Environment Sites in the Mess, Schaft, and Skeeter Creek Watersheds

	Mess (N=9)	Schaft (N=6)	Skeeter (N=10)
Habitat Type			
Cascade (%)	9.5	32.4	0.0
Glide (%)	2.5	0.0	55.7
Pool (%)	0.0	0.0	0.3
Riffle (%)	88.0	67.6	44.0
Substrate Type			
Sand (%)	27.0	24.2	34.0
Gravel (%)	37.1	32.5	65.0
Cobble (%)	36.1	39.2	10.0
Boulder (%)	2.2	6.3	-
Bedrock (%)	0.6	0.0	-
Cover Type			
Pool (%)	4.4	0.0	30.0
Boulder (%)	2.1	1.0	-
Instream Vegetation (%)	2.4	0.0	-
Overhanging Vegetation (%)	7.4	2.5	23.3
Undercut Bank (%)	1.0	0.0	15.6
Large Woody Debris (%)	1.9	4.3	6.4
Small Woody Debris (%)	1.6	7.0	5.0
Canopy			
Canopy Cover (%)	0.0	0.1	7.8
Left Bank Riparian Cover (%)	47.8	78.3	32.2
Right Bank Riparian Cover (%)	53.9	40.9	43.3

Functional large woody debris is attached or embedded in the stream or banks, and creates cover and influences channel complexity by stabilizing banks, influencing sediment storage and creating scour zones. Most sites surveyed had few or no pieces of functional large woody debris; however, it was abundant at three sites in the Schaft Creek watershed, and one site in the Skeeter Creek watershed. Functional large woody debris is usually scarce in larger rivers because it is more easily eroded from banks and transported by high flows. Most of the functional large woody debris encountered was evenly distributed as opposed to clumped. Clumped distribution of debris is indicative of log or debris jams that are usually a product of catastrophic events.

#### 3.1.1.2 Fish Community

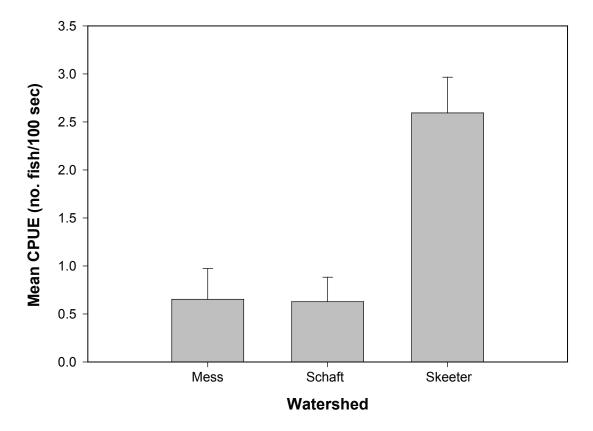
#### Community Composition and CPUE

Fish sampling in the vicinity of the proposed mine site and receiving environment, including sites in Schaft Creek, Hickman Creek, Mess Creek, Mess Tributary Creek, Walkout Creek and Skeeter Creek, was carried out between July and September of 2006. Rainbow trout was the only fish species captured, indicating low species richness for these watersheds (Plate 3.1-6). Fish community and geographic distribution is likely limited in these watersheds due to an 11.7 km long canyon and a 6 m falls, both located on the mainstem of Mess Creek. It is not known whether the rainbow trout in the watershed are native or introduced, but it is likely that the barriers on Mess Creek prevent other fish species from accessing the area.



Plate 3.1-6. Rainbow trout captured at SC 5.

A total of 90 fish were captured by electrofishing from streams within the proposed mine site and receiving environment (Table 3.1-3). Neither sampling effort of Hickman Creek, nor Mess Tributary Creek caught fish. In total, 18,384 seconds of electrofishing effort was exerted on streams within the mine site and receiving environment. The overall mean CPUE for all sites (with fish caught) in the mine site and receiving environment was 0.490 fish/ 100 sec. Mean CPUE differed significantly between sites (ANOVA,  $F_{2,13} = 2.94$ , P = 0.088) (Figure 3.1-1). Mess and Schaft Watersheds had significantly lower CPUE than Skeeter Creek Watershed. However, Walkout Creek, a tributary of Mess Creek, had the highest CPUE of all the sites at 1.556 fish/ 100 sec, while Skeeter Creek, a tributary of both Mess and Schaft Creek, had the second largest CPUE at 1.384 fish/ 100 sec. Mainstem Shaft Creek and Mess Creek had the lowest CPUE suggesting that mainstem sites are not as highly populated. This might be explained by the relative abundance of suitable fish habitat. Mainstem sites often had fast moving waters and homogenous habitat while tributaries had small channels and varied habitat.



Note: Error bars represent standard error of the mean. CPUE = catch per unit effort.



FIGURE 3.1-1

Rescan

Mean CPUE in the Mess, Schaft and Skeeter Creek Watersheds, 2006

Table 3.1-3
Electrofishing Effort, Catch, and CPUE of Mine Site and Receiving Environment Streams, Schaft Creek Project, 2006

Site ID	Electrofishing Effort (sec)	Number of Fish	CPUE (# fish/100 sec)
RC1	1080	9	0.83
RC2	356	7	1.97
RC3	509	1	0.20
RC4	432	8	1.85
RC5	1189	14	1.18
RC6	252	0	0.00
RC7	560	0	0.00
RC8	1054	3	0.28
RC9	1346	0	0.00

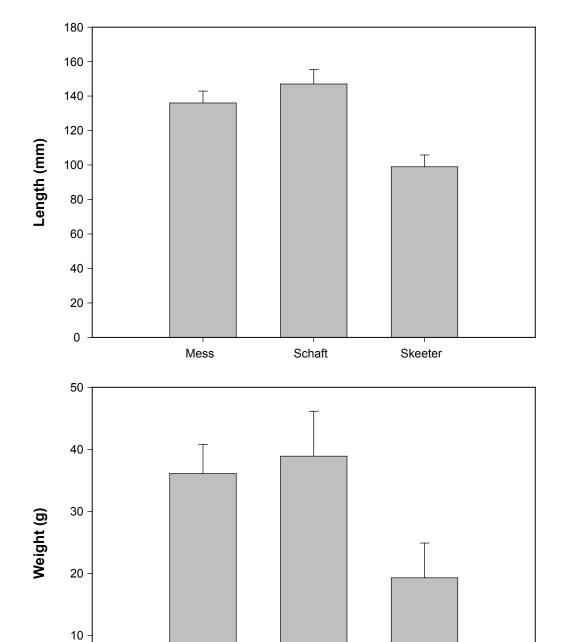
#### Length, Weight and Condition

Length, weight and condition data for fish captured in the Schaft Creek Project Area are summarized in Table 3.1-4. Rainbow trout from Mess Creek and Schaft Creek were significantly longer and heavier than rainbow trout from Skeeter Creek (ANOVA; length: F  $_{2,87}$  =14.63, P < 0.000; weight: F  $_{2,85}$  = 15.12, P < 0.000) (Figure 3.1-2).

Table 3.1-4
Mean Length, Weight, and Condition of Fish Captured in the Proposed
Mine Site and Receiving Environment Sites of Schaft Creek Project
Area, 2006

Length (mm)							W	/eight	(g)		Condition (g/mm <sup>3</sup> )				)
Watershed	n	Mean	SE	Min	Max	n	Mean	SE	Min	Max	n	Mean	SE	Min	Max
Mess	33	136	7	53	220	33	36.1	4.7	1.9	121.2	33	1.2	0	0.9	1.5
Schaft	19	147	8	88	213	19	38.9	7.2	7.3	126.3	19	1.1	0	0.7	1.4
Skeeter	38	99	7	43	241	36	19.3	5.6	0.8	165	36	1.2	0	0.6	1.5

Length-frequency distributions were plotted by watershed for all rainbow trout caught in the mine site and receiving environment (Figure 3.1-3). Mess Creek had a normal distribution with a mode of 141 to 160 mm and range of 41 to 220 mm. Shaft Creek had a distribution that heavily favoured (> 50 % of fish) the length 121 to 140 mm and had a relatively limited range of 81 to 220 mm. The Skeeter Creek watershed had the largest length range (41 to 260 mm) of all sampled watersheds in the mine site and receiving environment. Length was skewed to smaller rainbow trout in Skeeter Creek with a mode of 61 to 100 mm.



Note: Error bars represent standard error of the mean.

Mess



0

Rescan

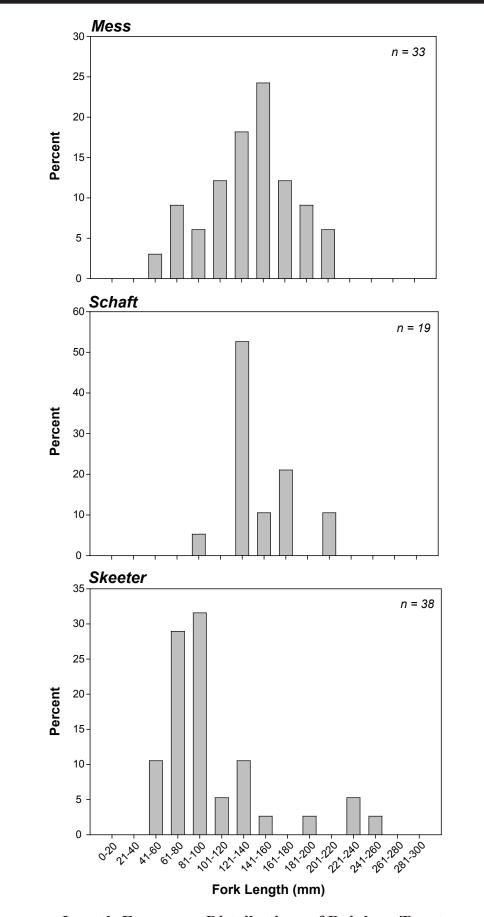
Rescan

Rainbow Trout Length and Weight By Watershed, 2006

Schaft

Watershed

Skeeter





Length-Frequency Distributions of Rainbow Trout Sampled from the Schaft Creek Receiving Environment, 2006



Weight-length regressions (linearized by In-transformation of both variables) were conducted by watershed on rainbow trout (Figure 3.1-4). Regressions of fish weight-length data for Mess Creek, Schaft Creek and Skeeter Creek were all highly significant (P < 0.001) and explained between 94 and 99% of the variation in ln(weight). The slope of regressions for rainbow trout sampled from these sites was close to the expected value of 3, typical for the length-weight geometry of fish. A comparison of length-weight regression lines was conducted using the general linear model. The effect of the interaction between length and site on fish weight was significant, indicating that the slopes of the regressions were not equal; thus, length at weight could not be compared (GLM,  $F_{2.82} = 4.64$ , P = 0.01).

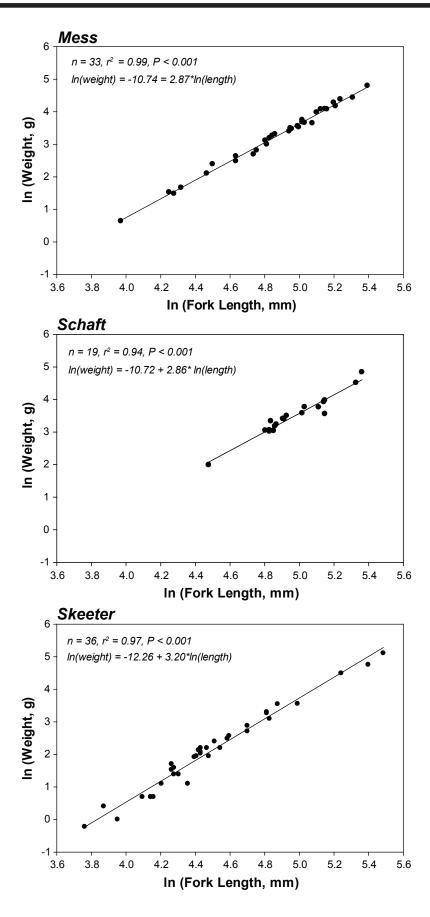
Condition was calculated from length and weight data for all fish captured at the mine site and receiving environment. Of 90 fish captured, weight measurements were not collected for 2 fish; thus, condition was determined for 88 fish. Mean rainbow trout condition factor ranged from  $1.11 \text{ g/mm}^3$  in Schaft Creek to  $1.18 \text{ g/mm}^3$  in Skeeter Creek. A comparison of fish condition among sites indicated that rainbow trout condition was not significantly different between sites (ANOVA, F  $_{2,85} = 0.91$ , P < 0.407) (Figure 3.1-5). A condition factor of 1.0 is considered normal, and is indicative of a healthy salmonid body shape. Out of 99 fish captured at receiving environment sites, 77 (88%) had a condition factor greater than 1.0.

#### Age

Ageing structures were collected from 69 fish for analysis in the laboratory. Age could not be determined accurately from 7 of the samples; thus, 62 fish from sites in the vicinity of the mine site and receiving environment were successfully aged.

Age-frequency distributions were constructed for all rainbow trout aged from the mine site and receiving environment (Figure 3.1-6). Fish age frequency at Mess Creek displayed a normal distribution with modes at age 3 and 4 years and had a range of 0 to 6 years. The age-frequency distribution for trout from Schaft Creek had modes at 3 and 6 years and the age range, from 1 to 6 years, was similar to Mess Creek. The Skeeter Creek age-frequency distribution was skewed toward younger fish. Skeeter Creek had one mode at age-1, and ages ranged from 0 to 5 years. All 3 watersheds had a similar range of age classes, indicating that the habitat is suitable for, but not necessarily preferred by all age-classes. Most of the fish from Mess Creek and Schaft Creek (58% and 71%, respectively) were above the age of 2, while only 15% of fish from Skeeter Creek were above the age of 2. These results indicate that juvenile rainbow trout may frequent the slower habitat and smaller streams located in the Skeeter Valley, while older fish congregate in the faster habitat of the mainstem rivers.

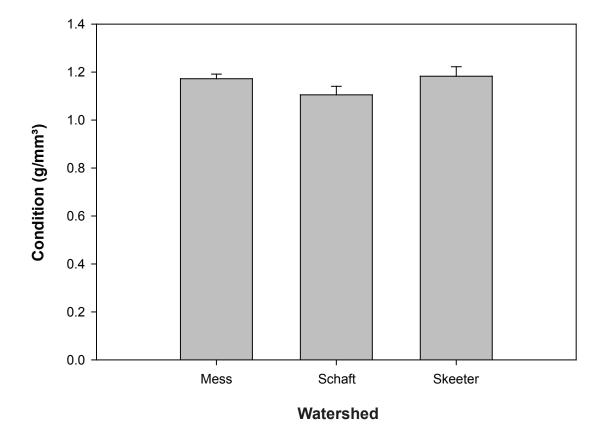
Analysis of variance (ANOVA) was used to test for differences in the average age of rainbow trout from Mess Creek, Schaft Creek and Skeeter Creek (Figure 3.1-7). Schaft Creek had the oldest average age of 3.1 years, followed by Mess Creek with an average age of 2.8 years. Skeeter Creek had a significantly lower average age of 1.3 years (ANOVA, F  $_{2,59} = 10.49$ , P < 0.05).





Weight-Length Regressions for Rainbow Trout Sampled from the Schaft Creek Receiving Environment, 2006

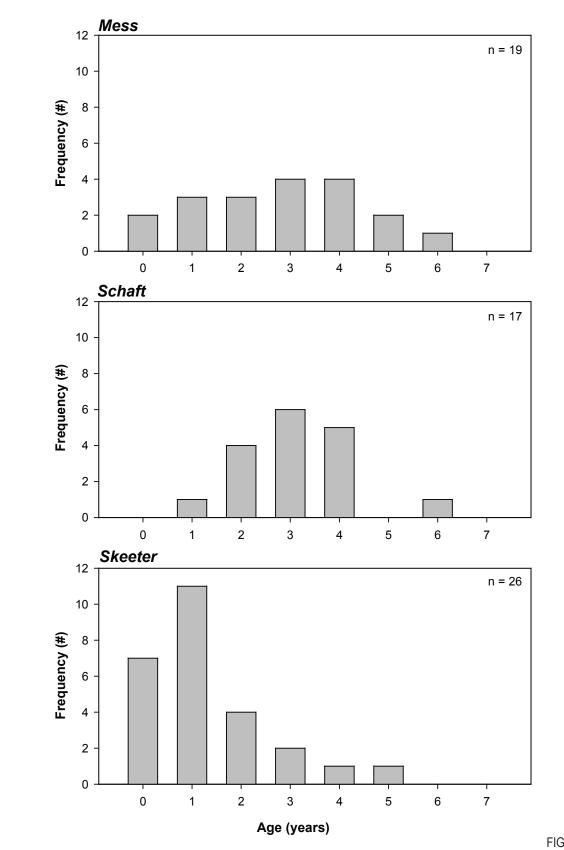








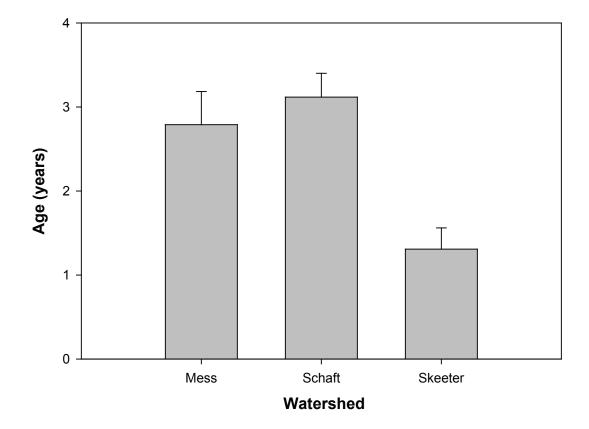
Condition of Rainbow Trout Sampled from the Mess, Schaft and Skeeter Creek Watersheds, 2006



copper FOX metals inc.

Age-Frequency Distribution of Rainbow Trout from the Mess, Schaft and Skeeter Creek Watersheds, 2006









Mean Age of Rainbow Trout from Watersheds in the Mine Site and Receiving Environment, 2006

Von Bertalanffy growth models were fit to the age and length data of fish from the three receiving environment watersheds. Age explained between 57 and 84% of the variation in fish length (Figure 3.1-8). The maximum attainable length was estimated at 383 mm for fish from Mess Creek, and 243 mm for fish from Schaft Creek. The model predicted a maximum length of 2018 mm for fish from Skeeter Creek; however, a relative lack of data points in the older age range skewed the data, producing unreasonable results.

#### 3.1.2 Wetlands

A total of 8 wetlands in the Schaft Creek Project area were surveyed between July and September 2006. Most of the wetlands were associated with the mainstem rivers, and were part of larger wetland complexes.

#### **3.1.2.1** Fish Habitat

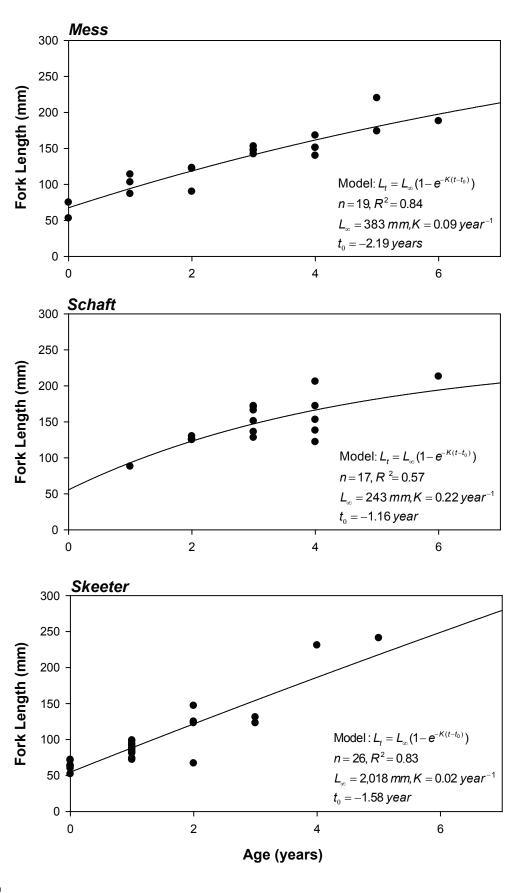
Wetland fish habitat was surveyed in July and September 2006. Open water habitat was quantified and its suitability for salmonid rearing, overwintering, spawning, and migration was noted. The wetlands with the greatest amount of open-water habitat surveyed were WL5, WL6, WL1 and WL2 (Figure 3.1-9). This should not be taken as an indicator of how much open-water habitat is available. In most cases, it was impossible to delineate the extent of the wetlands surveyed because they were part of much larger wetland complexes. Thus, smaller sub-sections of the wetlands were surveyed in order to estimate the general quality of habitat available.

Good quality rearing habitat for salmonids contains abundant cover, food and shelter from high water, fast flows and predators (Plate 3.1-7). As such, wetlands with ponds or deep pools generally have the best habitat for rearing juvenile salmonids. Most of the surveyed wetlands had abundant, good-quality rearing habitat (Figure 3.1-9). Wetlands with little good quality rearing habitat included WL8 and WL4.

Overwintering requirements are similar to rearing requirements in that good quality habitat should have an abundance of complex cover and shelter from predators (Plate 3.1-8). In addition, good quality overwintering habitat should have deep pools that will not freeze to the bottom, and a perennial source of flow that will maintain dissolved oxygen levels under ice and snow. Good quality overwintering habitat was abundant in wetlands 1, 2, 3, 5 and 6. Wetlands with poor quality overwintering habitat included wetlands 4, 7 and 8.

Spawning habitat is not usually common in wetlands because most wetland channels are too slow and deep to scour or transport the gravel substrate that is required for salmonid spawning. As such, only a small amount of good quality spawning habitat was found in wetland 8 where an alluvial fan encroaches on the wetland (Plate 3.1-9).

Habitat is suitable for migration if it provides a passable corridor between areas of fish use. Migration habitat is classified as good if it is relatively deep and has no barriers such as beaver dams, seepages or falls (Plate 3.1-10). Half of the wetlands surveyed had abundant good quality migration habitat for salmonids, while the other half of the wetlands surveyed had migration habitat that ranged from poor to fair.



Growth in Length of Rainbow Trout from the Mess, Schaft and Skeeter Creek Watersheds, 2006

coppe



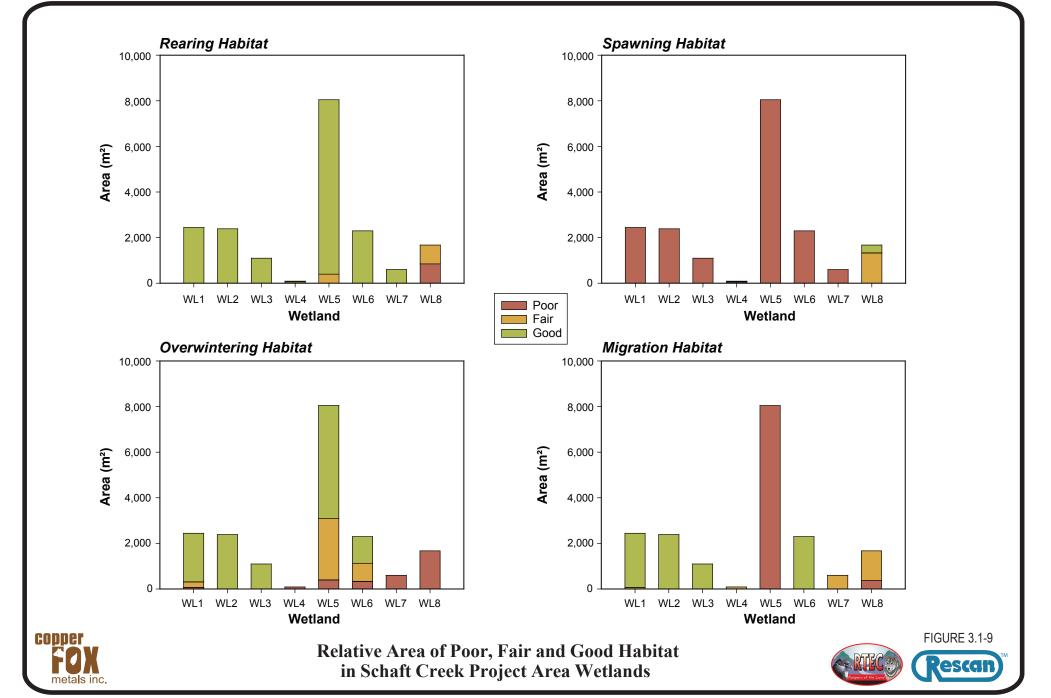




Plate 3.1-7. Example of good quality rearing habitat in WL5.



Plate 3.1-8. Example of excellent overwintering habitat at WL5.



Plate 3.1-9. Example of fair quality spawning habitat at WL8.



Plate 3.1-10. Example of good quality migration habitat in WL3. Note the good connectivity between ponds and channels.

Total cover was abundant in most wetlands in the Schaft Creek Project Area (Figure 3.1-10). Deep pools provided most of the cover in wetlands 1 and 2 (Figure 3.1-11), while overhanging vegetation dominated the cover type in wetlands 3 and 6. In wetland 4, cover was provided almost exclusively by small woody debris, and in the remainder of the wetlands instream vegetation dominated.

# 3.1.2.2 Fish Community

## Community Composition and Catch-per-Unit Effort

Wetlands of the receiving environment were sampled using a combination of minnow trap and electrofisher surveys in the summer of 2006. Details of all sites, effort and catch can be found in Appendices 3.1-1 and 3.1-2. A summary is presented in Table 3.1-5.

Table 3.1-5
Effort and Catch Summary of Wetlands of the Receiving Environment, Schaft Creek, 2006

		Elec	trofishing	Minnow Traps						
Wetland	Number of Passes	Effort (hours)	Rainbow Trout (#)	CPUE Mean ± SE (fish/hour)	Number of Traps set	Effort (days)	Rainbow Trout (#)	CPUE Mean ± SE (# fish/day		
Mess	5	0.52	4	$6.3 \pm 4.2$	11	10.1	19	2.1 ± 1.5		
Schaft*	13	2.27	13	$9.2 \pm 6.1$	44	39.3	27	$0.7 \pm 0.3$		
Skeeter	3	0.17	2	$5.4 \pm 5.4$	6	5.9	7	$1.2 \pm 0.8$		

<sup>\*</sup> two passes were made in which the effort was not recorded – no fish were caught in these passes SE = standard error

Rainbow trout was the sole species captured in wetlands of the receiving environment (Plate 3.1-11). They were captured in 50%, 60% and 100% of the wetlands sampled in the Mess (2 wetlands sampled), Schaft (5 wetlands sampled) and Skeeter (1 wetland sampled) watersheds, respectively.

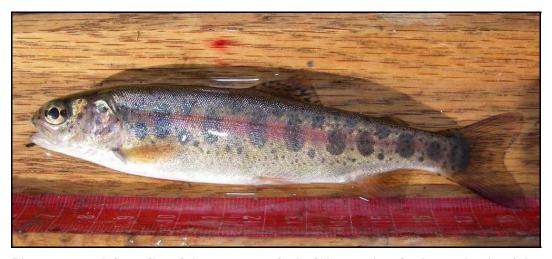
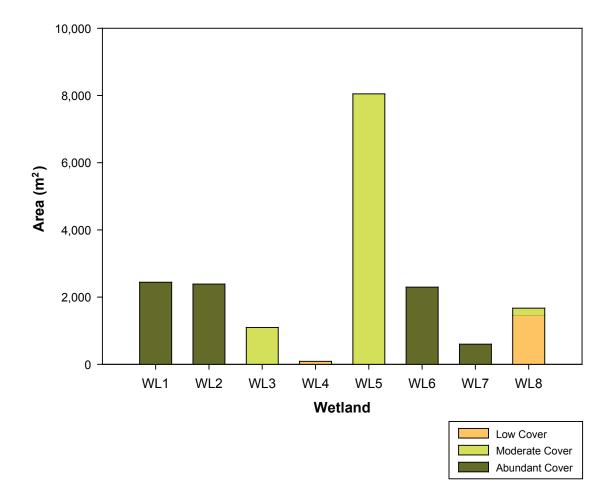


Plate 3.1-11. A juvenile rainbow trout typical of the catches in the wetlands of the receiving environment.





Total Cover in Wetlands in the Schaft Creek Project Area



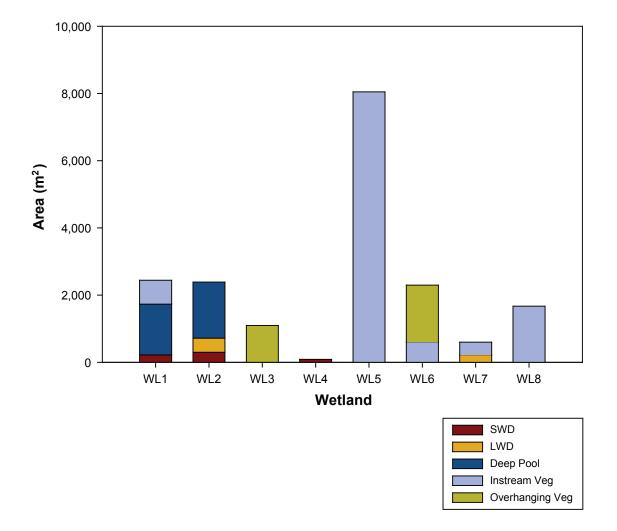




FIGURE 3.1-11

Rescan

Dominant Cover Type in Wetlands in the Schaft Creek Project Area

Total average CPUE of rainbow trout differed among the watersheds (Figure 3.1-12). Average electrofishing CPUE estimates were highest in the Schaft Watershed (9.2 fish/electrofishing hour), followed by the Mess Watershed (6.3 fish/electrofishing hour) and the Skeeter Watershed (5.4 fish/electrofishing hour). Average minnow trap CPUE estimates were highest from the Mess Watershed (2.1 fish/day), followed by the Skeeter and Schaft watersheds which had CPUEs of 1.2 and 0.7 fish/day, respectively.

## Length, Weight and Condition

Because the aim of the baseline survey is to provide background information on the fish community, catches in the minnow traps and electrofishing surveys have been combined to provide the best possible biological description. A summary of the biological details of fish captured during the community survey can be found in Table 3.1-6, and the individual fish details are presented in Appendix 3.1-3.

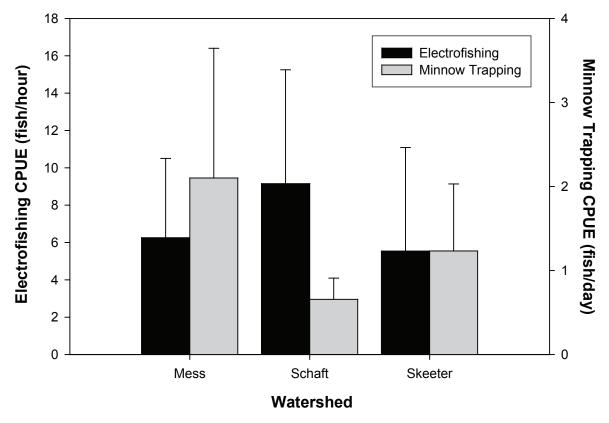
Table 3.1-6
Summary of Length, Weight and Condition of Fish Captured in the Wetlands of the Receiving Environment, Schaft Creek, 2006

	Fork Length (mm)					ht (g)		Condition (g/mm³)			
Lake / Species	n	Range	Mean ± SE	n Range		Mean ± SE	n	Range	Mean ± SE		
Mess Watershed											
Rainbow Trout	23	20 - 252	135 ± 10.2	21	4 - 77	$32.5 \pm 4.6$	21	1.02 - 1.44	$1.14 \pm 0.02$		
Schaft Watershed											
Rainbow Trout	45	78 - 226	$152 \pm 5.9$	35	6 - 108	$37 \pm 4.5$	35	0.93 - 1.34	1.11 ± 0.02		
Skeeter Watershed											
Rainbow Trout	9	93 - 246	148 ± 17.2	9	7 - 187	46 ± 19.0	9	0.70 - 1.26	$0.98 \pm 0.06$		

SE = standard error

The mean size of rainbow trout captured in the wetlands of the three watersheds of the receiving environment was quite similar (between 135 and 152 mm fork length). Average weight of captured fish from the Mess, Schaft and Skeeter watersheds were 33, 37 and 46 grams, respectively. Average condition was lowest for rainbow trout from the Skeeter Watershed (0.98 g/mm³) and did not differ between the Mess and Schaft watersheds (1.14 and 1.11 g/mm³, respectively). Average condition estimates for all populations was near the value of 1 g/mm³ expected by the allometric relationship between fish weight and length.

Length-frequency distributions for rainbow trout captured in the three watersheds can be found in Figure 3.1-13. The catch in all wetlands was dominated by juveniles, with a modal size of capture between 125 and 149 mm for both the Mess and Schaft watershed, and a modal capture size between 75 and 99 mm for the Skeeter watershed. The largest individual (with a length of 252 mm) was captured in the Mess Watershed. Because all individuals are relatively small-bodied, this suggests that these wetlands may be providing valuable rearing habitat for juvenile rainbow trout.



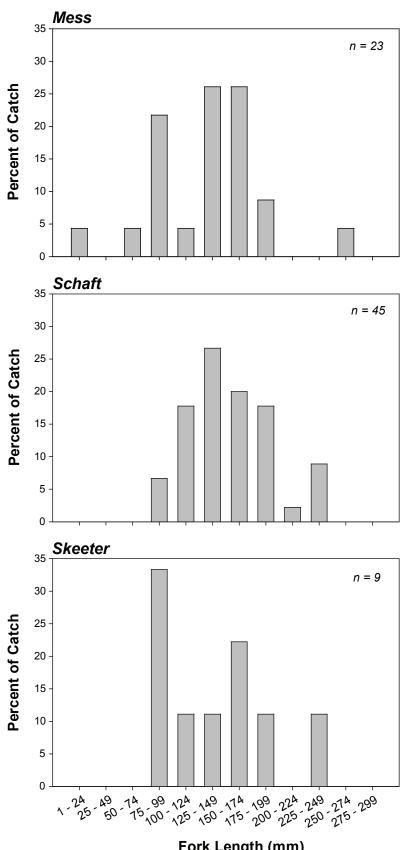
Note: Error bars represent standard error of the mean. CPUE = catch per unit effort.



Rescan

Rescan

Average Electrofishing and Minnow Trapping CPUE in Wetlands of the Schaft Creek Receiving Environment, 2006



Fork Length (mm)

FIGURE 3.1-13 Rescan



Length-Frequency Distributions for Rainbow Trout Captured in Wetlands of the Schaft Creek Receiving Environment, 2006



# Length-Weight Relationships

Sufficient numbers of rainbow trout were captured in all watersheds to build length-weight regressions (Figure 3.1-14). All relationships were highly significant with natural log-transformed length explaining a minimum of 96% of the variance in weight. The slope coefficients of the weight-length relationships were near to the expected value of 3 for rainbow trout captured in wetlands of the Mess and Skeeter watersheds. The slope coefficient for rainbow trout captured in the Schaft Watershed was 2.81.

Length-weight relationships were compared using an analysis of covariance. Slopes of the relationships were statistically homogenous (ANCOVA, F  $_{2.59} = 2.52$ , P > 0.05), and the intercepts were significantly different (ANCOVA, F  $_{2.61} = 7.84$ , P < 0.001). A Fisher's LSD post-hoc test highlighted rainbow trout from the Mess Watershed as being at the lowest weight at any given length, followed by fish from the Skeeter Watershed, and the heaviest rainbow trout at any given length were found in the Schaft Watershed.

## Age Distributions

Sufficient numbers of rainbow trout were aged from the Mess (n = 5), Schaft (n = 30) and Skeeter (n = 5) watersheds to build age frequency distributions (Figure 3.1-15). Although a single individual 8 years of age was captured in a wetland from the Mess Watershed, catches were generally dominated by juveniles less than 4 years of age. Modal age of capture was 2, 3 and 2 years of age for rainbow trout from the Mess, Schaft and Skeeter watersheds, respectively. The average age of capture was 3 (SE = 1.0), 2.4 (SE = 0.2) and 2.2 (SE = 0.2) years for rainbow trout from the Mess, Schaft and Skeeter watersheds, respectively.

#### **Growth Patterns**

Sufficient numbers of fish were captured and aged in the Mess and Schaft watersheds to fit Von Bertalanffy growth models (Figure 3.1-16). Age accounted for 84% and 48% of the variance in rainbow trout length for the Mess and Schaft watersheds, respectively. Estimated maximum attainable size was higher for wetlands of the Mess Watershed (261 mm), although this may be due to an absence of older, adult fish being captured and aged in the Schaft Watershed.

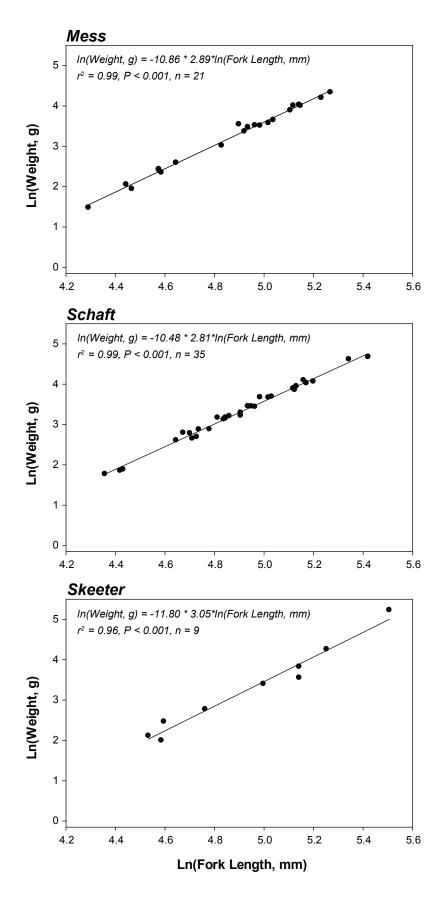
#### 3.1.3 Lakes

#### **3.1.3.1** Fish Habitat

Seven lakes were surveyed in 2006 for fish habitat and fish community composition. Lakes ranged from cold lakes tinted by glacial sediments to clear, productive lakes.

#### L1 - Mess Lake

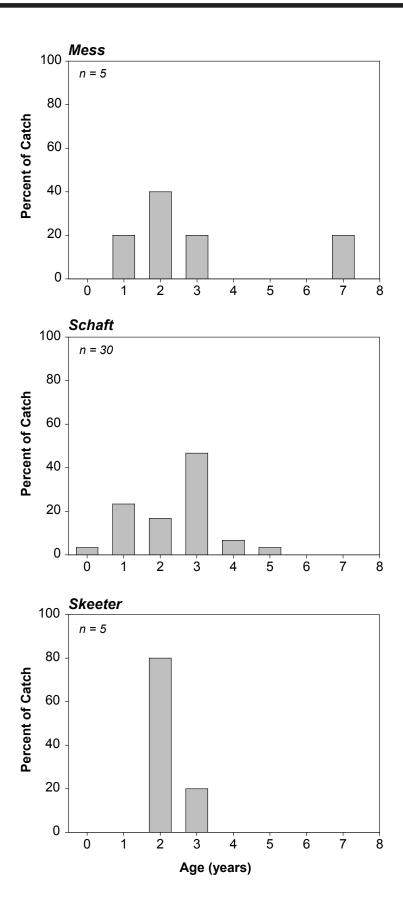
Mess Lake is the largest lake in the Project Area, and is located on Mess Creek approximately 10 km northeast of the proposed Schaft Creek mine site. It was surveyed once in July and once in September 2006. Mess Lake is fed directly by Mess Creek, and has a significant current caused by the flow of Mess Creek through it. The lake was extremely turbid both times that it was visited, likely due to the turbid waters of Mess Creek. A shallow wetland area is present at the south end of the lake where Mess Creek enters, and a trapper's residence lies on the southeast shore near the wetland (Plate 3.1-12).





Weight-Length Relationships for Rainbow Trout Captured in Wetlands of the Schaft Creek Receiving Environment, 2006

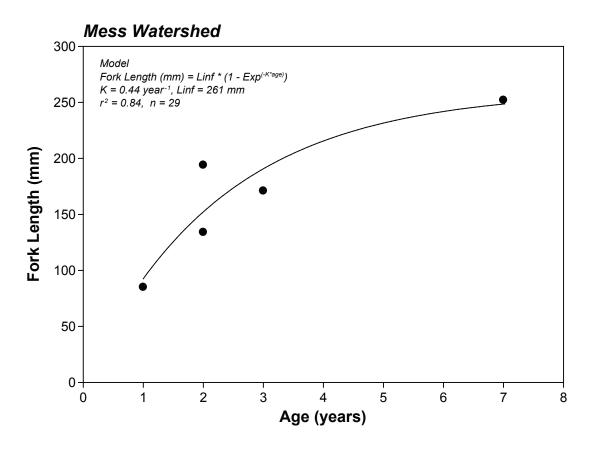


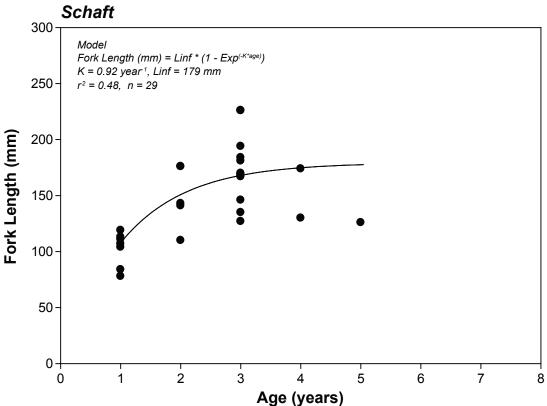




Age-Frequency Distributions for Rainbow Trout Captured in Wetlands of the Schaft Creek Receiving Environment, 2006







copper FOX metals inc.

Von Bertalanffy Growth Models for Rainbow Trout Captured in Wetlands of the Schaft Creek Receiving Environment, 2006





Plate 3.1-12. View towards the wetland and trapper's residence at the south end of Mess Lake, Mess Creek entering from the top right.

A bathymetric survey conducted in 1984 by the B.C. Ministry of Environment shows that Mess Lake has a surface area of 173 ha, a mean depth of 9.6 m, and a maximum depth of 19 m (FFSBC, 2005). The western and southern shores of the lake are steep and drop off quickly to the mean depth, while sandy shoals are present along the eastern shore and near the outlet to the north. Surveys conducted in 2006 revealed that the west shore of the lake is a steep mountainside with numerous talus slopes entering the lake (Plate 3.1-13). The eastern shore is more sloping, and the substrate in the littoral zone is dominated by cobbles and gravel, with patches of bedrock.

#### L2 – Skeeter Lake

Skeeter Lake is the largest lake in the Skeeter Valley, and is located near the north end of the watershed. It is fed and drained by Skeeter Creek, which flows through boggy wetlands at the north and south ends of the lake (Plate 3.1-14). Skeeter Lake has two arms at the south end which are separated by a rocky ridge. Skeeter Creek, the main inflow, flows into the lake on the eastern arm. The water in Skeeter Lake was clear, but tinted by tannins during both visits.

The shoreline of Skeeter Lake is dominated by fine, gravel, and cobble substrates, with occasional patches of bedrock and boulders. Cover is provided by large woody debris and boulders which occur intermittently along the shoreline. Wetland habitat is present near the inflows and outflows. No bathymetric surveys have been completed on Skeeter Lake.



Plate 3.1-13. View of Mess Lake looking south.



Plate 3.1-14. East arm of Skeeter Lake looking north from the Skeeter Creek inflow, June 2006.

## L3 – Upper Mess Lake

Upper Mess Lake is an elongate, turbid, cold lake located at the headwaters of Mess Creek (Plate 3.1-15). A small dock is located near the south end of the lake and may have been used historically as a drilling platform. At the north end of the lake near the outlet, there is a wide gravel and sand delta where multiple small tributaries enter the lake. These were the only tributary streams documented. The rest of the lake is confined in a narrow valley, and is fed by groundwater seepage. The shoreline is steep and composed of bedrock, boulder, and cobble. Cover is low in abundance, and is mainly provided by a small amount of woody debris and boulders.



Plate 3.1-15. Upper Mess Lake looking south, August 2005.

#### L4 – Pacman Lake

Pacman Lake is one of the larger lakes in the Schaft Creek study area. It is located on a ridge that separates lower Schaft Creek from Mess Creek. The water in Pacman Lake was clear at the time of the survey. A trapper's cabin is present on the south shore of the lake.

While no bathymetric information is available for this lake, it appears to be shallow throughout most of its area. Wide gravel and cobble shoals extend far out into the lake, and the shoreline is composed of gravel, mud, and cobble (Plate 3.1-16). Cover is provided by woody debris and overhanging vegetation along the shoreline of the lake, and by a small amount of aquatic vegetation.



Plate 3.1-16. Wide gravel shoals along the eastern shore of Pacman Lake, July 2006.

#### L5 – Little Skeeter Lake

Little Skeeter Lake is located in the southern part of the Skeeter Valley. Tributary creeks enter from the north and east shores of the lake, and the outlet flows from the southern end of the lake towards Mess Creek. During a reconnaissance flight in June, the lake was clear; however, during July and September surveys, the lake was highly turbid due to glacial sediments entering from the northern tributary (Plate 3.1-17).

Wetland areas are present near the inflows of the lake; however, most of the shoreline was composed of cobble and gravel substrate, with occasional patches of bedrock. Cover is provided by a limited amount of aquatic vegetation near wetland areas, and by woody debris and overhanging vegetation along the shoreline. Bathymetric surveys are not available for this lake.

#### L6 - Brown Lake

Brown Lake is a small, shallow lake located in the Skeeter Valley northeast of Little Skeeter Lake (Plate 3.1-18). The inflow and outflow of the lake (at the northwest and southeast corners, respectively) are surrounded by wetland vegetation, and the shoreline is dominated by gravel and fine substrate, with patches of wetland. Water in the lake was clear but tannic during the survey in September 2006. Cover is abundant in the lake, and is provided by small and large woody debris and submerged vegetation. A small bedrock shoal is present in the southwest corner of the lake.



Plate 3.1-17. Aerial view of Little Skeeter Lake looking towards the northwest in July, 2006.



Plate 3.1-18. View along the east shore of Brown Lake, looking north.

#### L7 - Green Pond

Green Pond is a very small waterbody associated with wetland 4. Its inflow enters through wetland 4 from the north, and the outflow leaves the pond at the south end through another small wetland area. The water was shallow and clear at the time of the survey (Plate 3.1-19). The shoreline of the pond is dominated by fine and gravel substrate, and there is abundant cover in the form of large woody debris and aquatic vegetation.



Plate 3.1-19. View from the south end of Green Pond towards the north.

# 3.1.3.2 Fish Community

## Community Composition and Catch-per-Unit Effort

Six lakes of the receiving environment and one reference lakes were sampled using a combination of minnow trap and gillnet surveys in the summer of 2006. Details of all sites, effort and catch can be found in Appendices 3.1-4 and 3.1-5. A summary is presented in Table 3.1-7.

Rainbow trout was the sole species captured in lakes of the receiving environment. A total of 3 rainbow trout were captured in one lake in the Mess Watershed (2 lakes were sampled), and a total of 9 were captured in one lake in the Skeeter Watershed (4 lakes were sampled). No rainbow trout were captured in the single reference lake.

Table 3.1-7
Effort and Catch Summary of Lakes of the Receiving Environment, Schaft Creek, 2006

'			Gillnetting	Minnow Traps						
Watershed	Number of Nets	Effort (days)			Number of Traps Set	Effort (days)	Rainbow Trout (#)	CPUE Mean ± SE (fish/day)		
Mess	9	0.45	3	$3.4 \pm 2.3$	22	12.8	1	$0.2 \pm 0.2$		
Reference	1	0.5	0	0	10	4.8	0	0		
Skeeter	16	0.86	9	$9.8 \pm 7.2$	43	25.3	0	0		

SE = standard error

Average gillnetting CPUE estimates were similar for both the Mess and Skeeter watersheds (3.4 and 9.8 fish/100 m<sup>2</sup> per day, respectively – Figure 3.1-17). Minnow trap sampling was only effective in the Mess Watershed, where the average CPUE was 0.2 fish/day.

## Length, Weight and Condition

Because the aim of the baseline survey is to provide background information on the fish community, catches from the minnow traps and gillnet surveys have been combined to provide the best possible biological description. A summary of the biological details of fish captured during the community survey can be found in Table 3.1-8, and the individual fish details are presented in Appendix 3.1-6.

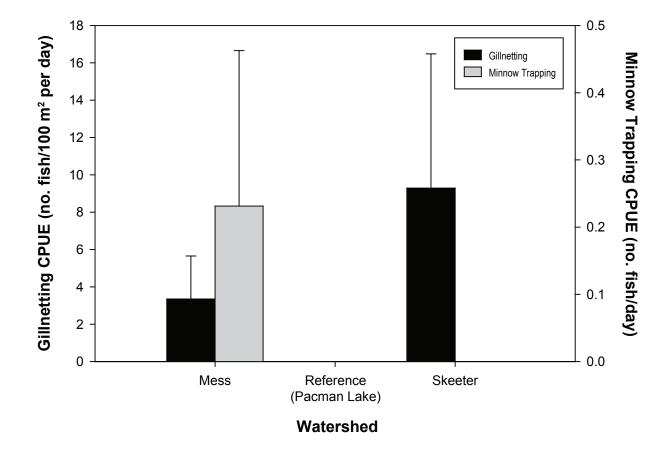
Table 3.1-8
Summary of Length, Weight and Condition of Fish Captured in the Wetlands of the Receiving Environment, Schaft Creek, 2006

	Fork Length (mm)				Weig	ht (g)	Condition (g/mm³)			
Lake/Species	n	Range	Mean ± SE	n	Range	Mean ± SE	n	Range	Mean ± SE	
L1 (Mess Watershed)										
Rainbow Trout	3	135 - 196	162 ± 17.9	3	27 - 87	54 ± 17.5	3	1.11 - 1.24	$1.16 \pm 0.04$	
L5 (Skeeter Watershed										
Rainbow trout	9	162 - 332	213 ± 16.4	7	49 - 128	85 ± 10.2	7	1.05 - 1.18	$1.12 \pm 0.02$	

SE = standard error

The average length of rainbow trout captured in the Skeeter Watershed was 213 mm (SE = 16.4 mm), which is larger than that observed in the Mess Watershed (mean = 162 mm, SE = 17.9). Average weights followed the same trend. Average condition estimates were similar for both the Skeeter (1.16 g/mm $^3$ , SE = 0.04) and Mess (1.12 g/mm $^3$ , SE = 0.02) watersheds. Condition estimates were near to the expected value of 1 g/mm $^3$ .

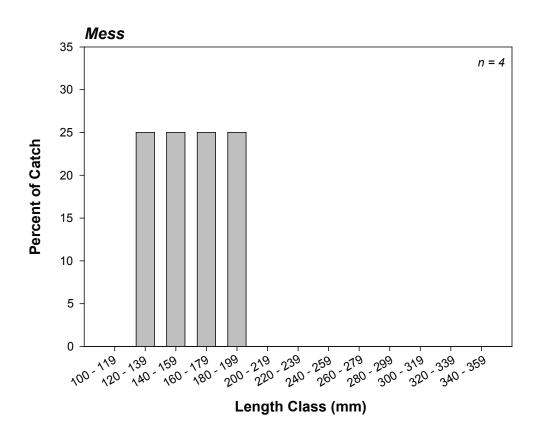
Length-frequency distributions for rainbow trout captured in the two watersheds can be found in Figure 3.1-18. The four individuals captured in the Mess Watershed were all between 120 and 200 mm in fork length. The range of sizes observed in the Skeeter Watershed was much larger (162 to 332 mm), and the modal size of capture was 200 to 219 mm fork length.

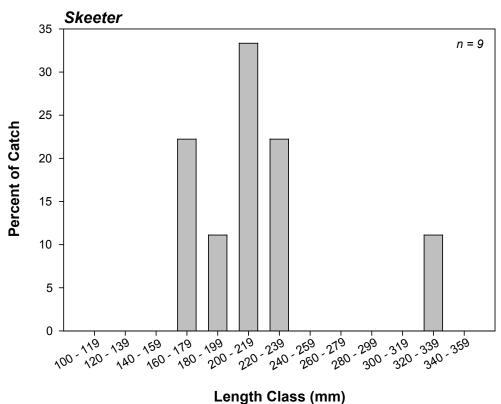


Note: Error bars represent standard error of the mean. CPUE = catch per unit effort











red

Length-Frequency Distributions for Rainbow Trout Captured in Lakes of the Schaft Creek Receiving Environment, 2006

FIGURE 3.1-18

# Length-Weight Relationships

Length-weight relationships of rainbow trout captured in Mess and Skeeter watersheds are presented in Figure 3.1-19. Both relationships were highly significant and natural log-transformed length explained a minimum of 99% of the variance in weight. The slope coefficient of the relationship for rainbow trout in the Mess Watershed was near to the expected value of 3. The slope coefficient of the relationship for the Skeeter Watershed (2.78, SE = 0.12) was substantially less than the expected value however the 95% confidence interval of the slope estimate did overlap with 3.

Length-weight relationships were compared using an analysis of covariance. Slopes of the relationships were statistically homogenous (ANCOVA; F  $_{1,6} = 1.46$ , P > 0.05), and the intercepts did not significantly differ (ANCOVA; F  $_{1,7} = 0.39$ , P > 0.05). These results suggest that at any given length, rainbow trout from both watersheds will have similar weights.

### Age Distributions

Age distributions for rainbow trout from catches in the Mess (n = 3) and Skeeter (n = 9) watersheds are presented in Figure 3.1-20. The catch was dominated by juveniles aged 3 years and less. A single 8-year old individual was captured in the Skeeter Watershed. The large proportion of juvenile fish captured suggests that lakes in the receiving environment may be offering good rearing habitat. The average age of capture was 2.7 (SE = 0.3) and 3.1 (SE = 0.6) years for rainbow trout from the Mess and Skeeter watersheds, respectively.

#### **Growth Pattern**

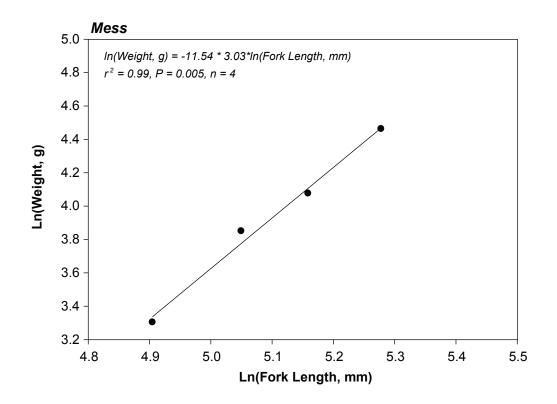
A sufficient number of fish were captured and aged from lake L5 in the Skeeter Watershed to fit a Von Bertalanffy growth model (Figure 3.1-21). Age explained 73% of the variance in rainbow trout length, and a maximum attainable size of 340 mm was estimated, although this was largely determined by a single eight-year old individual that was sampled.

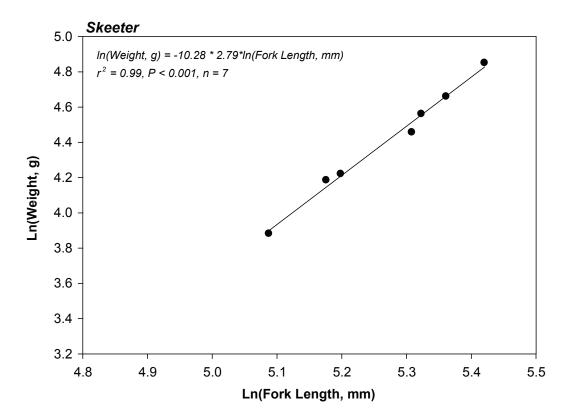
# 3.2 Stream Crossings

#### 3.2.1 Fish Habitat

A total of nine potential stream crossings were surveyed along the proposed southern road route in 2006 (Appendix 3.2-4). These crossings were located on tributaries of Mess Creek, and ranged in size from 2.9 m bankfull width to 52 m bankfull width (Table 3.2-1). Gradients ranged from 2 to 34 % and the wetted width of stream crossings ranged from 1.7 to 15.5 m. Bankfull depth ranged from 0.3 to 3.0 m. Flood signs, including rafted debris, abandoned channels, and alluvial fans, were present at most of the crossing sites (Plate 3.2-1). Stream morphology at most crossing sites were characterized as cascade-pool, while some sites displayed riffle-pool morphology.

Turbidity was clear at eight of the nine sites surveyed, and stream temperatures ranged from 6 to 10°C (Plate 3.2-2). These characteristics indicate that the streams are not glacial in origin, and are likely traits that are shared by most of the streams along the eastern side of the Mess Creek valley. These streams originate on the Arctic Lake Plateau, which does not support glacial activity.

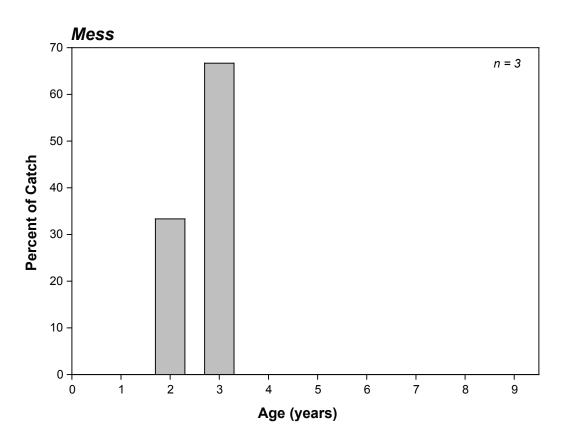


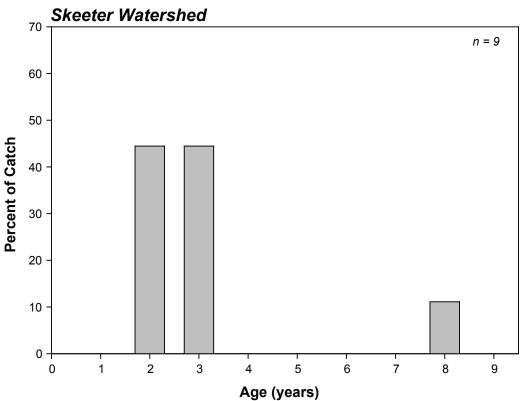




Weight-Length Relationships for Rainbow Trout Captured in Lakes of the Schaft Creek Receiving Environment, 2006



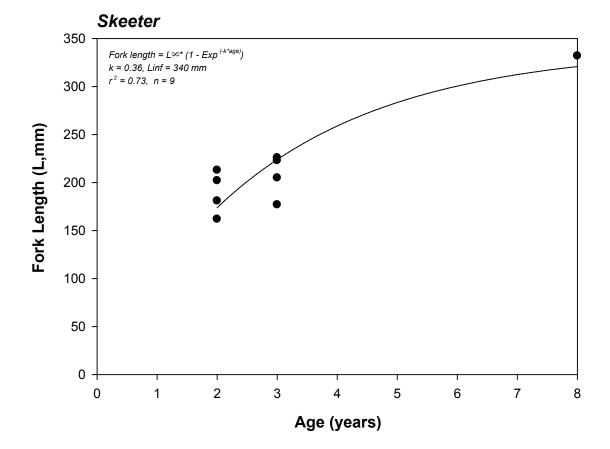






Age-Frequency Distributions for Rainbow Trout Captured in Lakes of the Schaft Creek Receiving Environment, 2006









Von Bertalanffy Growth Model for Rainbow Trout Captured in Lake L5 of the Skeeter Watershed, 2006

Boulders were the dominant cover type at four out of the nine sites surveyed, while large woody debris dominated at three sites. Overhanging vegetation was also common at most sites. The canopy covered less than 20% of the stream at five sites along the road, and was thicker at the remainder of the sites. This is common in smaller streams where tree branches can extend farther out over the wetted width. Functional large woody debris plays an important role in stabilizing banks, retaining substrate, and creating cover for fish (Plate 3.2-3). This feature was abundant at three road crossings sites, scarce at four sites, and absent at two sites.

Gravel and boulders were the dominant bed materials at stream crossings sites in the Schaft Creek Project Area. The largest particle that could be borne by a flood (D) ranged in size from 4 mm at RC7 to 33 mm at RC8, while the largest particle in the stream (D95) ranged from 12 to 225 mm. Streambanks were largely composed of gravel and cobble substrates.

Table 3.2-1
Physical Measurements at Stream Crossings along the Proposed Schaft Creek Access Corridor

		Cha	annel Wi	dth	Gradient						
Site	N	Mean	Min	Max	SE	N	Mean	Min	Max	SE	
RC1	4	33.3	14.0	56.0	10.7	1	3.5	3.5	3.5	-	
RC2	2	14.1	12.6	15.6	1.5	1	5.0	5.0	5.0	-	
RC3	6	5.3	4.0	6.9	0.4	2	8.5	8.0	9.0	0.5	
RC4	3	3.0	1.0	4.3	1.0	2	4.0	3.0	5.0	1.0	
RC5	0	-	-	-	-	3	4.9	4.3	5.5	0.4	
RC6	6	3.8	1.4	5.8	0.7	1	34.0	34.0	34.0	-	
RC7	6	3.1	1.3	5.6	0.6	0	-	-	-	-	
RC8	3	13.4	11.3	16.6	1.6	2	3.5	3.0	4.0	0.5	
RC9	6	2.9	1.9	5.4	0.5	1	2.0	2.0	2.0	-	

		We	tted Wi	dth		Bankfull Depth						
Site	N	Mean	Min	Max	SE	· <u></u>	N	Mean	Min	Max	SE	
RC1	4	8.6	5.0	10.5	1.2		1	3.00	3.00	3.00	-	
RC2	2	8.2	6.3	10.1	1.9		2	1.85	1.70	2.00	0.15	
RC3	6	3.0	1.7	3.6	0.3		3	0.30	0.30	0.30	0.00	
RC4	3	4.0	2.0	7.0	1.5		2	0.40	0.10	0.70	0.30	
RC5	4	12.7	4.0	37.3	8.2		2	0.40	0.40	0.40	0.00	
RC6	6	3.0	1.1	5.4	0.7		0	-	-	-	-	
RC7	6	2.5	1.3	3.8	0.4		3	0.57	0.50	0.70	0.07	
RC8	3	10.7	7.8	14.1	1.8		2	0.83	0.70	0.95	0.13	
RC9	6	1.7	0.9	2.9	0.3		3	0.60	0.50	0.70	0.06	



Plate 3.2-1. Dead rainbow trout found stranded on dry gravel when the water level dropped rapidly after a flood at RC6.

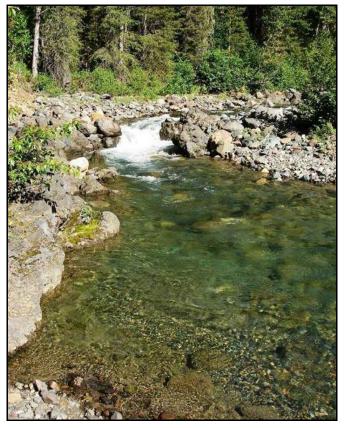


Plate 3.2-2. Site RC1 runs clear at the road crossing location



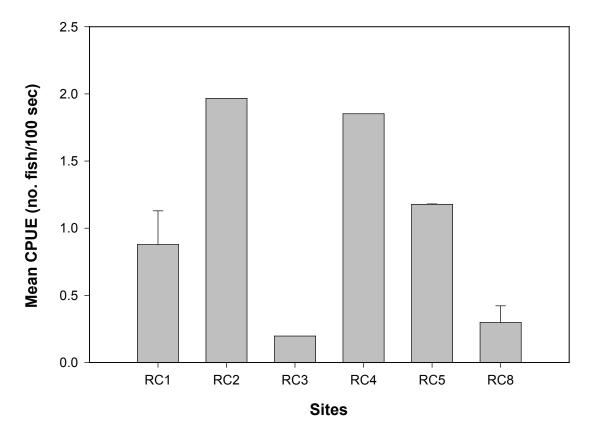
Plate 3.2-3. Functional large woody debris at RC5 holds back sediment and creates a plunge pool.

### 3.2.2 Fish Community

#### Community Composition and CPUE

The proposed road route crosses tributaries and mainstem sections of Mess Creek. There were 9 road crossing sites at which fish sampling effort occurred (on a total 12 occasions) between July and September 2006. As with the mine site and receiving environment, only rainbow trout were captured along the proposed road route (Plate 3.2-4). The low species richness might be explained by the presence of numerous barriers to fish passage and migration in the Mess Creek watershed.

The total electrofishing effort, catch, and CPUE of the proposed road route stream crossing sites are presented in Table 3.2-2. Fish were captured or observed at all but two sites, for a total of 42 individuals captured between late July and early September. A total of 6,778 seconds of electrofishing effort was exerted on these 9 stream crossing sites, and fish were caught at 6 sites. CPUE ranged from 0.20 to 1.97 fish/100 sec and averaged 1.05 fish/ 100 sec at sites were fish were present (Figure 3.2-1).



Note: Error bars represent standard error of the mean.



Rescan

Rescan

Mean CPUE at Proposed Stream Crossing Sites along the Schaft Creek Access Corridor, 2006



Plate 3.2-4. Rainbow trout captured at RC2.

Table 3.2-2
Electrofishing Effort, Catch, and CPUE of Proposed Road Route
Stream Crossings, Schaft Creek Project, 2006

	Flootrofiching		CDUE
Site ID	Electrofishing Effort (sec)	# Fish	CPUE (# fish/100 sec)
RC1	1080	9	0.83
RC2	356	7	1.97
RC3	509	1	0.20
RC4	432	8	1.85
RC5	1189	14	1.18
RC6	252	0	0.00
RC7	560	0	0.00
RC8	1054	3	0.28
RC9	1346	0	0.00

#### Length, Weight and Condition

Length, weight and condition data of fish sampled from streams along the proposed road route is summarized in Table 3.2-3. The length-frequency distribution for rainbow trout from the road route is presented in Figure 3.2-2. The distribution is slightly skewed toward smaller fish with a

mode between 101 and 140 mm. Fish sampled from these streams were mostly between 81 and 200 mm in length (one exceptionally large individual lay outside this range with a length of 238 mm).

Table 3.2-3
Mean Length, Weight, and Condition of Fish Captured at the Proposed
Road Route Stream Crossing Sites of Schaft Creek Project Area, 2006

		Len	gth (mr	n)	٧	Veight (	g)	Condi	tion (g/n	nm³)
Site ID	N	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
RC1	9	131	101	185	34.5	12.7	83.9	1.33	1.01	1.55
RC2	7	137	113	177	36.2	18.3	76.7	1.31	1.06	1.48
RC3	1	131	131	131	27.8	27.8	27.8	1.24	1.24	1.24
RC4	8	136	103	178	37.3	15.3	79.5	1.35	1.21	1.52
RC5	14	141	91	238	37.9	11.2	106.6	1.39	1.10	1.75
RC8	3	154	140	171	53.3	38.7	71.8	1.43	1.41	1.44

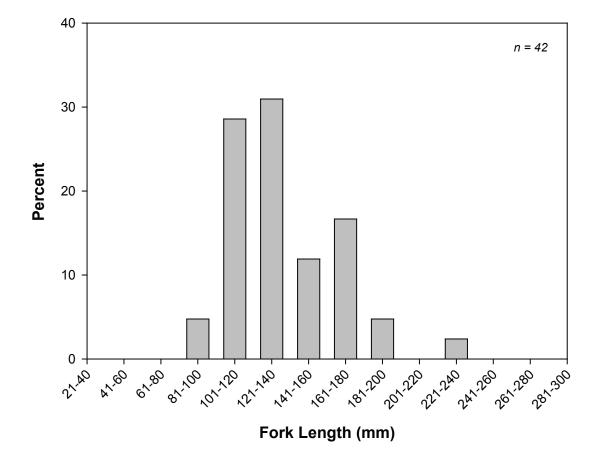
A length-weight regression (linearized by ln-transformation of both variables) was conducted on rainbow trout caught at the proposed road route stream crossing sites (Figure 3.2-3). Regression weight-length data was highly significant (P < 0.001) and explained 96% of the variation in ln(weight). The slope of the regression for all fish sampled from these sites was 2.98. This value is close to the expected value of 3, which is considered "normal" for the weight-length geometry of fish.

Fish condition was calculated for 41 fish collected from the road crossing sites. An average fish condition of 1.4 g/mm<sup>3</sup> was calculated for fish collected from the proposed road route sites (Table 3.2-3). Condition ranged from 1.0 to 1.8 g/mm<sup>3</sup> and did not differ significantly between sites (ANOVA, F  $_{5,35} = 0.516$ , P = 0.762) (Figure 3.2-4). All fish in this watershed had a condition value greater than the normal value of 1 which indicates that fish from this watershed have a healthy length to weight ratio.

#### Age and Growth

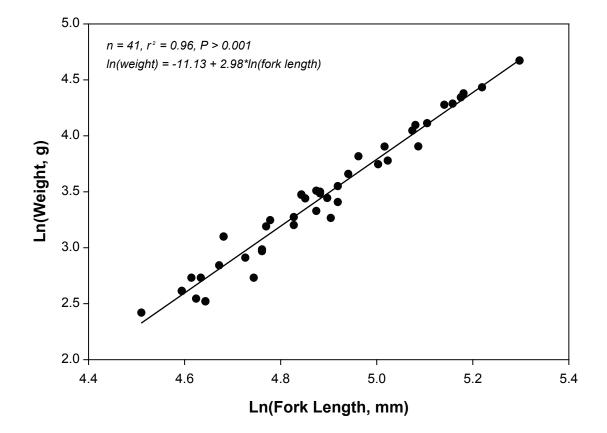
A total of 31 fish captured from stream crossing sites along the proposed road route were aged in 2006. Fish ranged in age from 1 to 4 years, and averaged 2.16 years. An age-frequency distribution revealed a normal distribution with a mode at 2 years (Figure 3.2-5). No young-of-the-year (YOY) trout were captured at road crossing sites; however, these streams seemed to be preferred by other juvenile and sub-adult trout.

Growth in length was fit to age to produce a von Bertalanffy growth model (Figure 3.2-6). Age explained 58% of the variation in trout length, and the maximum length predicted by the model was 281 mm.





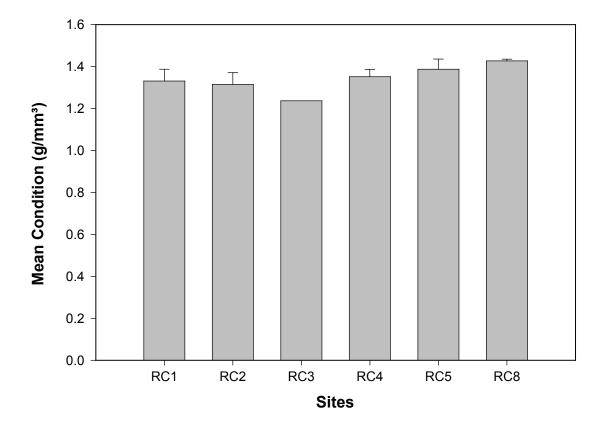








Weight-Length Regressions for Rainbow Trout Sampled from Proposed Stream Crossing Sites, 2006



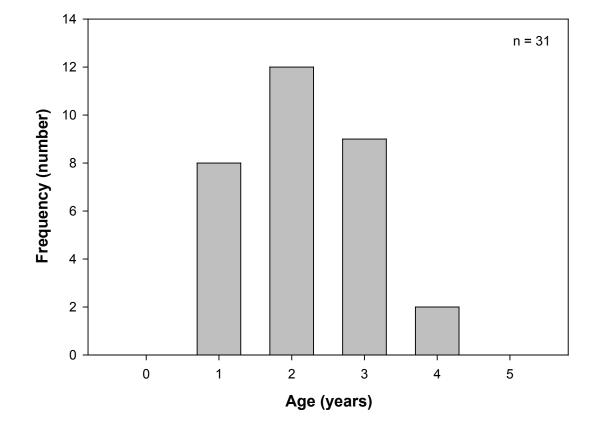
Note: Error bars represent standard error of the mean.



FIGURE 3.2-4

Rescan

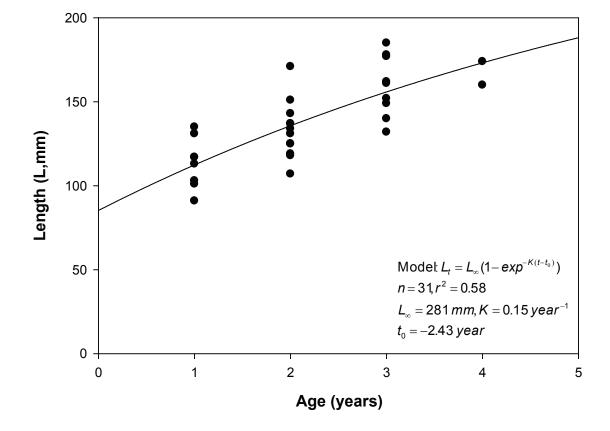
Mean Condition of Rainbow Trout Captured at Stream Crossing Sites, 2006





Age-Frequency Distribution of Rainbow Trout Sampled from Stream Crossing Sites along the Proposed Schaft Creek Access Corridor, 2006







Growth in Length of Rainbow Trout from Stream Crossing Sites along the Proposed Schaft Creek Access Corridor, 2006



## 4. SUMMARY



## 4. Summary

Fish habitat and community surveys were conducted on streams, rivers, and lakes within the Schaft Creek receiving environment, and along the proposed access corridor between July and September, 2006. A total of 18 receiving environment sites were located on rivers. Eight wetlands and seven lakes were also studied. Along the proposed access corridor, 9 road crossings were surveyed.

Receiving environment sites were characterized primarily by large channel morphology, turbid water, abundant cascades and riffles, and low cover. The Mess and Schaft Creek watersheds were characterized by wide, active floodplains surrounded by wetland complexes, side channels, and ponds. The Skeeter Valley was made up of two small watersheds, one flowing north, and the other flowing south. The northern watershed was characterized by clear lakes and streams with abundant organic matter, and low gradient. The southern watershed included both clear and turbid lakes and streams, with more gravel substrates and steep gradients.

Sites along the proposed access corridor were generally smaller, steeper, and less turbid than receiving environment sites. Cover was more abundant and diverse, and streams displayed riffle-pool or cascade-pool morphology. Most stream crossing sites showed evidence of floods and other disturbances.

Wetlands in the Project Area are generally large and undefined in terms of area. Open-water habitat was quantified and described for subsections of wetlands; however, comparisons of wetted area were not made among wetlands because of the difficulty in defining boundaries for the assessment. Wetlands were generally dominated by sedges and grasses, and fish habitat included ponds, back-channels, and mainstem stream channels. Rearing and overwintering habitat was generally good, while good quality spawning habitat was scarce.

Lake habitat ranged from small, clear ponds to large, turbid lakes. Cover was scarce in most lakes due to a lack of suitable riparian vegetation and steep banks. Gravel and cobble dominated the shorelines of most lakes, and many lakes also had patches of bedrock along their shores.

Rainbow trout were the only species captured in the Schaft Creek Project area; however, chinook salmon and mountain whitefish are known to inhabit Mess Creek near its confluence with the Stikine River. It is not known if trout are native or introduced, but a 6 m falls and 11.5 km canyon near the mouth of Mess Creek likely prevent other species from moving into the watershed. Fish were captured throughout the Mess Creek watershed, and in the northern part of the Schaft Creek watershed. A barrier near site SC3 likely prevents fish migration into the upper Schaft Creek watershed. Fish are also present in the southern half of the Skeeter Valley, but are not present in the northern half. Only two of the seven lakes, and six of the eight wetlands contained fish.

Trout were generally healthy, with condition factors near the "normal" value of 1.0. Fish age ranged from 0 to 8 years, with older fish being captured in the larger rivers and lakes, and younger fish being captured in smaller streams.

## **REFERENCES**



## References

- Freshwater Fisheries Society of B.C. (FFSBC). 2005. Fish Wizard. <a href="http://www.fishwizard.com/">http://www.fishwizard.com/</a> (accessed March 5, 2007).
- Johnston, N.T. and P.A. Slaney. 1996. Fish Habitat Assessment Procedures. Watershed Restoration Technical Circular No. 8. Ministry of Environment, Lands and Parks and Ministry of Forests, Vancouver, BC. 97 p.
- RIC. 2001. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures, Version 2.0. Prepared for the Resources Inventory Committee by the BC Fisheries Information Services Branch. Resources Inventory Committee. April, 2001.

# APPENDIX 1 RECEIVING ENVIRONMENT SITE CARDS



# F Re

n #														ILP	Мар	#		ILF	P #		Site
Watershed Code:	000-0	00000-0	00000-0	0000-0	000-	0000-0	00-000	-000-0	00-000-00	00		.0			1040	3.016		10	01		201
								PR	OJE	СТ											
Projec Stream Nam Project Watershe	e (gaz	.): STIK		/ER					00-000-00	00-000	-000		Pr	oject (	Code				15753	3	
								W A 1	ERSI	HED											
Gazetted Name: Watershed Code: ILP Map#:				0000-0 ILP #:					00-000-00 104G.016		L NID #:	ocal N	ame:		ach #	:		0		Site #:	201
Field UTM (Z.E.N): GIS UTM (Z.E.N):		3924.633	37799		Met	hod:				ı	Site Ref. Nar	Lg: 20 me:	00		М	ethod	: HC		Acce	ess: H	
Date	e: 200	6/07/25		Time:	11:4	5		Agency	: C660		Crew:	PW	/LN			Fish (	Crd?:		I	ncomp	lete:
								CH	I A N N	ΕL											
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS	width 30.00 7.00	width 35.00 7.00	widt 40.0 10.0	0 4	0.00	width 35.00 10.00	width 35.00 10.00	)	width	n width	h wid		Avg 35.83 8.83 0.00			nod I: od II:		ent %	Mtd NS NS	
Wb Depth:	1.4	1.8	1.6	Δ	wa.	1.60		/lethod	· NS	,	Stage:		М	Н		No V	is.Ch.: Dw:		Interm	nittent: Tribs.:	
COVER		1.0		tal: T	wg.	1.00	.,	1011100	. 110		olugo.	_		•••			<b>D</b>			11100	
Type: Amount: Loc: P/S/O:	SWI N		WD D	B N		U N	DF N	•	OV N	IV N		ROWN 0 NSTRE	(	0%		А	N	1	V		
LWD:	F		ı	DIST:	С																
LB SHP: Texture:		G	С	В	R	Α						RB S Tex	SHP: ture:		G	(		В	R	Α	
RIP: STG:													RIP: STG:								
								٧	VATE	R											
EMS: Temp: pH: Flood Signs:							Metho Metho Metho	od: N	IS IS			Req #: Cond.: Turb.:	80	М		L	С			thod: thod:	NS NS
							N	1 O R	PHOL	O G Y	Y										
Bed Material: D95: Pattern: Islands: Coupling:	45.0 SI N	Domina D (cn	nt: C n): 45.0	00		ubdom: Morph:			DISTURI INDICA		O1 E C1			B2 C3	B3 C4	D1 C5	D2 S1			3 5	S4 S
Confinement: FSZ:	UN								В	ars:	N		SIDE		DIA	G	М	ID	SPA	AN	В
								D   T	AT QU		/										

Spawning Habitat Rearing Habitat Other OverWinter Habitat fair - abundant accessible gravel but high flow reduces value.

poor - lacks habitat complexity.

Migration - moderate - unobstructed channel with little refuge from stream flow.

poor - no deep pools.

PHOTOS

Photo R: 1 F: 1169 R: 1 F: 1170 Foc Lg Dir D U Comments

ILP Map # ILP # Site

104G.016 101 201 .0

WILDLIFE

Group MAM Observations

Moose tracks

COMMENTS

Section Comments

High energy flow, considering low gradient. Site is just below clear flowing inlet. Stream on right bank. Limited cover for fish throughout site. Low habitat complexity. CHANNEL

**FDIS Site Card** ILP Map # ILP# Site .0 104G.016 101 201 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MC1 Reach #: ILP Map#: 104G.016 ILP #: 101 NID Map #: 104G.016 NID #: Site #: 201 Field UTM (Z.E.N): Method: Site Lg: 200 Method: GE Access: H GIS UTM (Z.E.N): 9.383933.6337734 Ref. Name: Date: 2006/09/02 Time: 16:30 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): GE 65.00 80.00 60.00 68.33 Method I: 3.0 С 3.00 Wetted Width (m): 18.00 25.00 20.00 21.00 Method II: Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.0 8. Avg: 0.90 Method: GE Stage: L Μ Dw: Tribs.: COVER Total: T LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Ν Amount: Т S Т Ν D Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E RB SHP: S LB SHP: S С F G С Texture: F G Texture: В R Α В R Α RIP: M RIP: M STG: MF STG: MF WATER EMS: Req #: Method: NS Cond.: 100 Method: NS Temp: 6 Method: Turb.: C Method: NS pH: 8.2 NS Т M Flood Signs: Method: MORPHOLOGY Bed Material: Dominant: C Subdom: B 01 В1 B2 **B3** D1 D2 D3 D95: 22.0 D (cm): 21.00 Morph: RP DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: PC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR

#### HABITAT QUALITY

Name Comments

Spawning Habitat Poor - mostly boulder/cobble.

Rearing Habitat
Other Poor - no shelter from flow, turbid cold.

Marginal.

OverWinter Habitat Poor - no pools.

PHOTOS

Dir Comments Photo Foc Lg CARD R: DIGC F:

NS R: DIGC F: 2 STD U No scale

PHOTOS

# F Re

FDIS Site Ca	ard										ILF	Р Мар	) #		ILP#		Site	Э
Watershed Code:	000-0	00000-0	00000-0	0000-0	000-0000-0	00-000-000	-000-000	0-000		.0		1040	G.016		101		208	3
						Р	ROJ	ECT										
Projec Stream Nam Project Watershe	e (gaz.	): STIK	INE RI	/ER		ections - 200 0-0000-000		0-000-000-	000	F	Project (	Code	:		157	<b>'</b> 53		
						W A	TER	SHED										
Gazetted Name: Watershed Code: ILP Map#:				0000-0 ILP #:		00-000-000 NID Map #:			Lo IID #:	cal Name		3 ach #	:	.0		Site	:#: 20	08
Field UTM (Z.E.N): GIS UTM (Z.E.N):					Method:	-1				.g: 100 e:			ethod:		A	ccess:		
Date	e: 2006	6/09/02		Time:	16:27	Ager	ncy: C66	60	Crew:	KE/RJ			Fish C	rd?:		Incor	nplete	<b>:</b>
							HAN											
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS	width 4.20 2.80	width 3.60 3.60	4.00	3.40	width wid 4.80 6.0 4.70 4.4	00	tth width	width	width	Avg 4.33 3.63 0.00		Metho Metho	od I: 1	adient 9		td C C	Avg 1.00
Wb Depth: COVER	.2	.3	.5 To	A otal: M	.vg: 0.33	Metho	od: NS	S S	stage: L	М	Н		No Vis	s.Ch.: Dw:	Inte	ermitter Tribs		
Type: Amount: Loc: P/S/O:	SWE		WD D	B T	U N	DP N	OV T	IV N	0	OWN CL STREAM	0%		Α	М	V			
LWD:	F		ı	DIST: I	≣													
LB SHP: Texture: RIP:	F	G	С	В	R A					RB SHP Texture		G	С	В	R	А		
STG:	-										: NA							
							WAT	ER										
EMS: Temp: pH: Flood Signs:	7.9	I LWD				Method: Method: Method: I	T3 P2 NS		C	Req #: Cond.: Turb.: T	M	ļ	L	С		Method Method		
						_	RPHC	LOGY	•									
	30.0	Dominar D (cm	nt: G n): 6.0	00	Subdom Morph		_	URBANCE	01	B1	B2	B3	D1	D2	D3	00	٥.	0-
Pattern: Islands: Coupling: Confinement:	N DC						INDI	CATORS	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
FSZ:	00							Bars:	Ν	SID	Ε	DIA	.G	MID	5	SPAN		BR
						HABIT	TAT (	QUALI	ΤY									
Name Other OverWinter Habita Rearing Habitat Spawning Habitat		Fiar - f Good	- good i	as with nstrean	approximat	an gravel su			Commer	nts								
Photo	Fo	oc Lg			Dir	•					Comm	ents						

Photo R: 1 F: 463 R: 1 F: 464 Dir NS U Foc Lg Comments CARD

ILP Map # ILP# Site .0 104G.016 101 208

PHOTOS

 ${\tt COMMENTS}$ 

Photo 1 F: 465 Dir X D Foc Lg Comments

Crossing F: 466

> Section Comments

Stream class = S5 CHANNEL

CHANNEL NFC in 486 sec of EF'ing at 350V, 30Hz, 4ms.

CHANNEL Site may be critical for fish spawning habitat for resident lake fish.

# F Re

FDIS Site Ca	ard												II D							N:4 -
Reach #													ILP	Мар	7		ILP	#	٤	Site
Watershed Code:	000-0	00000-0	00000-0	00000-0	0000-	-0000-0	00-000	-000-0	00-000-0	000		.0		1040	G.016		101	1	2	208
								PR	OJE	СТ										
Projec Stream Nam Project Watershe	ie (gaz.		(INE RI	IVER					00-000-0	000-000-	000	F	roject (	Code:	:			15753		
							,	WAT	ERS	HED										
Gazetted Name: Watershed Code:	000-0		00000-									ocal Name								
ILP Map#: Field UTM (Z.E.N):		.016		ILP #:		1 thod:	NID Ma	ap #: 1	104G.01	6 P	NID #:	l a: 200	Rea	ach#	: lethod	). ∩⊔ .	)	Acces	Site #:	208
GIS UTM (Z.E.N):		812.633	33580		IVIE	uiou.				F	Ref. Nan	Lg: 200 ne:		IVI	elilou	. пс		Acces	ъ. п	
Date	e: 2006	6/07/25		Time:	09:4	10	,	Agency	/: C660		Crew:	PW/LN			Fish (	Crd?:		Inc	comple	ete:
								C F	IANN	IEL										
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS MS	width 15.00 4.00	width 15.00 4.50	12.0	00 1	width 12.00 4.00	width 6.00 3.50 0.60	width 4.50 3.00	width	width	width	width	Avg 10.75 3.58 0.60			nod I: od II:		nt %	Mtd NS NS	Avg 1.50
,			4.0			0.57		4.411	NO	,					No V	is.Ch.:	I	ntermit		
Wb Depth: COVER	.3	.4	1.0	otal: M	•	0.57	IV	/lethod	: NS	:	Stage: I	_ M	Н			Dw:		11	ribs.:	
Type: Amount: Loc: P/S/O:	SWE		WD T	B T		U T	DP T	•	OV D	IV N		ROWN CL 0 ISTREAM	0%		Α	M	١ ،	/		
LWD:	F			DIST:	E															
LB SHP: Texture:		G	С	В	R	Α						RB SHP Texture		G	C		В	R	Α	
RIP: STG:	S SHR											RIP STG	: S : SHR							
								٧	VATE	R										
EMS: Temp: pH: Flood Signs:							Metho Metho Metho	od: N	IS IS			Req #: Cond.: 1 <sup>r</sup> Turb.: T	10 M		L	С		Meth Meth		NS NS
								OR	РНОІ	LOGY										
Bed Material: D95: Pattern: Islands: Coupling:	25.0 SI N	Domina D (cn	nt: C n): 15	.00		ubdom: Morph:				RBANCE ATORS	O1 C1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2		3 S4	4 S5
Confinement: FSZ:									I	Bars:	N	SID	E	DIA	.G	MI	D	SPA	٧	BR
							наі	BIT	AT Q	UALI	ΤY									
Nomo											Commo	nto								

Comments

Name Spawning Habitat Rearing Habitat Other OverWinter Habitat Fair - suitable gravel at a variety of flow levels.
Fair - trace cover elements throughout sample sites.
Migration - good - unobstructed channel.
Poor - lacks sufficient deep pools.

PHOTOS

Comments

Photo R: 1 F: 1163 R: 1 F: 1164 Dir U D Foc Lg Lower riffle section. Lower riffle section.

 $\mathsf{MAM}$ 

Moose

PHOTOS

Photo Foc Lg Dir Comments R: 1 F: 1165 U Top of site nearest lake.

WILDLIFE

Group Observations MAM Wolf

COMMENTS
Section Comments

CHANNEL Overwinter provides most significant cover. Flow is unobstructed from lake which is known to be fish bearing (RB).

CHANNEL Outflow of headwater lake on Mess Creek. Upper 20m of site is narrower glide section which spreads into a riffle for the lower 180m.

ch#													ILP	Map	#		ILP#		S	Site
Watershed Code:	000-0	00000-0	0-0000	0000-000	00-0000-0	000-000	-000-0	000-000	0-000			0		1040	G.026		101		2	206
							Р	ROJI	ECT											
Project Stream Nam Project Watershe	e (gaz.	): STIK	INE RI	/ER	Fish Coll				0-000-00	0-000		P	roject (	Code	:		1	5753		
							W A	TER	SHED	)										
Gazetted Name: Watershed Code: ILP Map#:				0000-000 ILP #:		000-000 NID M:		000-000	0-000	NID #:		al Name		3 ach #		.0		Sit	e#:	206
Field UTM (Z.E.N): GIS UTM (Z.E.N):					Method:	INID IVI	αр #.				e Lg	g: 200 e:	1100		lethod			Access		200
Date	: 2006	6/07/26		Time: 0	8:45		Agend	y: C66	60	Crew	:	PW/LN			Fish (	Ord?:		Inco	mple	ete:
							С	HAN	NEL											
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd NS NS	width 130.00 65.00	130.00	120.00	width 120.00 60.00		widt 140.0 70.0	00	th wid	th wid	dth	width	Avg 130.00 65.83 0.00		Meth Meth	nod I: (	Gadient 0.5 (	: % I ).5	∕Itd C	0
Wb Depth:	.7	.7	.7 To	Av	g: 0.70	N	/letho	d: NS		Stage	L	М	Н		No V	is.Ch.: Dw:	In	termitte Trib		
Type: Amount: Loc: P/S/O:	SWD		WD N	B N	U N	DF N		OV D	IV T		0	OWN CL	0%		А	М	V			
LWD:	N		1	DIST: N	S															
LB SHP: Texture:	F	G	С	В	R A							RB SHP Texture	: F	G	C	) E	3 I	٦ ،	A	
RIP: STG:												RIP STG	: D : PS							
							,	WAT	ΕR											
EMS: Temp: pH: Flood Signs:						Methodology Methodology	od:	NS NS			C	eq #: ond.: 13 urb.: T	30 M		L	С		Metho Metho		NS NS
						N	1 O R	PHO	LOG	Υ										
Bed Material: D95:	4.00	Dominar D (cm	nt: F n): 4.0	10	Subdom Morph			DISTU	JRBANC		)1	B1	B2	ВЗ	D1	D2	D3			
Pattern: Islands: Coupling:	AN DC	`	,		·			INDI	CATORS	S (	21	C2	C3	C4	C5	S1	S2	S3	S4	1
Confinement: FSZ:	UN								Bars:	1	١	SID	E	DIA	.G	MII	)	SPAN		
						НΑ	віт	AT C	QUAL	ITY										
Name										Comr	nent	ts								
Spawning Habitat Rearing Habitat				beds abu	undant. n vegetat	ion and	otroo	m haa a												

Dir U D Photo R: 1 F: 1178 R: 1 F: 1179 Foc Lg Comments

ILP Map # ILP# Site

.0 104G.026

WILDLIFE

101

206

Group BIR Observations

Sand piper  $\mathsf{MAM}$ bear tracks  $\mathsf{MAM}$ Wolf tracks MAM Moose tracks

COMMENTS

Section Comments

CHANNEL Significant bedload movement in this area.

CHANNEL Shallow braids and slow backwater areas provide refuge from flow in main channel. Abundant gravel throughout site suitable for RB

Large low gradient channel braids across valley bottom. Overstream veg is dominant cover element along stream banks and CHANNEL

**PROJECT** 

Project Name: Stikine & Mess River Fish Collections - 2006

Stream Name (gaz.): STIKINE RIVER Project Code: 15753

WATERSHED

Gazetted Name: Local Name: MC6

Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: HC Access: H

GIS UTM (Z.E.N): 9.383898.6350500 Ref. Name:

Date: 2006/09/02 Time: 12:20 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete:

CHANNEL

Mtd width Avg Gadient % Mtd Avg Channel Width (m): GE 150.00 200.00 175.00 Method I: 1.0 С 1.00

Wetted Width (m): GE 140.00 120.00 130.00 Method II:

Pool Depth (m): 0.00

No Vis.Ch.: Intermittent: Wb Depth: 1.0 1.2 Avg: 1.10 Method: GE Stage: L M H Dw: Tribs.:

 COVER
 Total: M

 Type: SWD LWD B U DP OV IV CROWN C

 Type:
 SWD
 LWD
 B
 U
 DP
 OV
 IV
 CROWN CLOSURE

 Amount:
 S
 T
 N
 T
 N
 D
 N
 0
 0%

Loc: P/S/O: INSTREAM VEG: N A M V

LWD: N DIST: NS

RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α

RIP: S RIP: S

STG: SHR STG: SHR

WATER

EMS: Req #:

 Temp: 6
 Method: T3
 Cond.: 180
 Method: S3

 pH: 7.9
 Method: P2
 Turb.: T M L C Method: GE

Flood Signs: Method:

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3

 D95:
 D (cm):
 Morph: LC
 DISTURBANCE

 Pattern: IM
 INDICATORS
 C1
 C2
 C3
 C4
 C5
 S1
 S2

Islands: I
Coupling: DC

Confinement: OC
FSZ: Bars: N SIDE DIAG MID SPAN BR

S3

S4

S5

HABITAT QUALITY

Name Comments

Spawning Habitat Fair - good gravel but turbid.

Rearing Habitat Fair - some cover, slow flow, side channels.

Other Important.

OverWinter Habitat Poor - no deep pools.

COMMENTS

Section Comments

SITE CARD No D95 or D values.

# F Re

FDIS Site Care	d					ILP	Map #	ILP#	Site
Watershed Code: 000	D-000000-00000	) <u>-00000-0000-0000-0</u>	00-000-000-000-0	100-000	.0		104G.026	101	207
watersned code. ood	7 000000 00000	, 00000 0000 0000 0			.0		1040.020	101	201
				JECT					
Project Na Stream Name (ga Project Watershed Co	az.): STIKINE I			00-000-000-0	00	Project C	ode:	157	53
			WATE	RSHED					
Gazetted Name:					Local	Name: MC7			
Watershed Code: 000 ILP Map#: 104			00-000-000-000-0 NID Map #:  1040		D #:	Rea	ch #:	.0	Site #: 207
Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.3	85140.6342460	Method:		Re	Site Lg: 2 ef. Name:	200	Method:	HC Ac	ccess: H
Date: 20	006/07/25	Time: 15:00	Agency: C	660 C	rew: PV	V/LN	Fish Cro	d?:	Incomplete:
			CHA	NNEL					
Channel Width (m): NS Wetted Width (m): NS Pool Depth (m):	160.00 160.	00 160.00 160.00		vidth width	width w	idth Avg 156.67 42.50 0.00		Gadient % d I: 0.5	Mtd Avg NS 0.50 NS
Wb Depth: 1.	0 1.1 1	.2 Avg: 1.10	Method: N	NS St	age: L	м н	No Vis.	Ch.: Inte	rmittent: Tribs.:
COVER		Total: M	Wethou.	10 01	age. L	IVI II		DW.	11103
	WD LWD N T	B U NS NS	DP OV NS S	IV D	0	N CLOSURE 0% EAM VEG:	N A	M V	
LWD: F		DIST: C							
LB SHP: S Texture: F	G C	B R A				SHP: S xture: F	G C	B R	A
RIP: D STG: YF						RIP: C STG: MF			
			W A	TER					
EMS: Temp: 7 pH: 8.1 Flood Signs:			Method: NS Method: NS Method:			#: d.: 60 o.: T M	L (		Method: NS Method: NS
			MORPH	OLOGY					
Bed Material: D95: 11.	Dominant: F .0 D (cm): 1			TURBANCE	O1 E	31 B2 I	B3 D1	D2 D3	
Pattern: IR Islands: F Coupling: PC				DICATORS	C1 (	C2 C3 (	C4 C5	S1 S2	S3 S4 S5
Confinement: UN FSZ:				Bars:	N	SIDE	DIAG	MID S	PAN BR
			HABITAT	QUALI	ГΥ				
Name				C	omments				
Spawning Habitat Rearing Habitat Other OverWinter Habitat	Fair - cover Migration -	ndant gravel throughor in backwater areas. good - unobstructed of deep runs but no de	Instream veg. als channel with good ep pools observed	depth; flow.	villows).				
Photo	Foc Lg	Dir	F H U	103		Commer	nts		

Photo
R: 1 F: 1171
R: 1 F: 1172 Foc Lg Dir D D Comments

panorama panorama

ILP Map # ILP# Site

PHOTOS Comments

.0

104G.026

207

101

Photo 1 F: 1173 Foc Lg Dir panorama panorama F: 1174

WILDLIFE

Group MAM Observations

moose tracks. MAM wolf tracks

CHANNEL

COMMENTS

Section Comments

Large channel with many braids across valley. Vegetated islands within site. Many slow backwater areas provide refuge from velocity in main channel. 1 RB captured in backwater.

**FDIS Site Card** ILP Map # ILP# Site 207 0 104G.026 101 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MC7 Reach #: ILP Map#: 104G.026 ILP #: 101 NID Map #: 104G.026 NID #: Site #: 207 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.385192.6342579 Ref. Name: Date: 2006/09/02 Time: 14:25 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width Avg Gadient % Mtd Avg Channel Width (m): GE 250.00 200.00 225.00 Method I: 1.0 С 1.00 Method II: Wetted Width (m): 100.00 110.00 105.00 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.2 1.0 Avg: 1.10 Method: GE Stage: L Μ Н Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Т Amount: S Т N Ν D Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E RB SHP: S LB SHP: S С Texture: F G С Texture: F G В R Α В R Α RIP: D RIP: C STG: PS STG: MF WATER EMS: Req #: Temp: 6 Method: NS Cond.: 120 Method: S3 Method: P2 Turb.: T C Method: GF pH: 8.2 M Flood Signs: Rafted debris Method: NS MORPHOLOGY Subdom: F Bed Material: Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: LC D95: 10.0 D (cm): 7.00 DISTURBANCE Pattern: IR **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: F Coupling: PC Confinement: FC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Name Comments

Spawning Habitat fair - some good gravel.

Rearing Habitat Fair - turbid, few slow side channels, slowish area.

OverWinter Habitat poor - no pools.

**PHOTOS** 

Comments

Photo Dir Foc Lg R: DIGI F: 1 NS CARD R: DIGI Brandon scale F: STD 2 U R: DIGI F: D STD No scale

PHOTOS

ILP Map # ILP# Site 101 0 104G.035 100 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SC1 ILP Map#: 104G.035 ILP #: 100 NID Map #: 104G.035 NID #: 1000 Reach #: Site #: 101 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.376007.6356827 Ref. Name: Date: 2006/09/02 Time: 15:24 Agency: C660 Crew: KE/RJ Fish Crd?: Incomplete: CHANNEL Mtd width Avg Gadient % Mtd Avg Channel Width (m): MS 200.00 250.00 150.00 200.00 Method I: 6.0 С 5.00 Wetted Width (m): 30.00 20.00 21.67 Method II: 5.0 С Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.5 1.2 1.5 Avg: 1.40 Method: NS Stage: L Μ Dw: Tribs.: COVER Total: T LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Amount: Ν Ν D Ν Ν Ν Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: N DIST: NS RB SHP: S LB SHP: S С G С F G Texture: F В R Α Texture: В R Α RIP: N RIP: N STG: STG: WATER EMS: Req #: Temp: 2 Method: Cond.: 50 Method: T3 S3 pH: 7.9 Method: P2 Turb.: C Method: GF Т M Flood Signs: Rafted LWD Method: NS MORPHOLOGY Bed Material: Dominant: B Subdom: C 01 В1 B2 **B3** D1 D2 D3 D95: 150.00 D (cm): 50.00 Morph: CP DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: CO Confinement: CO FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Comments Name

Other habitat value = marginal. OverWinter Habitat Poor - no deep pools.

Rearing Habitat Poor - high flow too fast for juvenile fish.

Spawning Habitat Poor - lack of gravel deposition and high flow. **PHOTOS** 

Dir Comments Photo Foc Lg CARD F: NS 459 F: 460 U

ILP Map # ILP # Site

104G.035 100 101 .0

PHOTOS

 ${\tt COMMENTS}$ 

Photo 1 F: 461 Foc Lg Comments

Dir X D Cross F: 462

> Section Comments

CHANNEL Stream class = S5.

CHANNEL High energy flow, bedload movement and channel migration. CHANNEL No EF due to cold (2 degrees C) water temp and extreme flow.

ILP Map # ILP# Site 101 0 104G.035 100 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SC1 ILP Map#: 104G.035 ILP #: 100 NID Map #: 104G.035 NID #: 1000 .0 Site #: 101 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.376007.6356827 Ref. Name: Date: 2006/07/23 Time: 10:10 Agency: C660 Crew: KM/RS Fish Crd?: Incomplete: CHANNEL Mtd width Avg Gadient % Mtd Avg Channel Width (m): GE 200.00 250.00 150.00 200.00 Method I: 5.0 4.0 С 4.50 Method II: Wetted Width (m): 30.00 20.00 21.67 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 20.0 Avg: 20.00 Method: GE Stage: L Μ Н Dw: Tribs.: COVER Total: T LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Amount: Т Т D Ν Ν Ν Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α RIP: M RIP: D STG: MF STG: PS WATER EMS: Req #: Method: T3 Cond.: 50 Method: Temp: 15 S3 Method: Turb.: C Method: GF pH: Т M Flood Signs: rafted debris Method: NS MORPHOLOGY Bed Material: Dominant: C Subdom: B 01 В1 B2 **B3** D1 D2 D3 D95: 150.00 D (cm): 43.00 DISTURBANCE Morph: CP Pattern: IR **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: CO Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Name Comments Spawning Habitat Poor - no gravels, turbid, cold.

Poor - very turbid, cold, no pools. Rearing Habitat Overall, marginal, Other Poor - very turbid, cold, no pools. OverWinter Habitat

PHOTOS

Foc Lg Comments Photo Dir R: DCA D F: STD

X R: DCA F: 2 STD **ToRB** 

ILP Map # ILP# Site

101 .0 104G.035 100

PHOTOS

Photo CA F: Foc Lg STD Comments

Dir X U R: DCA To LB R: DCA

COMMENTS Section Comments

CHANNEL Approximately 2m/s

CHANNEL Turbid, turbulent, very cold - poor habitat - unlikely any fish live here, even in side channels.

CHANNEL River has flown through forest on LB is back in main channel now.

CHANNEL Lost of bedload movement and substrate deposition. Wide alluvial fan on RB.

CHANNEL Heavily braided with very active floodplain.

FDIS Site C	ard											II	LP Map #	# ILP	#			Site	)		
Watershed Code:	000-0	00000-0	00000-0	0000-0	0000	-0000-0	00-000-00	0-00	0-000-0	000			.0		1040	3.035		100	)	1	02
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							w	ΑТ	ERS	HEC	)										
Gazetted Name: Watershed Code: ILP Map#:	000-0			00000-0 ILP #:			00-000-00 NID Map #				NID		cal Name		ich #:	:	.0	)		Site #:	102
Field UTM (Z.E.N): GIS UTM (Z.E.N):		829.636	63729		Me	thod:						Site L Nam	g: 200 e:		M	ethod:	НС		Acce	ss: H	
Date	e: 200	6/08/31		Time:	15:3	30	Age	ency:	C660		Cre	ew:	KM/MS			Fish (	Ord?:		Ir	ncomple	ete:
								СН	ANN	ΕL											
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd GE GE	width 220.00 55.00	250.00	240.	00	width	width w	idth	width	widt	th v	vidth	width	Avg 236.67 65.00 0.00		Meth Meth	nod I:	Gadier 1.0	nt % 2.0	Mtd C	Avg 1.50
Wb Depth:	.6	.8	To	otal: T	Avg:	0.70	Meti	nod:	NS		Stag	je: L	М	Н		No Vi	s.Ch.: Dw:	I	nterm T	ittent: ribs.:	
Type: Amount: Loc: P/S/O:	SWE T		WD D	B T		U N	DP N		OV T	IV N		0	OWN CL	0%		Α	М	١	/		
LWD:	F			DIST:	E																
LB SHP: Texture:	-	G	С	В	R	Α							RB SHP Texture		G	C	; E	3	R	Α	
RIP: STG:														: M : MF							
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EMS: Temp: pH: Flood Signs:		d debris					Method: Method: Method:					C	Req #: Cond.: Turb.: T	М		L	С			hod: hod:	GE
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Bed Material: D95: Pattern: Islands: Coupling: Confinement:	16.0 IR O CO	Domina D (cn	nt: C n): 12.	00	S	Subdom: Morph:		[	DISTUR INDICA			O1 C1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2		3 S	4 S5
FSZ:	10								E	Bars:		N	SID	E	DIA	G	MI	D	SPA	١N	BR
							HABI	ΤA	T Q	UAL	IT.	Y									
Name Spawning Habitat		good -	- good (	gravel/d	cobbl	le, mode	erate turbio	dity.			Cor	mmer	nts								

Comments

good - good gravel/cobble, moderate turbidity. Fair- turbid, cold, low cover. poor - no pools, no cover.

Rearing Habitat
OverWinter Habitat

PHOTOS

Photo
R: DC F:
R: DC F:
R: DC F: Dir NS D U Foc Lg 1 2 3 Site card Mike scale Notebook scalp STD STD

ILP Map # ILP # Site .0 104G.035 100 102 PHOTOS Comments

Dir X Photo Foc Lg
R: DC F: 4 STD LB

FDIS Site Co	ard											ILP Ma	ар#	ILP	#			Site			
Watershed Code:	000-0	00000-0	0000-0	0000-0	000-0	000-00	00-000-	000-00	00-000-00	00		.0			1040	G.035		104		6	00
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Gazetted Name: Watershed Code: ILP Map#: Field UTM (Z.E.N):	104G.	.035		0000-0 ILP #:		- 1			00-000-00 04G.035		NID #: Site	ocal Na			ach # M	: ethod:	.0 HC		S Acces	ite#: s: H	600
GIS UTM (Z.E.N):			5107								Ref. Na										
Date	e: 2006	6/07/23		Time:	10:14		Α	• .	: C660		Crew:	PW/	LN			Fish C	Crd?:		Ind	comple	ete:
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Wb Depth: COVER	1.5	1.2	1.5 To	A tal: T	.vg: ′	1.40	M	lethod:	GE		Stage:	L	M	Н		No Vi	Dw:	111	ntermit Tr	ibs.:	
Type: Amount: Loc: P/S/O:	SWD T		VD T	B N		U N	DP N		OV D	IV T		ROWN 0 NSTRE	(	0%		А	М	V	,		
LWD: LB SHP: Texture:	V	G	С	DIST: E	E R	Α						RB S Text			G	С	; в	ı	R	Α	
RIP: STG:													RIP: STG:								
								W	ATE	R											
EMS: Temp: pH: Flood Signs:							Metho Metho Metho	d: N				Req #: Cond.: Turb.:	60	М		L	С		Meth Meth		NS NS
								ORI	PHOL	OG											
Bed Material: D95: Pattern:	40.0	Dominan D (cm	nt: C ): 40.	00		bdom: ⁄lorph:			DISTURE					B2 C3	B3 C4	D1 C5	D2 S1	D3 S2	S3	S4	1 S5
Islands: Coupling: Confinement: FSZ:	O PC									ars:	N		SIDE		DIA		MIC		SPAN		+ 55 BR
							шлп	217 4	T QU	1 / 1	ıтv										
Name Spawning Habitat		Fair - r	rood ar	avel av	ailahla	a with	п <b>а с</b> higher v			AL	Comme	ents									
Rearing Habitat		Fair in		raids off					ain chanr	nel with	n curren	t flow.									

Migration - fair. Poor

Other OverWinter Habitat

PHOTOS

Dir U D Photo R: 1 F: 1099 R: 1 F: 1100 Foc Lg Comments

ILP Map # ILP # Site

104G.035 104 600 .0

WILDLIFE

Group MAM Observations

Bear prints in sand.

COMMENTS

Section Comments

Wide channel with some vegetated bars and LWD/SWD strewn about non-wetted areas. Highest value fish habitat in slower margins and small braids. CHANNEL

**FDIS Site Card** ILP Map # ILP# Site 600 0 104G.035 104 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: HC1 ILP Map#: 104G.035 ILP #: 104 NID Map #: NID #: .0 Site #: 600 Field UTM (Z.E.N): Method: Site Lg: 100 Method: GE Access: H GIS UTM (Z.E.N): 9.378904.6355090 Ref. Name: Date: 2006/09/01 Time: 13:30 Agency: C660 Crew: KE/RJ Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): MS 7.20 7.60 8.40 6.10 6.50 5.90 6.95 Method I: 5.0 С 5.00 4.20 Method II: Wetted Width (m): MS 6.70 7.00 4.60 4.10 5.22 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.1 .9 .6 Avg: 0.87 Method: Stage: L Μ Н Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Amount: Т S D Ν Ν Ν Ν 0% INSTREAM VEG: Loc: P/S/O: M DIST: C LWD: F RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α RIP: S RIP: S STG: NA STG: NA WATER EMS: Req#: Method: Method: Temp: 7 T3 Cond.: S3 pH: 8.0 Method: P2 Turb.: T C Method: GF M Flood Signs: Rafted LWD/SWD Method: NS MORPHOLOGY Dominant: C Bed Material: Subdom: B 01 В1 B2 **B3** D1 D2 D3 D95: 59.0 D (cm): 8.00 Morph: RPC DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: DC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Comments Name

Other Habitat value = marginal.

OverWinter Habitat Poor - lack of pools for winter refuge.

Rearing Habitat Fair - limited cover for juvenile fishes.

Spawning Habitat Poor - few areas of gravel deposition with heavy siltation.

PHOTOS

Dir Comments Photo Foc Lg CARD F: NS 455 U F: 456

ILP Map # ILP # Site 104G.035 104 600 .0

PHOTOS

Photo 1 F: 457 Foc Lg Comments

Dir X D Cross F: 458  ${\tt COMMENTS}$ 

Section Comments

CHANNEL Stream class = S5.

CHANNEL NFC in 820 sec of EF'ing at 450 v/30Hz/4ms.

ILP Map # ILP# Site 202 O 104G.036 101 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MC2 ILP Map#: 104G.036 ILP #: 101 NID Map #: 104G.036 NID #: .0 Site #: 202 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.384033.6354994 Ref. Name: Date: 2006/07/24 Time: 16:16 Agency: C660 Crew: PW/LN Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): MS 13.00 16.00 18.00 18.00 17.00 16.00 16.33 Method I: 0.00 Wetted Width (m): 13.00 16.00 18.00 18.00 17.00 16.00 16.33 Method II: Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.4 1.6 1.2 Avg: 1.40 Method: Stage: L Μ Н Dw: Tribs.: COVER Total: T LWD **CROWN CLOSURE** SWD В U DΡ ٥٧ I۷ Type: Amount: Ν Ν N Ν D Ν Т 0% INSTREAM VEG: Loc: P/S/O: M LWD: N DIST: NS RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α RIP: G RIP: G STG: NA STG: NA WATER EMS: Req #: Temp: 9 Method: NS Cond.: 140 Method: NS pH: 7.9 Method: Turb.: C Method: NS NS Т M Flood Signs: Method: MORPHOLOGY Subdom: F Bed Material: Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: LC DISTURBANCE D95: 6.00 D (cm): 6.00 Pattern: IR **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: DC Confinement: UN FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Comments Name Spawning Habitat Fair - gravel substrate suitable for spawning. Fair - large open glide.

Migration - good - unobstructed channel. Rearing Habitat

Other

OverWinter Habitat Good - depth > 1m along left bank where fish were captured.

PHOTOS

Comments Photo Dir Foc La F: 1148 D Ū F: 1149

Reach # ILP Map # ILP # Site

WILDLIFE

Group Observations

Group
MAM wolf prints
MAM Bear prints
MAM Moose skull.

COMMENTS

Section Comments

CHANNEL Flooded glide section with limited habitat complexity at time of survey. Willow sedge riparian with flooded areas along left bank.

**FDIS Site Card** ILP Map # ILP# Site 202 0 104G.036 101 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MC2 ILP Map#: 104G.036 ILP #: 101 NID Map #: 104G.036 NID #: .0 Site #: 202 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.384022.6354867 Ref. Name: Date: 2006/09/02 Time: 09:30 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): GE 40.00 20.00 50.00 36.67 Method I: 0.5 С 0.50 35.00 Method II: Wetted Width (m): 38.00 20.00 31.00 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.3 1.2 Avg: 1.25 Method: GE Stage: L Μ Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ D Amount: Т Т Ν Ν S Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: N DIST: NS LB SHP: V RB SHP: U С Texture: F G С G В R Α Texture: F В R Α RIP: W RIP: W STG: NA STG: NA WATER EMS: Req #: Method: Cond.: 180 Method: Temp: 5 T3 S3 pH: 8.1 Method: P2 Turb.: T C Method: GF M Flood Signs: Flattened veg. Method: NS MORPHOLOGY Subdom: F Bed Material: Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: LC D95: 5.00 D (cm): 5.00 DISTURBANCE Pattern: IM **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: PC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR

### HABITAT QUALITY

Name Comments

Spawning Habitat fair - good gravel but turbid.

good - slow water, undercut banks for cover. Rearing Habitat

Other Important.

OverWinter Habitat fair - slower water, but still few pools.

**PHOTOS** 

Dir Comments Photo Foc Lg

R: DIC NS F: Card R: DIC F: 2 STD U Mike scale

ILP Map # ILP # Site

104G.036 101 202 .0

PHOTOS

Comments

Photo R: DIC F: R: DIC F: Foc Lg STD STD Dir D X No scale RB COMMENTS

> Section Comments

CHANNEL Gravel substrate riffley bits with moderate cover near banks.

CHANNEL Slowish, meandering section of Mess Creek. **FDIS Site Card** ILP Map # ILP# Site 500 0 104G.036 103 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MT1 ILP Map#: 104G.036 ILP #: 103 NID Map #: 104G.036 NID #: 1007 .0 Site #: 500 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.382410.6360848 Ref. Name: Date: 2006/07/24 Time: 09:00 Agency: C660 Crew: KM/RS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): HC 28.00 33.00 25.00 27.00 28.25 Method I: 9.0 7.0 С 9.00 Wetted Width (m): 13.00 12.00 4.00 11.25 Method II: 11.0 NS Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: .5 .8 Avg: 0.65 Method: NS Stage: L Μ Dw: Tribs.: COVER Total: T LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Amount: S D S Ν Ν Т Ν 1-20% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E RB SHP: S LB SHP: S С F G С Texture: F G Texture: В R Α В R Α RIP: C RIP: C STG: MF STG: MF WATER EMS: Req #: Method: NS Cond.: 50 Method: NS Temp: 5 Method: Turb.: C Method: NS pH: Т M Flood Signs: Method: MORPHOLOGY Subdom: C Bed Material: Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: CP D95: 18.0 D (cm): 16.00 DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: O Coupling: DC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY

Name Comments

Spawning Habitat Poor - some gravel but no holding pools, steep. Poor - no pools, turbid, fast. Rearing Habitat

Overall, marginal, Other

Off Channel Poor - no pools, turbid, fast

PHOTOS

Foc Lg Comments Photo Dir F: 1058 R: 100 D STD From 0 m

R: 100 F: 1059 STD at I B

ILP Map # ILP # Site

500 .0 104G.036 103

PHOTOS

Foc Lg STD Dir Comments

Photo R: 100 F: 1060 R: 100 F: 1061 X at RB STD From 0 m.

COMMENTS

Section Comments

CHANNEL No fish live here.

CHANNEL No pools, no shelter, very little cover.

Continuous cascade down wide alluvial channel, multiple braids. CHANNEL

Reach #	πe	Carc	ı							IL	.P Map #	ILP	#			Site			
Watershed Code:	000-0	000000-0	0000-00	000-000	0-0000-0	00-000	-000-0	00-000-00	00		0		1040	3.036		1007		50	00
							PR	OJE	т										
Projec Stream Nam Project Watershe	e (gaz	): STIKI	INE RIV	ER	Fish Colle				00-000-00	00	Pi	roject C	ode:			15	753		
							WAT	ERSI	HED										
Gazetted Name: Watershed Code: ILP Map#:				0000-000 LP #: 1				00-000-00 104G.036		Loo D #:	cal Name		ıch #:	:	.0		Site	e #: 5	500
Field UTM (Z.E.N): GIS UTM (Z.E.N):		2438.636	0863	N	/lethod:				Re	Site Lo	g: 200 e:		M	ethod:	HC	A	Access:	Н	
Date	: 200	6/09/01	-	Γime: 1	4:50		Agency	: C660	С	rew:	KE/RJ			Fish C	rd?:		Incor	mplet	e:
								IANN									٠, ١,		
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS	width 5.10 4.60	width 4.80 4.80	width 8.50 8.50	width 6.20 6.20	width 9.10 8.40	width 6.20 6.20	width	width	width	width	Avg 6.65 6.45 0.00			od I: 9. od II: 7.		0.0	ltd C C	Avg 8.67
Wb Depth:				Av	g: 0.00	N	Лethod	:	Sta	age: L	М	Н		No Vis	s.Ch.: Dw:	Int	ermitter Tribs		
COVER				al: T															
Type: Amount: Loc: P/S/O:	SWI T		VD S	B D	U N	DF N	•	OV N	IV N	0	OWN CLO	0%		Α	М	V			
LWD:	F		D	IST: E															
LB SHP: Texture:		G	С	В	R A						RB SHP: Texture:		G	С	В	F	: A		
RIP: STG:											RIP: STG:								
							V	VATE	R										
EMS: Temp: pH: Flood Signs:	7.9	d SWD/a	lluvum			Metho Metho		2		С	eq #: ond.: 50 Turb.: T	M		L	С		Method Method		33 SE
							1 O R	PHOL	OGY										
Pattern: Islands: Coupling:	28.0 SI I DC	Dominan D (cm	it: C ): 12.0	0	Subdom Morph			DISTURE INDICA		O1 C1			B3 C4	D1 C5	D2 S1	D3 S2	S3	S4	<b>S</b> 5
Confinement: FSZ:	UN							В	ars:	N	SIDE	≣	DIA	G	MID		SPAN		BR

FDIS Site C	ard	l										ILP Map i	# ILP	#			Site	<b>a</b>		
											'	-	, ILI							
Watershed Code:	000-	000000	)-0000	0-000	00-000	00-0000-	000-000	-000-0	00-000-0	000		.0		1040	G.045		100	)	•	103
								PR	OJE	СТ										
Proje Stream Nam Project Watersh	ne (gaz	z.): ST	IKINE	RIVE	R		llections			000-000-	-000	F	Project C	Code:	:			15753		
								W A T	ERS	HED										
Gazetted Name: Watershed Code:	000-		0-0000				000-000	-000-0	00-000-0	000		ocal Nam								
ILP Map#:		i.045		ILH	P#:		NID M	ap #: 1	104G.04	5 r	VID #:	700	Rea	ach#		).	)		Site #:	103
Field UTM (Z.E.N): GIS UTM (Z.E.N):		6167.63	36792	6	IN	/lethod:				F	Site i Ref. Nam	Lg: 700 ne:		IVI	lethod	: HC		Acce	ss: H	
Date	e: 200	06/09/0	1	Tir	me: 0	9:10		Agency	/: C660		Crew:	KM/MS	3		Fish (	Crd?:		Ir	ncompl	ete:
								CH	ANN	EL										
Channel Width (m): Wetted Width (m): Pool Depth (m):		widt 230.0 27.0		0.00	width	width	width	width	width	width	ı width	width	Avg 240.00 25.50 0.00		Meth Meth	nod I:	Gadier 0.5	nt %	Mtd C	Avg 0.50
,															No V	is.Ch.:	I	ntermi		
Wb Depth:	1.5					g: 1.50	ľ	/lethod:	: MS		Stage: L	_ M	Н			Dw:		Т	ribs.:	
COVER Type: Amount: Loc: P/S/O:	Т		LWD D		: । В Т	U N	DF N		OV S	IV N	(	ROWN CL 0 ISTREAM	0%		А	N	ı \	V		
LWD:	F			DIS	ST: E															
LB SHP: Texture:		G	С	Е	3	R <i>A</i>	4					RB SHF		G	C		В	R	Α	
RIP: STG:	: С			_			•					RIF	P: C B: MF						•	
								v	VATE	R										
EMS: Temp: pH: Flood Signs:		d debri	is				Meth Meth Meth				(	Req #: Cond.: Turb.: T	М		L	С			hod: hod:	GE
							N	10 R	РНОІ	LOGY	Y									
Pattern: Islands: Coupling:	N PC	Domin D (c	iant: ( cm):			Subdor Morp	n: F h: LC		DISTUR INDICA	RBANCE ATORS	O1 E C1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2		3 S	4 S5
Confinement: FSZ:	FU								E	Bars:	N	SID	ÞΕ	DIA	\G	МІ	D	SPA	١N	BR
							НΑ	BIT	AT Q	UALI	ΙΤΥ									
Name										_	Comme	nts								

Comments

Name Spawning Habitat Rearing Habitat OverWinter Habitat fair - turbid, lots of gravel but mixed with fines.
Fair - turbid and cold, some cover and slow water.
Poor - not enough cover, shelter from flow.

PHOTOS

Comments

Photo R: DGC F: R: DGC F: R: DGC F: Dir NS D U Foc Lg CARD Mike scale Pack scale 1 2 3 STD STD

Reach # ILP Map # ILP # Site

PHOTOS

COMMENTS

Section Comments

CHANNEL Lots of fines on bars, but main channel is mainly cobble.

CHANNEL Wide turbid section of shaft. Large alluvial fan on LB just downstream of survey site.

DIS Site Card		ILP Map	# ILP#	Site	
Watershed Code: 000-000000-00000-0000-0000-0000-000-00	000	.0	104G.045	100	104
PROJE	СТ				
Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Watershed Code: 600-000000-00000-00000-0000-0000-000-00	00-000-000	I	Project Code:	15753	
WATERS	HED				
Gazetted Name: Watershed Code: 000-000000-00000-0000-0000-0000-000-00	000	Local Nam			
ILP Map#: 104G.045	s	t: 1001 ite Lg: 80 Name:	Reach #: Method:		Site #: 104 ss: H
Date: 2006/07/23 Time: 11:50 Agency: C660	Crev	v: KM/RS	Fish Cr	rd?: Inc	complete:
CHANN					•
Mtd width Wi	width w	idth width	180.00 Method 0.00		Mtd Avg C 3.00
Wb Depth: .8 2.0 1.5 Avg: 1.43 Method: GE COVER Total: M	Stage	e: L M	No Vis H		ttent: ribs.:
Type: SWD LWD B U DP OV Amount: D S N N N T Loc: P/S/O:	IV T	CROWN CL 0 INSTREAM	LOSURE 0% 1 VEG: N A	M V	
LWD: A DIST: E  LB SHP: S  Texture: F G C B R A  RIP: S		RB SHF Texture		B R	A
STG: PS			G: MF		
WATE	R				
EMS: Temp: 6 Method: T3 pH: Method: Flood Signs: rafted debris Method: NS		Req #: Cond.: 7 Turb.: T		Meth C Meth	
•	0.0 4				
MORPHOL  Bed Material: Dominant: F Subdom: G		O1 B1	B2 B3 D1	D2 D3	
D95: 10.0 D (cm): 4.00 Morph: RP DISTURI Pattern: SI INDICA Islands: F Coupling: PC Confinement: FC		C1 C2	C3 C4 C5	S1 S2 S3	3 S4 S5
	Bars:	N SIE	DE DIAG	MID SPAN	N BR
HABITAT QU	UALITY	•			
Name Spawning Habitat Fair - some gravel but very turbid - water may clear up : Rearing Habitat Fair - poor now, but at lower flows, side channels are pi	Com at lower flow	ments			

Comments

Rearing Habitat
Other Important.
OverWinter Habitat Poor - no deep pools but adjacent wetlands may provide.

P H O T O S

	Pho	to		Foc Lg	Dir		
R:	DC	F:	5	STD	NS	RB	

R: DC F: 5 STD NS R: DC F: 6 STD D

PHOTOS

R: DC F: 7 STD X at LB
R: DC F: 8 STD X at RB
R: DC F: 9 STD U

COMMENTS

Section Comments

CHANNEL LB has lots of wetlands that may provide important rearing and overwinter habitat for fish.

CHANNEL Caught 1 RB in eddy in side channel and missed two others. Few pools or good eddie to shock.

CHANNEL Schaft creek in flood from rain and warm weather. Very turbid almost at bankfull, lots of debris mobilizing. Couldn't survey very far

upstream or downstream.

ILP Map # ILP# Site 104 0 104G.045 100 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SC4 ILP Map#: 104G.045 ILP #: 100 NID Map #: 104G.045 NID #: .0 Site #: 104 Field UTM (Z.E.N): Method: Site Lg: 180 Method: HC Access: H GIS UTM (Z.E.N): 9.379400.6373491 Ref. Name: Date: 2006/09/01 Time: 11:25 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width Avg Gadient % Mtd Avg Channel Width (m): GE 220.00 220.00 Method I: 0.5 С 0.50 Method II: Wetted Width (m): 65.00 65.00 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.3 .0 Avg: 0.65 Method: GE Stage: L Μ Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Т Amount: D S N Т Т Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: A DIST: E LB SHP: S RB SHP: V С Texture: F G С Texture: F G В R Α В R Α RIP: D RIP: M STG: PS STG: MF WATER EMS: Req #: Method: Cond.: 70 Method: Temp: 5 T3 S3 pH: 8.3 Method: P2 Turb.: C Method: GF Т M Flood Signs: rafted debris/silt Method: NS MORPHOLOGY Bed Material: Dominant: F Subdom: G 01 В1 B2 **B3** D1 D2 D3 DISTURBANCE D95: 8.00 D (cm): 8.00 Morph: LC Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: F Coupling: DC Confinement: FC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Comments Name Spawning Habitat poor - mucky substrate throughout.

Rearing Habitat fair - turbid, some cover in side channels OverWinter Habitat poor - high flow, turbid, cold, no pools

**PHOTOS** 

Comments

Photo Dir Foc Lg R: DΙ F: 1 NS Card R: R: STD Mike scale DI F: 2 U DI F: D STD No scale

ILP Map # ILP # Site .0 104G.045 100 104 PHOTOS Dir X Photo Foc Lg
R: DI F: 4 STD Comments

LB

ILP Map # ILP# Site 402 O 104G.046 102 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SKC1 ILP Map#: 104G.046 ILP #: 102 NID Map #: 104G.046 NID #: .0 Site #: 402 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.382610.6365341 Ref. Name: Date: 2006/07/23 Time: 12:00 Agency: C660 Crew: KM/RS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): 6.50 3.00 5.00 4.83 Method I: 3.0 С 3.50 2.5 Wetted Width (m): 6.50 3.00 4.70 4.73 Method II: 5.0 С Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: .3 .5 Avg: 0.40 Method: Stage: L Μ Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** SWD В U DΡ ٥٧ IV Type: S Amount: S Т N Ν D S 1-20% INSTREAM VEG: Loc: P/S/O: М LWD: N DIST: NS RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α RIP: S RIP: S STG: SHR STG: SHR WATER EMS: Req #: Method: T3 Cond.: 130 Method: Temp: 6 S3 Method: Turb.: C Method: GF pH: Т M Flood Signs: mult. Channels Method: NS MORPHOLOGY Subdom: C Bed Material: Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: RP D95: 4.00 D (cm): 4.00 DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: O Coupling: DC Confinement: UN FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR FEATURES NID Map NID Method Method Photo AirPhoto UTM (Z/E/N) Method Type Hgt Lg 1005 TRB 9.382490.6365485

### HABITAT QUALITY

Name

Spawning Habitat

Good - lots of gravel, especially at mouth.
Fair to good- few pools at time of survey but at lower water, probably great. Rearing Habitat

OverWinter Habitat Poor - no pools.

Comments: Dear trib from upstream lake.

ILP Map # ILP # Site

104G.046 102 402 .0

PHOTOS

Photo G F: Dir NS Comments

Foc Lg STD STD R: DG R: DG RB 1 NS RB 4

COMMENTS

Section CHANNEL Flows through bog and has multiple channels near lake.

CHANNEL Flooded and turbid now but probably nice and clear at lower water levels.

CHANNEL Nice creek - inflow to Little Skeeter Lake.

**FDIS Site Card** ILP Map # ILP# Site 402 0 104G.046 102 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SKC1 ILP Map#: 104G.046 ILP #: 102 NID Map #: 104G.046 NID #: Site #: 402 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.582594.6365357 Ref. Name: Date: 2006/08/31 Time: 17:06 Agency: C660 Crew: KE/RS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): MS 4.50 5.70 3.70 2.80 2.70 5.70 4.18 Method I: 3.0 0.0 С 1.50 2.10 Method II: Wetted Width (m): MS 3.40 2.90 2.40 2.70 Pool Depth (m): MS 0.35 0.35 No Vis.Ch.: Intermittent: Wb Depth: .6 Avg: 0.50 Method: Stage: L Μ Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ S Amount: Т Т N Т D Ν 1-20% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: C RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α RIP: S RIP: S STG: NA STG: NA WATER EMS: Req #: Temp: 7 Method: Cond.: 150 Method: T3 S3 pH: 8.1 Method: P2 Turb.: T C Method: GF M Flood Signs: Rafted woody debris Method: NS MORPHOLOGY Bed Material: Subdom: C Dominant: G 01 В1 B2 **B3** D1 D2 D3 Morph: RP D95: 11.0 D (cm): 4.00 DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: O Coupling: PC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR

FEATURES

NID Map NID Method Method Photo AirPhoto UTM (Z/E/N) Method Type Hgt Lg 1005 9.382490.6365485

Comments: To clear trib. upstream of lake.

HABITAT QUALITY

Name Comments

Other Habitat value - critical. OverWinter Habitat fair - few deep pools. Rearing Habitat Good

HABITAT QUALITY

Name Comments
Spawning Habitat Good - abundant gravel substrate.

PHOTOS

Photo Foc Lg Dir Comments

R: 1 F: 355 U
R: 1 F: 356 X Cross section.
R: 1 F: 357 D

COMMENTS
Section Comments

CHANNEL Stream class = S3.

**FDIS Site Card** ILP Map # ILP# Site 403 O 104G.046 102 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SKC2 ILP Map#: 104G.046 ILP #: 102 NID Map #: 104G.046 NID #: .0 Site #: 403 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.381653.6374178 Ref. Name: Date: 2006/07/24 Time: 13:50 Agency: C660 Crew: KM/RS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): GE 4.50 4.00 5.00 4.50 Method I: 0.0 С 0.00 Method II: Wetted Width (m): 4.50 4.00 5.00 4.50 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 1.3 1.4 1.2 Avg: 1.30 Method: Stage: L Μ Dw: Tribs.: COVER Total: A LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ D Amount: Т S N S S S 1-20% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E LB SHP: U RB SHP: U С G С G Texture: F В R Α Texture: F В R Α RIP: W RIP: W STG: NA STG: NA WATER EMS: Req #: Temp: 12 Method: NS Cond.: 200 Method: NS Method: Turb.: C Method: NS pH: Т M Flood Signs: Method: MORPHOLOGY Bed Material: Dominant: F Subdom: G 01 В1 B2 **B3** D1 D2 D3 DISTURBANCE D95: 4.00 D (cm): 4.00 Morph: LC Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: N Coupling: DC Confinement: UN FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR

### HABITAT QUALITY

Name Comments

Spawning Habitat Good - some good gravel, lots of holding. Rearing Habitat Good - huge deep channel; lots of cover. Other Overall - critical. OverWinter Habitat good - huge deep channel; lots of cover.

PHOTOS

Foc Lg Dir Comments Photo

F: 1066 Old BD and deep pools R: 100 STD X D R: 100 F: 1067 STD at old beaver dams

Reach# ILP Map # ILP # Site

PHOTOS

WILDLIFE

Group Observations

BIR Yellowlegs defending nest.

COMMENTS

Section Comments

CHANNEL Surrounded on both sides by boggy wetland.

CHANNEL Return to minnow trap - too deep to shock effectively.

CHANNEL Fishiest looking habitat I've ever seen, clear water, huge deep channel with undercut banks, gravel over veg. LWD.

FDIS Site Care	d	ILP Map #	ILP#	Site
Watershed Code: 000	0-000000-00000-00000-0000-0000-000-000-000-	.0 000-000	104G.046	102 403
	PRO	JECT		
Project Na	ame: Stikine & Mess River Fish Collections - 2006			
Stream Name (ga	az.): STIKINE RIVER ode: 600-000000-00000-0000-0000-0000-000-000		roject Code:	15753
	WATE	RSHED		
Gazetted Name: Watershed Code: 000 ILP Map#: 104	0-00000-0000-0000-0000-0000-000-000-00			.0 Site #: 403
Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.3	Method: 81653.6374178	Site Lg: 100 Ref. Name:	Method: GE	Access: H
Date: 20	006/09/01 Time: 09:44 Agency: 0	C660 Crew: KE/RJ	Fish Crd?:	Incomplete:
	CHA	NNEL		
Channel Width (m): MS Wetted Width (m): MS Pool Depth (m):	3 3.90 4.20 4.80 4.60 4.70 4.40	width width width	Avg 4.43 Method I: 4.43 Method II: 0.00	Gadient % Mtd Avg 0.0 1.0 C 0.50 C
Wb Depth: .4	4 .5 .4 Avg: 0.43 Method:	NS Stage: L M	No Vis.Ch.:	
COVER	Total: A	NO Stage. L IVI	n bw.	. 11103
Type: SV Amount: Loc: P/S/O:			-20%	M V
LWD: F	DIST: E			
LB SHP: S Texture: F	G C B R A	RB SHP: Texture:		B R A
RIP: S STG: NA		RIP: STG:		
	W A	TER		
EMS: Temp: 9 pH: 8.0 Flood Signs: Rafi	Method: T3 Method: P2 ted SWD Method: NS	Req #: Cond.: 20 Turb.: T	M L C	Method: S3 Method: GE
B 111		HOLOGY	Do Do D. D.	
Bed Material: D95: 0.0		STURBANCE	B2 B3 D1 D2	
Pattern: SI Islands: N Coupling: DC Confinement: OC	۱۱		C3 C4 C5 S1	
FSZ:		Bars: N SIDE	E DIAG M	MID SPAN BR
	HABITAT	QUALITY		
Name Other OverWinter Habitat Rearing Habitat	Habitat value = fair (low value spawning habitat). Good - good depth and supply of LWD. Good - appropriate cover for juv. Fish.	Comments		

Rearing Habitat Spawning Habitat Good - appropriate cover for juv. Fish. Poor - no gravel - all fine substrate.

PHOTOS

Foc Lg Photo
R: 1 F: 428
R: 1 F: 429 Dir U X Comments

ILP Map # ILP # Site 102 403

104G.046 .0

Comments

Photo 1 F: 430 Dir D Foc Lg

COMMENTS

PHOTOS

Section Comments

CHANNEL Stream class = S3.

CHANNEL Habitat value could be enhanced with addition of gravels for spawning.

CHANNEL Too deep to EF effectively.

CHANNEL No fish captured in 601 sec of EF effort.

**PROJECT** 

Project Name: Stikine & Mess River Fish Collections - 2006

Stream Name (gaz.): STIKINE RIVER Project Code: 15753

WATERSHED

Field UTM (Z.E.N): .. Method: Site Lg: 200 Method: HC Access: H

GIS UTM (Z.E.N): 9.382586.6369046 Ref. Name:

Date: 2006/09/01 Time: 11:35 Agency: C660 Crew: KE/RJ Fish Crd?: Incomplete:

CHANNEL

Mtd width width width width width width width width width Avg Gadient % Mtd Avg 2.30 Channel Width (m): MS 5.60 3.80 4.00 4.30 2.00 3.67 Method I: 2.0 С 2.00 3.20 Method II: Wetted Width (m): MS 4.50 3.00 3.40 2.70 3.15 С

Pool Depth (m): 0.00

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

COVER Total: A

LWD **CROWN CLOSURE** SWD В U DΡ ٥٧ I۷ Type: Amount: S D Т Ν Т Ν 1-20%

Loc: P/S/O: INSTREAM VEG: N A M V

LWD: F DIST: E

RB SHP: S LB SHP: S С F G С F G Texture: В R Α Texture: В R Α

RIP: S

STG: NA STG: NA

WATER

EMS: Req #:

 Temp:
 6
 Method:
 T3
 Cond.:
 160
 Method:
 S3

 pH:
 8.0
 Method:
 P2
 Turb.:
 T
 M
 L
 C
 Method:
 GE

Flood Signs: Rafted SWD Method: NS

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3

DISTURBANCE D95: 40.0 D (cm): 3.00 Morph: RPG Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5

Islands: N Coupling: DC Confinement: OC

Confinement: OC
FSZ: Bars: N SIDE DIAG MID SPAN BR

HABITAT QUALITY

Name Comments

Other Habitat value = critical (however non-fish bearing).

OverWinter Habitat Good - good access to lake and some pool areas for cover.

Rearing Habitat Good - abundant cover

Spawning Habitat Good - excellent gravel substrate.

COMMENTS

Section Comments

CHANNEL Stream class = S6.

Reach # ILP Map # ILP # Site

COMMENTS

Section Comments

CHANNEL NFC in 593s EF.

DIS Site Ca	ard										ı	LP Map #	: ILF	P #			Site		
Watershed Code:	000-0	00000-	00000-0	00-0000	000-00	00-00	00-000-	000-00	0-000-00	00		.0		1040	3.046		102	4	404
								PR	OJEC	T									
Projec Stream Nam Project Watershe	e (gaz	.): STIK	(INE RI						0-000-00	0-000-	000	Р	roject (	Code	:		1575	3	
							١	V A T	ERSH	I E D									
Gazetted Name: Watershed Code: ILP Map#: Field UTM (Z.E.N):	104G		00000-0	00000-00 ILP #:		ı			0-000-00 04G.046		IID #:	ocal Name		ach #	: ethod:	.0	٨٥٥	Site #:	404
GIS UTM (Z.E.N):		586.636	69046		Metric	ou.				F	Ref. Nam			IV	elilou.	пС	ACC	езэ. п	
Date	e: 200	6/07/24		Time:	12:00		Д	gency:	C660		Crew:	KM/RS			Fish C	rd?:		Incompl	ete:
								-	ANN	EL									
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS MS	width 4.50 4.50 0.31	width 2.80 2.70	1.20	1.	50	width 1.30 1.90	width 2.30 1.70	width	width	width	width	Avg 2.27 2.30 0.31			od I: 2.0 od II: 1.5	5	Mtd C C	Avg 1.50
Wb Depth: COVER	.5	.4	.3 T	A otal: A	vg: 0	.40	М	ethod:	MS	5	Stage: L	. М	Н		NO VI	Dw:	IIILEII	Tribs.:	
Type: Amount: Loc: P/S/O:	SWE T		WD S	B N		U D	DP T	(	OV S	IV N	1	OWN CL 1 STREAM	-20%	E N	А	М	V		
LWD:	Α			DIST: E	=														
LB SHP: Texture:	_	G	С	В	R	Α						RB SHP Texture	_	G	С	В	R	Α	
RIP: STG:													: W : NA						
								w	ATEI	₹									
EMS: Temp: pH: Flood Signs:	8						Metho Metho Metho	d:	5		(	Req #: Cond.: 16 Turb.: T	60 M	I	L	С			NS NS
							М	ORP	HOL	O G Y	,								
Bed Material:	31.0	Domina D (cn	nt: G n): 8.0	00		odom: lorph:			DISTURE	ANCE	01	B1	B2	В3	D1	D2	D3		
Pattern: Islands: Coupling: Confinement:	IM N DC	D (CII		00	IV	югрп.	N		INDICA		C1	C2	C3	C4	C5	S1	S2 :	S3 S	64 S5
FSZ:									В	ars:	N	SID	E	DIA	G	MID	SP	AN	BR
							HAE	BITA	T Q L	ALI	ΤY								
Name											Comme	nts							
Spawning Habitat Rearing Habitat				gravel, cover, c				s, pool	S.										

good - lots of graver, richard a coordinate good - lots of cover, deep undercut banks, pools.
Critical.
good - lots of cover, deep undercut banks, pools.
PHOTOS Rearing Habitat Other OverWinter Habitat

Photo R: 100 F: 1062 R: 100 F: 1063 Foc Lg STD STD Dir U D Comments

Towards lake inlet.

ILP Map # ILP # Site

102 404 .0 104G.046

PHOTOS

Foc Lg Dir NS Comments

Photo R: 100 F: 1064 Spawning gravel. R: 100 F: 1065 NS LWD.

COMMENTS Section

Comments

CHANNEL Flows through wetland into Skeeter Lake.

CHANNEL Excellent fishy stream (no fish seen through). Clearwater lots of nice spawning riffles with lateral scour pools and undercut banks.

SITE CARD Set time at a default value of 12:00.

ILP Map # ILP# Site 700 O 104G.056 105 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: WC1 ILP Map#: 104G.056 ILP #: 105 NID Map #: 104G.056 NID #: .0 Site #: 700 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.387801.6381800 Ref. Name: Date: 2006/07/24 Time: 12:45 Agency: C660 Crew: PW/LN Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): MS 14.00 18.00 21.00 16.00 14.00 14.00 16.17 Method I: 3.0 С 3.00 14.00 Wetted Width (m): 11.00 12.00 12.00 10.00 10.00 11.50 Method II: Pool Depth (m): 0.40 0.50 0.30 0.30 0.40 0.37 0.30 No Vis.Ch.: Intermittent: Wb Depth: 1.4 1.2 1.2 Avg: 1.27 Method: Stage: L Μ Dw: Tribs.: COVER Total: A LWD **CROWN CLOSURE** SWD В U DP ٥٧ IV Type: Т Amount: Т S Т D S Ν 1-20% INSTREAM VEG: Loc: P/S/O: М LWD: F DIST: E RB SHP: S LB SHP: S С G С F G Texture: F В R Α Texture: В R Α RIP: D RIP: M STG: YF STG: YF WATER EMS: Req #: Temp: 9 Method: NS Cond.: 60 Method: NS pH: 7.9 Method: NS C Method: NS Turb.: Т М Flood Signs: rafted debris,1.4m Method: NS MORPHOLOGY Subdom: G Bed Material: Dominant: C 01 В1 B2 **B3** D1 D2 D3 D95: 72.0 D (cm): 60.00 Morph: CPC DISTURBANCE Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: F Coupling: DC Confinement: UN FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR FEATURES NID Map Method Method AirPhoto UTM (Z/E/N) Method Type Hgt Lg Photo F: 1134 L: 9.387905.6381792

Comments: Tributary looking upstream.

HABITAT QUALITY

Name Comments

Spawning Habitat Rearing Habitat Fair - some accessible gravel suitable for RB spawning. Good - abundant cover in small pools, behind boulder and along stream margins under OV.

Migration - good, unobstructed channel with relatively low gradient. Other

ILP# ILP Map # Site

700 104G.056 105 .0

HABITAT QUALITY

Name Comments

OverWinter Habitat Fair - some pools may be suited to overwintering. PHOTOS

Photo Foc Lg Dir Comments

R: R: R: F: 1128 D F: 1133 U

F: 1134 Ū Tributary

WILDLIFE Observations

Group MAM bear prints MAM wolf prints MAM deer prints

MAM moose prints COMMENTS

Section Comments CHANNEL As indicated by rafted debris on high vegetated bars and back in trees along riparian zone. Fantastic trout stream.

Excellent RB habitat. Fish using quite small habitat units (<1msquared pools). Effectively traces of undercut bank habitat. Rearing CHANNEL

occuring in relatively fast sections of stream. Flow shows signs of jumping banks.

FDIS Site Ca	ard												ILP Map	# IL	P#			S	Site			
Watershed Code:	000-0	00000-0	00000	-00000	-0000	0-0000-0	000-000	0-000-0	00-000-0	000			.0		104	G.056	6	1	05		700	
								PΕ	ROJE	СТ												
Projec Stream Nam Project Watershe	e (gaz.	): STIK	(INE R	RIVER		ish Coll				00-00	00-0	00	i	Project	Code	<b>e</b> :			157	53		
								WAT	ΓERS	HE	D											
Gazetted Name: Watershed Code: ILP Map#:			)0000·	-00000- ILP #					00-000-0 104G.05		NI	Le D #:	ocal Nam		C1 each #	#:		.0		Site #	<i>‡</i> : 700	
Field UTM (Z.E.N): GIS UTM (Z.E.N):		801.638	31800		Me	ethod:					Re	Site l ef. Nan	Lg: 200 ne:		N	/letho	d: HC	;	Ac	cess: F	1	
Date	: 2006	5/09/01		Time	: 10	:05		Agenc	y: C660	)	C	crew:	KE/RS			Fish	Crd?:			Incomp	olete:	
								CI	H A N N	I E L												
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd MS MS MS	width 11.10 11.00	9.70	8.	dth 10 30	width 8.20 8.00	width 9.30 8.40 1.00	width 9.70 9.20		n Wi	dth	width	width	Avg 9.35 9.03 1.00	3	Met	thod I: hod II:	4.0 3.0	ient %	C	3.5	
Wb Depth:	.9	.9	1.0	0	Avg:	0.93	1	Method	: MS		St	age: l	_ M	Н		No '	√is.Ch. Dw		Inter	rmittent: Tribs.:		
COVER	OVA	,		Fotal: N	M			_	0)/		,	0.5	2014/11 01	00115								
Type: Amount: Loc: P/S/O:	SWD T		WD D	B S		U N	DF T		OV T	IV N			ROWN CL 1 ISTREAM	1-20%		A	1 A	M	٧			
LWD:	F			DIST:	С																	
LB SHP: Texture:		G	С	В	R	R A							RB SHF Texture		G	i	С	В	R	Α		
RIP: STG:	_													P: S B: NA								
								٧	VATE	R												
EMS: Temp: pH: Flood Signs:	8.0	l debris/	/logjan	n			Meth Meth Meth		-				Req #: Cond.: 6 Turb.: T		М	L	С			lethod:	NS NS	
								/ O R	PHOI	LOG	ΞY											
Bed Material: D95:		Dominar	nt: C n): 12	2 00	,	Subdom Morph			DISTUR	RAN	CE	01	B1	B2	В3	D.	1 D2	2 [	D3			
Pattern: Islands: Coupling: Confinement:	SI O PC	D (611	1). 12	2.00		Worph	. 131		INDIC			C1	C2	C3	C4	C	5 S	1 5	S2	S3	S4	S5
FSZ:									I	Bars:		N	SIE	E	DI	AG	N	ΛID	SI	PAN	E	BR
							НΔ	віт	AT Q	U A	LI.	ГΥ										
Name										J.,		· · comme	nts									
Other OverWinter Habitat	t					t/critical. s in side		els sup	ply winte	er refu												

Good - some large pools in side channels supply winter refugi Good - numerous side channels for juv. Habitat and rearing. Fair - some areas of fine gravel - dominated by cobble. PHOTOS Rearing Habitat
Spawning Habitat

Photo 1 F: 451 1 F: 452 Dir NS U Foc Lg Comments CARD

ILP Map # ILP # Site

104G.056 105 700 .0

PHOTOS

Dir NS Foc Lg Comments

Photo 1 F: 453 Cross F: 454

 ${\tt COMMENTS}$ 

Section Comments

CHANNEL Stream class = S3. CHANNEL Excellent RB trout stream.

CHANNEL 7 RB captured in 761sec of EF'ing (Pass 1) in side channel habitat.

**FDIS Site Card** ILP Map # ILP# Site 105 0 104G.066 100 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: SC5 ILP Map#: 104G.066 ILP #: 100 NID Map #: 104G.066 NID #: .0 Site #: 105 Field UTM (Z.E.N): Method: Site Lg: 200 Method: HC Access: H GIS UTM (Z.E.N): 9.384253.6392571 Ref. Name: Date: 2006/09/01 Time: 13:30 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width Avg Gadient % Mtd Avg Channel Width (m): GE 250.00 220.00 240.00 236.67 Method I: 1.0 С 1.00 Method II: Wetted Width (m): 80.00 70.00 78.33 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 2.0 Avg: 2.00 Method: GE Stage: L Μ Dw: Tribs.: COVER Total: M LWD **CROWN CLOSURE** Type: SWD В U DΡ ٥٧ I۷ Т Amount: S D N Ν Т Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E LB SHP: V RB SHP: V С Texture: F G С Texture: F G В R Α В R Α RIP: M RIP: M STG: MF STG: MF WATER EMS: Req #: Temp: 6 Method: Cond.: 70 Method: T3 S3 Turb.: pH: 8.1 Method: P2 C Method: GF Т M Flood Signs: Rafted debris Method: NS MORPHOLOGY Bed Material: Dominant: C Subdom: G 01 В1 B2 **B3** D1 D2 D3 D95: 23.0 D (cm): 21.00 Morph: LC DISTURBANCE Pattern: IR **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: F Coupling: PC Confinement: OC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY

Name Comments

Spawning Habitat fair - some good gravel.

Rearing Habitat Fair - some cover and glide areas, tubid and cold.

poor - no deep pools. OverWinter Habitat

**PHOTOS** 

Photo Dir Foc Lg R: DCA F: 1 NS CARD R: DCA F: STD Mike Scale 2 D R: DCA F: U STD No scale

Comments

ILP Map # ILP # Site .0 104G.066 100 105 PHOTOS

Dir X Photo Foc Lg
R: DCA F: 4 STD Comments RB

Photo R: 1 F: 1122 R: 1 F: 1123

Foc Lg

Dir D D

ch #														IL	P Map #	! ILF	#				Site			
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									PΙ	RO.	JEC	Т												
Project Stream Name Project Watershe	e (gaz	): STI	IKIN	IE RIV	ER			ections			00-000	-000-0	000		Р	roject (	Code	:			15	5753		
									W A	TEF	RSH	ΕD												
Gazetted Name: Watershed Code: ILP Map#:			-000			·0000 : 10		000-000 NID M					ID #:	Loc	al Name		ach #	<del>!</del> :		.0		S	Site #:	105
Field UTM (Z.E.N): GIS UTM (Z.E.N):		1231.63	3925	546		Me	ethod:					R	Site ef. Na		: 200 :		N	letho	d: I	HC	A	Acces	s: H	
Date	: 200	6/07/24	4	-	Γime	: 10:	20		Agenc	y: C	660	(	Crew:		PW/LN			Fish	Cro	l?:		Inc	compl	lete:
									C	НΑΙ	NNE	L												
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd GE GE		0 18	80.00	190	.00 2		width 190.00 110.00	180.0	00	vidth	width	wid	th	width	Avg 183.33 103.33 0.00				Ga H: 1.: H: 1.:		%	Mtd NS NS	
Wb Depth:	.8	.9	,	.5		Ava.	0.73	,	Method	4. V	1S	S	tage:		М	Н		No '		Ch.: Dw:	Int	termitt Tr	tent:	
COVER	.0	.0	,		al: N	_	0.70	•	,,,,,,,,,,				nago.	_	•••					J.W.		•	100	
Type: Amount: Loc: P/S/O:	SWI S	) [	LWE D	)	B N		U N	DF N		OV S		IV T		0	WN CL TREAM	0%		A	A	М	V			
LWD:	Α			D	IST:	Е																		
LB SHP: Texture:		G	(	С	В	R	А								RB SHP Texture		G		С	В	F	₹	Α	
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EMS: Temp: pH: Flood Signs:								Meth Meth Meth	od: 1	NS NS				C	eq #: ond.: 80 urb.: T	) M		L	C			Meth Meth		NS NS
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Bed Material: D95:	40.0	Domina D (c		C 40.0	0	S	Subdom Morph				TURBA		0		B1	B2	ВЗ	D.		D2	D3			
Pattern: Islands: Coupling: Confinement:	AN DC									INI	DICAT	ORS	С	1	C2	C3	C4	C!	5	S1	S2	S3	S	64
FSZ:	OIN										Baı	rs:	N		SID	E	DIA	ιG		MID		SPAN	1	
								НΑ	віт	ΑТ	Q U	ALI	ΤY											
Name												(	Comm	nent	S									
Spawning Habitat							ible gra			LWD	VEWD			:6: ~	ant cove									

Habitat adjacent to 1124. Habitat adjacent to 1124

Comments

ILP Map # ILP # Site 104G.066 100 105 .0 PHOTOS Photo 1 F: 1124 Dir D U Foc Lg Comments Flow through middle of channel. F: 1126  ${\tt COMMENTS}$ Section

CHANNEL Large anastomising channel with many small connecting braids. LWD/SWD provide significant cover from main channel flows.

Photo
R: 1 F: 1110
R: 1 F: 1111

Dir D D

Foc Lg

Channel Width (m): GE   70.00   85.00   90.00   95.00   90.00   85.00   85.83   Method I: 1.0   NS   1.25	DIS Site C	ard										ILF	P Map #	ILP	#			Site			
Project Name: Silkine & Mess River Fish Collections - 2006	Watershed Code:	000-0	00000-0	0000-0	0000-00	00-0000-0	00-000-0	00-00	00-000-00	0		.0	)		1040	G.066		101		20	05
Stream Name (gaz.): STIKINE RIVER								PR	OJEC	T											
Care   Name	Stream Nam	ie (gaz	.): STIK	INE RI	VER				00-000-00	0-000	-000		Р	roject (	Code	:		15	753		
Watershed Code:   000-0000000-000000-00000-0000-000-000							W	/ A T	ERSH	I E D											
Field UTM (Z.E.N): 9.383690.6394889	Watershed Code:	000-0										Loca	al Name			·	0		Site	e #· :	205
C	Field UTM (Z.E.N):						Wap		0.000		Site			1100				A			200
Mitt   width   width	Date	e: 200	6/07/24		Time: 0	8:30	Ag	gency	r: C660		Crew:		PW/LN			Fish (	Crd?:		Inco	mple	te:
Channel Width (m): GE   70.00   85.00   90.00   85.00   90.00   85.00   90.00   85.00   78.83   Method II: 1.0   NS   1.25								СН	IANNE	ΞL											
Wb Depth: .7		GE	70.00	85.00	90.00	95.00	90.00	35.00		widtl	n wid	th	width	85.83 78.33			od I: 1.	.0		NS	Avg 1.25
Type: SWD LWD B U DP OV IV CROWN CLOSURE Amount: N N N N N N N N N N N N N N N N N N N	•	.7	.5			g: 0.43	Ме	thod:	: GE		Stage:	L	М	Н		No Vi		Int			
LB SHP: S   Texture: F   G   C   B   R   A	Type: Amount:			۷D	В							0		0%		A	М	V			
Texture: F	LWD:	N			DIST: N	S															
STG: MF  WATER  EMS: Temp: 7 pH: 8.2 Method: NS Method: NS Flood Signs: water back veg isl.  Method: NS  Method: NS  Method: NS  Method: NS  Morph: RP  MORPHOLOGY  Bed Material: Dominant: C Subdom: F D95: 25.0 D (cm): 25.00 Morph: RP D1STURBANCE Pattern: SI Islands: O Coupling: DC Confinement: UN FSZ: Bars: N SIDE  HABITAT QUALITY  Name Spawning Habitat Rearing Habitat Rearing Habitat Other OverWinter Habitat  Other OverWinter Habitat  Poor - no pools observed.			G	С	В	R A							Texture	: F	G	C	В	R	. 4	١	
EMS: Temp: 7																					
Temp: 7								V	ATEF	₹											
Bed Material: Dominant: C Subdom: F O1 B1 B2 B3 D1 D2 D3  D95: 25.0 D (cm): 25.00 Morph: RP DISTURBANCE  Pattern: SI Islands: O Coupling: DC Confinement: UN FSZ: Bars: N SIDE DIAG MID SPAN BF  HABITAT QUALITY  Name Spawning Habitat Rearing Habitat Other OverWinter Habitat OverWinter Habitat  Poor - no pools observed.	Temp: pH:	8.2	back ve	g isl.			Method	l: N	S			Co	nd.: 10			L	С				-
Pattern: SI Islands: O Coupling: DC Confinement: UN FSZ: Bars: N SIDE DIAG MID SPAN BF  HABITAT QUALITY  Name Spawning Habitat Rearing Habitat Other OverWinter Habitat Poor - no pools observed.  Pattern: SI S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C4 C5 S1 S2 S3 S4 SINDICATORS C1 C4 C5 S1 S2 S3 S4 S1 S4 S1 S4 S1 S4 S1 S4							М	O R I	PHOL	O G	Υ										
Pattern: SI Islands: O Coupling: DC Confinement: UN FSZ: Bars: N SIDE DIAG MID SPAN BF  HABITAT QUALITY  Name Comments  Spawning Habitat Rearing Habitat Other OverWinter Habitat OverWinter Habitat Poor - no pools observed.					00				DISTURE	BANCI		1	B1	B2	В3	D1	D2	D3			
Name Spawning Habitat Rearing Habitat Other OverWinter Habitat OverWinter Habitat OverWinter Habitat  CHARLITY  Comments  Comments  Fair - some gravel patches suitable for RB spawners.  Fair - overveg; slow water at margins provide refuge from high energy flow.  Migration - good - unobstructed channel with good flow.  Poor - no pools observed.	Pattern: Islands: Coupling: Confinement:	SI O DC	_ (***	,					INDICAT	rors	С									S4	
Name Spawning Habitat Rearing Habitat Other OverWinter Habitat  Name  Comments  Comments  Fair - some gravel patches suitable for RB spawners.  Fair - overveg; slow water at margins provide refuge from high energy flow.  Migration - good - unobstructed channel with good flow.  Poor - no pools observed.	F32.								Do	115.	IN		טוט	=	DIA	ıG	IVIID	•	SPAIN		ЬK
Spawning Habitat Fair - some gravel patches suitable for RB spawners.  Rearing Habitat Other Migration - good - unobstructed channel with good flow.  OverWinter Habitat Poor - no pools observed.							HAB	I T A	AT QU	AL											
	Spawning Habitat Rearing Habitat Other		Fair - o Migrat	overveç ion - go	g; slow wa ood - uno	ater at ma bstructed	rgins pro	vide r	efuge fror	n high			_								
	OverWinter Habita	ıt	Poor -	no poc	ois observ	ed.		ΡI	ното	s											

Comments

ILP Map # ILP# Site

205 .0 104G.066 101

PHOTOS

Photo 1 F: 1112 Foc Lg Dir Comments

U F: 1113

WILDLIFE Observations

Group MAM Deer prints.

MAM Moose prints.

COMMENTS

Section Comments

CHANNEL Bar as bed of thalweg was not visible. May be larger substrate in thalweg. High flow at time of survey. Main channel is split by a well established vegetated island for entire length of site. Conducted survey along left bank side bar of right branch of channel. Substrate type ascertained from side. CHANNEL

ILP Map # ILP# Site 205 0 104G.066 101 **PROJECT** Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Code: 15753 WATERSHED Gazetted Name: Local Name: MC5 ILP Map#: 104G.066 ILP #: 101 NID Map #: NID #: .0 Site #: 205 Field UTM (Z.E.N): Method: Site Lg: 120 Method: HC Access: H GIS UTM (Z.E.N): 9.383797.6394995 Ref. Name: Date: 2006/09/01 Time: 16:00 Agency: C660 Crew: KM/MS Fish Crd?: Incomplete: CHANNEL Mtd width width width width width width width width width Avg Gadient % Mtd Avg Channel Width (m): GE 90.00 90.00 Method I: 1.5 С 1.50 Method II: Wetted Width (m): 55.00 Pool Depth (m): 0.00 No Vis.Ch.: Intermittent: Wb Depth: 2.3 Avg: 2.30 Method: GE Stage: L Μ Dw: Tribs.: COVER Total: M **CROWN CLOSURE** Type: SWD I WD В U DΡ ٥٧ I۷ Amount: S D Т Ν S Ν 0% INSTREAM VEG: Loc: P/S/O: M LWD: F DIST: E LB SHP: V RB SHP: V С Texture: F G С Texture: F G В R Α В R Α RIP: C RIP: C STG: MF STG: MF WATER EMS: Req#: Temp: 7 Method: Cond.: 90 Method: T3 S3 pH: 8.0 Method: P2 Turb.: C Method: GF Т M Flood Signs: Rafted debris Method: NS MORPHOLOGY Dominant: C Bed Material: Subdom: G 01 В1 B2 **B3** D1 D2 D3 DISTURBANCE D95: 21.0 D (cm): 17.00 Morph: LC Pattern: SI **INDICATORS** C1 C2 C3 C4 C5 S1 S<sub>2</sub> S3 S4 S5 Islands: O Coupling: PC Confinement: FC FSZ: Bars: Ν SIDE DIAG MID **SPAN** BR HABITAT QUALITY Name Comments Fair - maybe some gravel in side channels.

Spawning Habitat Rearing Habitat
Other Poor - not much slow water, turbid, little cover.

Marginal.

OverWinter Habitat Poor - no pools

PHOTOS

Foc Lg Dir Comments Photo R: DICI CARD NS F:

R: DICI F: 2 STD D Mike scale

ILP Map # ILP # Site 104G.066 101 205 .0

PHOTOS

Comments

Photo Foc Lg
R: DICI F: 3 STD
R: DICI F: 4 STD Dir U X No scale RB

Photo
R: 1 F: 435
R: 1 F: 436

Foc Lg

Dir NS U

card

FDIS Site Ca	ard												IL	P Map #	ILP	· #			5	Site			
Watershed Code:	000-0	00000	-00000	0-000	00-000	0-0000-0	00-00	0-000-	-000	-000-00	0		.(	)		1040	G.016			101		201	
										JEC													
Projec Stream Name Project Watershe	e (gaz.	.): ME	SS CR	REEK		Fish Colle		s - 200	)6			000		Pr	oject (	Code	:			1575	3		
								W A	TE	RSH	IED												
Gazetted Name: Watershed Code: ILP Map#: Field UTM (Z.E.N):	104G		)-00000		P#: 1					-000-00 4G.016		ID #:		al Name		ach #	: lethod		.0	٨٥	Site #		1
GIS UTM (Z.E.N):		924.63	337799	)	IVI	etriou.					R	ef. Na				IVI	elilou	. 110		Acc	,css. 1		
Date	: 2006	3/09/0°	1	Tir	me: 17	:13		Agen	су:	C660		Crew:		KE/RJ			Fish	Crd?:			Incom	olete:	
								С	H /	NN	ΕL												
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd T	width 6.10	h wic 5.70		width 5.60	width 5.10	width 5.30	wid 5.2		width	width	wid	th	width	Avg 5.50 0.00 0.00			hod I: nod II:		lient %	Mtc C		Avg 3.00
Wb Depth:	.6	.8	3 .	.8	Avg	: 0.73		Metho	od:	MS	S	tage:	L	М	Н		No V	is.Ch.: Dw:		Inter	mittent: Tribs.:		
COVER				Total	: T																		
Type: Amount: Loc: P/S/O:	SWE N	) [	LWD S		B D	U N	D N			N N	IV N		0	WN CLC ( TREAM	0%		А	Ņ	М	V			
LWD:	F			DIS	ST: E																		
LB SHP: Texture:		G	С	Е	3 F	R A								RB SHP: Texture:		G	(	С	В	R	Α		
RIP: STG:														RIP: STG:									
									w	ATER	₹												
EMS: Temp: pH: Flood Signs:	7.9	woody	/ debris	8					T3 P2 GE				Co	eq #: ond.: 80 urb.: T	М		L	С			ethod: ethod:	S3 GE	
	_							M O F	R P	HOL	O G Y								_				
Pattern:	33.0 SI		ant: C cm): 1			Subdom Morph				ISTURE NDICAT		O C			B2 C3	B3 C4	D1 C5	D2 S1		D3 S2	S3	S4	S5
Islands: Coupling: Confinement: FSZ:	DC									Ва	ars:	N		SIDE	Ē	DIA	.G	M	1ID	SF	PAN		BR
							ΗА	віт	Α.	ΓQU	ALI	ΤY											
Name Other OverWinter Habitat Rearing Habitat Spawning Habitat		poor poor	, lack o , high f	of dee low, I	poor, make pools ack of over	cover						Comm	nent	S									
									, н	0.10	S												

PHOTOS

Comments

SITE CARD

stream class S5

# APPENDIX 2 RECEIVING ENVIRONMENT FISH COLLECTION FORM



Appendix 2
Receiving Environment Fish Habitat Assessment Protocol Appendix

1	Station	Survey	Survey		DS	US	US	Temp			CD	Current	Habitat	Dist from
Watershed	ID	Date	Crew	DS easting	northing	Easting	Northing	(°C)	рΗ	Turbidity	(µS/cm)	Flow	type	start (m)
Schaft	HC1	23-Jul-06	PW/LN	378944	6355107	378978	6354907	4	8.5	Т	60	М	C	0
Mess	MC1	25-Jul-06	PW/LN	383924	6337799	383896	6337596	6	8.1	Т	80	M	R	0
Mess	MC2	24-Jul-06	PW/LN	384033	6354994	384008	6354824	9	7.9	Т	140	Н	G	0
Mess	MC5	24-Jul-06	PW/LN	383690	6394889	383785	6394974	7	8.2	Т	100	Н	R	0
Mess	MC6	26-Jul-06	PW/LN	383898	6350500	384015	6350336	5	8	Т	130	M	R	0
Mess	MC7	25-Jul-06	PW/LN	385140	6342460	385152	6342680	7	8.1	Т	60	M	R	0
Mess	MC8	25-Jul-06	PW/LN	382812	6333580	382741	6333401	6	8.2	Т	110	M	R	0
Mess	MC8	25-Jul-06	PW/LN	382812	6333580	382741	6333401	6	8.2	Т	110	M	G	180
Mess	MT1	25-Jul-06	KM/RS	382410	6360848	382293	6360700	5		M	50	M	С	0
Schaft	SC1	23-Jul-06	KM/RS	376007	6356827	375816	6356810			Т			С	0
Schaft	SC2	23-Jul-06	PW/LN	376702	6363669	376845	6363525	5	8.7	Т	70	M	R	0
Schaft	SC3	23-Jul-06	PW/LN	376270	6367935	376083	6367859	6	8.6	Т	70	M	R	0
Schaft	SC4	23-Jul-06	KM/RS	379430	6373500	379364	6373477	5.5		Т		Н	R	0
Schaft	SC5	24-Jul-06	PW/LN	384231	6392546	384034	6392598	6	8.2	Т	80	M	R	0
Skeeter	SKC1	23-Jul-06	KM/RS	382610	6365341	382490	6365485			Т		Н	R	0
Skeeter	SKC2	24-Jul-06	KM/RS	381653	6374218	381662	6374152	12		С	200		G	0
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	G	0
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	R	23
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	G	48
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	R	58
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	G	70
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	R	76
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	Р	120
Skeeter	SKC3	24-Jul-06	KM/RS	382588	6369061	382570	6368879	8		С	160	M	R	123
Mess	WC1	24-Jul-06	PW/LN	387801	6381800	387998	6381758	9	7.9	L	60	М	С	0

(continued)

Appendix 2
Receiving Environment Fish Habitat Assessment Protocol Appendix (continued)

	Length	Slope	Wetted	Bankfull	Wetted	Bankfull	%	%	%	%	%	Pool	Max Pool	Min Pool
Watershed	(m)	(%)	Depth (m)	Depth (m)	Width (m)	Width (m)	Sand	Gravel	Cobble	Boulder	Bedrock	Type	Depth (m)	Depth (m)
Schaft	200	4	0.50	1.5	16	60	15	20	65	0	0			
Mess	200	1	0.70	1.7	9	35	10	40	50	0	0			
Mess	200	0	1.20	1.4	16	16	40	60	0	0	0			
Mess	145	1	0.70	1	80	95	30	20	50	0	0			
Mess	200	0.5	0.60	0.7	65	130	50	50	0	0	0	0	0	0
Mess	200	0.5	0.80	1.1	45	160	46	44	10	0	0			
Mess	180	1.5	0.20	0.2	4	12	10	30	60	0	0			
Mess	20	1.5	0.60	1.00	3	4.5	10	20	60	5	5	5	0.8	0.2
Mess	200	9	0.23	0.5	13	28	Т	50	45	5				
Schaft	200	4	1.00	2.5	25	250	5	10	60	25	-	-	-	-
Schaft	200	0.5	0.60	1.1	150	200	25	55	20					
Schaft	200	1.5	0.60	1.2	170	180	20	40	40	0	0			
Schaft	80	3	0.60	8.0	200	200	50	40	10					
Schaft	200	1.5	0.90	1.4	110	180	30	30	40	0	0			
Skeeter	200	3	0.30	0.3			10	80	10					
Skeeter	200	0	1.10	1.3	4	4	80	20						
Skeeter	23	0	0.25	0.33	4.5	4.5	80	20						
Skeeter	25	1.5	0.30	0.35	2.7	2.8	30	70						
Skeeter	10	1	0.30	0.40	2.5	2.1	20	80						
Skeeter	12	2	0.20	0.35	1.5	1.2	10	90						
Skeeter	6	1	0.25	0.17	2.5	2.3	10	90						
Skeeter	44	2	0.30	0.50	1.5	1.5	45	80	5					
Skeeter	3	0	0.30	0.50	1.9	1.5	40	40	20			S	0.45	0.14
Skeeter	77	2	0.25	0.35	1.7	1.3	15	80	5					
Mess	200	3	0.60	1.4	9	15	20	20	50	10	0			

(continued)

Appendix 2
Receiving Environment Fish Habitat Assessment Protocol Appendix (completed)

	Barrier		LB	RB	LB	RB	LB Stab	RB	%	%	% Instream	% Overhanging	% UC	%	%		LB Riparian	RB Riparian
Watershed	Type	T/P	Height	Height	Stab	Stab	#	Stab #	Pool	Boulder	Vegetation	Vegetation		LWD	SWD	Canopy (%)	(%)	(%)
Schaft			1.5	1	U	S	0	0.5	0	0	0	3	0	3	3	85%	0	40%
Mess			1	0.9	U	U	0	0	0	0	0	0	0	1	0	0	0	0
Mess			0.2	0.2	S	S	0.5	0.5	15		1					0	0	0
Mess			0.2	0.5	Н	Н	1	1	0	0	<1	2	0	0	0	0	95	95
Mess			0.1	0.1	S	S	0.5	0.5	0	0	1	5	0	0	1	0	95	85
Mess			0.25	0.25	U	U	0	0	0	0	15	10	0	2	0	0	40	70
Mess			0.4	0.4	S	S	0.5	0.5	0	0	0	10	0	2	0	0	0	15
Mess			0.80	0.60	S	Н	0.5	1	5	5	0	10	5	0	5	0	0	20
Mess			0.5	1.5	S	U	0.5	0		Т		T		5	Т	0	100	100
Schaft	-	-	2	4	U	U	0	0		5				Т	Т	0	90	40
Schaft			0.7	0.4	S	S	0.5	0.5	0	0	0	<1	0	<1	<1	0	100	10
Schaft			1.2	0.7	U	U	0	0	0	0	0	<1	0	<1	0	0	85	0
Schaft			1.2	1	S	S	0.5	0.5			Т	Т		5	20	0	100	100
Schaft			0.5	0.5	S	S	0.5	0.5	0	0	0	2	0	5	5	0	95	95
Skeeter																		
Skeeter			1.2	1.2	S	S	0.5	0.5	30			10	20	10	Т	10	40	50
Skeeter			0.4	0.4	S	S	0.5	0.5				10	10	5		10	60	30
Skeeter			0.40	0.50	S	S	0.5	0.5				30	10	Т	5	20	10	80
Skeeter			0.40	0.40	S	S	0.5	0.5				20	20	Т	Т	0	10	30
Skeeter			0.50	0.40	S	S	0.5	0.5				20	20	10		0	30	40
Skeeter			0.30	0.25	S	S	0.5	0.5				20	10	5		0	20	40
Skeeter			0.60	0.60	S	S	0.5	0.5				40	20	5	Т	10	40	40
Skeeter			0.80	0.80	S	S	0.5	0.5				20	20	5		10	40	40
Skeeter			0.45	0.45	S	S	0.5	0.5				40	10	5		10	40	40
Mess			1	0.8	S	S	0.5	0.5	15	10	0	15	2	5	5	10%	100	100

# APPENDIX 3 RECEIVING ENVIRONMENT FISH COLLECTION FORM



Site#

201

208

MTD/NO

1

EF

Reach # ILP Map # ILP# Watershed Code: 104G.016 101 .0 WATERBODY Gazetted Name: Local: MC8 ILP Map #: 104G.016 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/25 To: 2006/07/25 Agency: C660 Crew: PW/LN Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment EF 1 EF 1 208 104G.016 6 6 L T 110 201 104G.016 80 A. GEAR SETTINGS Site# MTD/NO H/P Date In Time In Date Out Time Out Comment 201 2006/07/25 12:30 2006/07/25 208 2006/07/25 10:40 2006/07/25 11:05 C. ELECTROFISHER SPECIFICATIONS MTD/NO EF H/P Sec Site# Encl Length Voltage Pulse Width Frequency Make Model SMITH-1 0 637 585 12B 201 1 200.0 1.5 60 2 ROOT 0 208 EF 1 1 411 200.0 4.0 480 60 SMITH-LR24 ROOT FISH SUMMARY

Total #

0

COMMENTS

Lgth (Min/Max)

FishAct

Comment

Section Comments

Stage

Species

NFC

NFC

WATERBODY EF right bank for 637 seconds. Shocked around mouth of inlet stream upstream of site with NFC.

201

Site#

201

MTD/NO

EF 1

Reach # ILP Map # ILP# Watershed Code: .0 104G.016 101 WATERBODY Gazetted Name: Local: MC1 ILP Map #: 104G.016 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/02 To: 2006/09/02 Agency: C660 Crew: KM/MS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment EF 1 104G.016 100 201 6 A. GEAR SETTINGS Time In Date Out Time Out 16:45 2006/09/02 17:10 MTD/NO H/P Site# Date In 201 EF 1 1 2006/09/02 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model

FISH SUMMARY

0

Total # Lgth (Min/Max) FishAct

SMITH-

ROOT

Comment

2.4

12B

304

Stage

200.0

1

H/P

0

Species

NFC

Site#

Site#

208

MTD/NO

208

Reach # ILP Map # ILP# Watershed Code: .0 104G.016 101 WATERBODY Gazetted Name: Local: MC8 ILP Map #: 104G.016 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/03 To: 2006/09/03 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment 208 104G.016 FF 1 A. GEAR SETTINGS Date Out Time Out 2006/09/03 15:02 MTD/NO H/P Site# Date In Time In 208 EF 1 1 2006/09/03 14:27 C. ELECTROFISHER SPECIFICATIONS Voltage MTD/NO H/P Encl Sec Length Width Frequency Pulse

FISH SUMMARY

Total # Lgth (Min/Max) FishAct

486

Stage

100.0

1

H/P

0

Species NFC

Model

LR24

Make

**SMITHROOT** 

Comment

4

207 EF 1

Section

WATERBODY

RB

103

1 RB captured in slow backwater.

	, 1 1011	Jui	C.										
Reach #										ILP M	ар #	ILP#	
W	atershed Cod	de:		000-00000	0-00000-00000	0-0000-000	0-000-000	-000-000-C	000-000	.0	1	04G.026	101
						W A	TERBO	DΥ					
F		600-0 000-0	000000-00		)-0000-0000-0  -0000-0000-0	000-000-000		000 000 IG.026	ocal: M	ILP#:		Reach #: om Date:	0 -
F	ish Permit #:			Date	e: 2006/07/25	То	: 2006/07/	/25	Agency:	C660 (	Crew: PW/LN	N Res	ample:
						SITE	/ MET	ГНОР					
Site# 207	NID Map 104G.026	NID	)# L	JTM:Zone/E	East/North/Mth	EF	1 7	•	Т	bid -	Co	omment	
Site# 207	MTD/NO EF 1	H/P 1	Date I 2006/07	7/25 15:1		/25 15:4	40	DECII	= 1 C A		mment		
Site# 207	MTD/N EF	0	H/P 1	Encl O	Sec 739	Length 200.0	Wic 10	lth √	oltage 450	Frequency 60	Pulse 2	Make SMITH- ROOT	Model LR24
						FISH	SUMN	<b>MARY</b>					
Site# 207	MTD/N EF	O 1	H/P 1	Species RB	Stage NS	Age	Total #	Lgth (Min	103	FishAct R		Comment	
0''- "	MATE (NIC	/D	0	1		DIVIDU		· · · ·	ATA				
Site#	MTD/NO	H/P	Species	Length V	Veight Sex	Mat	Age	Vch	_	enetic Roll	# Frame#	Con	nment

COMMENTS

Str/Smpl#

Comments

Str/Smpl#/Age 13.9 U U FR 1

Section

WATERBODY

Reach # ILP Map # ILP# Watershed Code: 104G.026 101 .0 WATERBODY Gazetted Name: Local: MC6 ILP Map #: 104G.026 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/26 To: 2006/07/26 Agency: C660 Crew: PW/LN Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment FF 1 206 130 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In 206 EF 1 1 2006/07/26 09:20 2006/07/26 09:50 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 692 SMITH-12B 206 0 200.0 ROOT FISH SUMMARY Total # Lgth (Min/Max) 1 96 96 Site# MTD/NO H/P Stage FishAct Comment 206 EF RB R INDIVIDUAL FISH DATA H/P Age Site# MTD/NO Vch# Genetic Roll # Frame# Comment Species Length Weight Sex Str/Smpl#/Age Str/Smpl# 206 RB 90 FR 1 COMMENTS

High turbidity made fish observations difficult.

Comments

Reach #													ILP M	ар #	ILP#	
W	atershed Co	de:		000-000	000-0000	0-0000	0-0000	-0000-0	00-00	0-000-0	000-000-	000	.0		104G.026	101
							W	/ A T I	ERB	ODY	•					
I	zetted Name Project Code WS Code Vaterbody ID Project ID	: 600- : 000-	000000-00				000-000	-000-00	00-00	0-000 04G.020		l: MC6 eam: S	ILP#:	101 Lake I	Reach #: From Date:	0 -
F	ish Permit#	:		D	ate: 200	6/09/02		To: 2	2006/0	09/02	Age	ncy: C	660 (	Crew: KM/	MS F	Resample:
							SI.	TE /	ΜE	тно	D					
Site# 207 206	NID Map 104G.026 104G.026	NIE	)# L	JTM:Zone	e/East/No		- E	MTD/NO EF 1 EF 1 <b>EAR</b>		emp 5 5 <b>ETT!</b>	Cond 120 190 <b>N G S</b>	Turbid T T			Comment	
Site# 206 207	MTD/NO EF 1 EF 1	H/P 1 1	Date I 2006/09 2006/09	/02 1 /02 1		Date 0 2006/09 2006/09 <b>E C T</b> I	)/02 )/02	ime O 13:30 16:40 <b>I S H</b>		SPE	CIFIC	CATI		mment		
Site# 206	MTD/N EF	NO 1	H/P 1	End O		Sec 778		ngth i0.0		Vidth 20.0	Volta 30		Frequency 50	Pulse 24	Mak SMIT ROC	H- 12B T
207	EF	1	1	0		590		0.0		50.0	50	0	50	24	SMIT ROC	
							FIS	SH S	SUM	MAR	Υ					
Site# 206 207	MTD/N EF EF	NO 1 1	H/P 1 1	Species RB NFC	s Sta J	-	Age		otal # 2 0	53		5	ishAct R		Commer	t
Site# 206 206	MTD/NO EF 1 EF 1	H/P 1 1	Species RB RB	Length 53 75	Weight 1.9 5.3	Sex U	Mat MT MT		Age Smpl# 1 2		<b>D A T</b> Vch#	Gene Str/Sm		# Frame#	<b>#</b> (	Comment
200			I L	, ,	0.0	U	1411	00	_							

102

Site#

102

MTD/NO

EF

Reach # ILP Map # ILP# Watershed Code: .0 104G.035 100 WATERBODY Gazetted Name: Local: SC2 ILP Map #: 104G.035 100 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/08/31 To: 2006/08/31 Agency: C660 Crew: KM/MS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment EF 1 102 A. GEAR SETTINGS Date Out Time Out 2006/08/31 17:10 Site# MTD/NO H/P Date In Time In 102 EF 1 1 2006/08/31 16:30 C. ELECTROFISHER SPECIFICATIONS Voltage Site# MTD/NO H/P Encl Sec Length Width Frequency Pulse Make Model

FISH SUMMARY

0

Total # Lgth (Min/Max) FishAct

SMITH-

ROOT

Comment

2.3

LR24

543

Stage

70.0

0

Species

NFC

1

H/P

600

Site#

600

MTD/NO

Reach # ILP Map # ILP# Watershed Code: .0 104G.035 104 WATERBODY Local: HC1 Gazetted Name: ILP Map #: 104G.035 104 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment 600 104G.035 FF 1 A. GEAR SETTINGS Time In Date Out Time Out 13:30 2006/09/01 14:02 MTD/NO H/P Site# Date In 600 EF 1 1 2006/09/01 C. ELECTROFISHER SPECIFICATIONS Voltage Site# MTD/NO H/P Encl Sec Length Width Frequency Pulse Model Make

FISH SUMMARY

Total # Lgth (Min/Max) FishAct

**SMITHROOT** 

Comment

4

LR24

820

Stage

100.0

0

Species NFC

1

H/P

RB RB RB RB

8.2 65.0 4.6 4.4 U U U

Reach #													ILP Ma	ap#	ILP#	
W	atershed	Cod	e:		000-00000	0-0000	0-00000	-0000-0	000-00	0-000-000	0-000-00	0-000	.0		104G.036	101
								W	ATE	RBOD	Y					
ı		ode: ode: / ID:	000-0	00000-00	0000-0000 0000-0000			0-000-0	00-000			cal: M	ILP#:	101 Lake Fr	Reach #: rom Date:	0 -
F	ish Perm	it #:			Da	te: 2006	6/07/24			06/07/24		gency:	C660 C	rew: PW/L	.C F	Resample:
Site#	NID M 104G.0	)36 NO	NID	Date I		e In	A Date Ou	EF . <b>G E</b> ut Tin	TD/NO 1 AR ne Out	METH Temp 9 SETT	Cond 140	Tur 1	-	C	Comment	
202	EF	1	1	2006/07			2006/07/ ECTR		7:10 <b>S H E</b>	R SP	ECIF	I C A	TIONS			
Site# 202	MT EF	D/N	) 1	H/P 1	Encl O		Sec 603	Leng 200		Width 2.5		ltage 350	Frequency 60	Pulse 2	Mak SMIT ROC	H- 12B
								FIS	н ѕі	JMMA	RY					
Site# 202	MT EF	D/N	) 1	H/P 1	Species RB	Stag NS	3	Age		0		183	FishAct R		Commen	t
Site#	MTD/NO	0		•	· ·	Weight	Sex	Mat	Str/Si	Age npl#/Age	H DA Vch#	_	enetic Roll # /Smpl#	# Frame#	(	Comment
202	EF	1	1	RB	87	8.2	U	U	FR	1						

Reach #					IL	P Map # IL	P#
Wate	ershed Code:	000-0	00000-00000-00000	-0000-0000-000-000	0-000-000-000	0 1040	G.036 101
				WATERBOD	Y		
Proj \ Wate		0-000000-00000-0		0-000-000-000-000-000 0-000-000-000-000		101 Rea Lake From	ach #: 0 - Date:
Fish	Permit #:		Date: 2006/09/02	To: 2006/09/02	3,	Crew: KM/MS	Resample:
202 1 Site# M	NID Map N 104G.036 MTD/NO H/ EF 1 1	P Date In	one/East/North/Mthd  A Time In Date Out 10:15 2006/09/	EF 1 5 . GEAR SETT	Cond Turbid 190 T	Comment	ment
			C. ELECTR	OFISHER SP	ECIFICATIONS		
Site# 202	MTD/NO EF 1	H/P 1	Encl Sec O 741	Length Width 200.0 10.0	Voltage Freque 350 50	ncy Pulse 2.4	Make Model SMITH- 12B ROOT
				FISH SUMMA	RY		
Site# 202	MTD/NO EF 1	H/P Spec 1 RI	3 J		gth (Min/Max) FishAct 147 147 R H DATA	C	omment
Site# M	ITD/NO H/	P Species Leng	th Weight Sex	Mat Age Str/Smpl#/Age	Vch# Genetic	Roll # Frame#	Comment
202 EF	F 1 1	RB 14	7 35.1 U	U SC 1	·		

500

Reach # ILP Map # ILP# Watershed Code: .0 104G.036 103 WATERBODY Gazetted Name: Local: MT1 ILP Map #: 104G.036 103 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment EF 1 500 104G.036 1007 6 50 A. GEAR SETTINGS Time In Date Out Time Out 14:50 2006/09/01 15:15 MTD/NO H/P Site# Date In 500 EF 1 1 2006/09/01 C. ELECTROFISHER SPECIFICATIONS Voltage Site# MTD/NO H/P Encl Sec Length Width Frequency Pulse Model Make

FISH SUMMARY

**SMITHROOT** 

4

LR24

Site# MTD/NO H/P Species Stage Age Total # Lgth (Min/Max) FishAct Comment 500 EF 1 1 NFC 0

100.0

369

0

1

Reach #	ŧ						ILP I	Map #	ILP#	
V	Vatershed Code	:	000-000000-00	0000-00000	-0000-0000-000-	000-000-000-00	0.000 .0	1	04G.045	100
					WATER	BODY				
		000-000000-0			00-000-000-000-0 0-000-000-000-0 ILP Map #:	000-000 000-000 104G.045	cal: SC4/SC3  ILP#: tream: S		Reach #: 0 om Date:	-
	Fish Permit #:		Date: 2	2006/07/23	To: 2000		gency: C660	Crew: KM/RS	S Resam	ple:
Site# 104 103	NID Map 104G.045	NID # U 1002	UTM:Zone/East		EF 1 EF 1	Temp Cond 5.5 70 6 70 6 TTINGS	Turbid T T	Co	omment	
Site# 103 104	MTD/NO F EF 1 EF 1	H/P Date 1 2006/07 1 2006/07	7/23 14:55 7/23 12:05	Date O 2006/07/ 2006/07/ <b>L E C T R</b>	/23 15:25 /23 12:45	SPECIF	C <b>A T I O N S</b>	omment		
Site# 103	MTD/NO EF	H/P 1 1	Encl O	Sec 1224	Length 200.0		Itage Frequency 585 40	Pulse 3	Make SMITH- ROOT	Model LR24
104	EF	1 1	0	670	85.0	8.0	500 50	2.4	SMITH- ROOT	LR24
					FISH SU					
Site# 103		H/P 1 1	NFC	Stage	Age Total 0	<b>0</b> (	,		Comment	
104	EF '	1 1	RB	J I N D	1 IVIDUAL			ssed 2.		
Site#		·	Length Wei	-	Str/Sm	ge Vch# pl#/Age	Str/Smpl#	II# Frame#	Comm	ent
104	EF 1	1 RB	138 33	3.1 U	IM FR	1	D	C 5 \	v. white	

103

104

Site#

104

103

103

103

EF

EF

MTD/NO

1

1

EF

EF

EF

1

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1

1

1

RΒ

RB

RΒ

RB

RB

RB

213

130

172

126

Sex

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126.3

25.3

53.2

28.1

Mat

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U

H/P Species Length Weight

Reach # ILP Map # ILP# Watershed Code: 104G.045 100 .0 WATERBODY Gazetted Name: Local: SC4/SC3 ILP Map #: 104G.045 100 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KM/MS Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment 5 104G.045 EF 1 EF 1 104 70 Т 103 104G.045 A. GEAR SETTINGS Site# MTD/NO H/P Date In Time In Date Out Time Out Comment 103 2006/09/01 09:45 2006/09/01 104 2006/09/01 11:45 2006/09/01 12:25 C. ELECTROFISHER SPECIFICATIONS MTD/NO EF H/P Encl Sec Length Pulse Make Site# Width Voltage Frequency Model SMITH-1 0 570 550 LR24 103 1 100.0 10.0 50 2.4 ROOT 104 EF 1 1 0 523 100.0 30.0 350 50 2.3 SMITH-LR24 ROOT FISH SUMMARY Lgth (Min/Max) Site# MTD/NO Stage Total # FishAct Comment Species

3

1 INDIVIDUAL FISH DATA

Age

Str/Smpl#/Age

2

3

SC

SC

SC

SC

126

213

172

213

Vch# Genetic

Str/Smpl#

R

R

Roll # Frame#

Comment

EF

EF

EF

EF

EF

EF

EF

EF

FF

EF

RΒ

RΒ

RB

RB

RΒ

RB

RB

RB

RB

RB

123

123

81

110

110

84 71

48

83

43

27.1

26.1

6.8

17.8

15.0

76

4.6

1.5

8.4

.8 U

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6

402

402

402

402

402

402

402

402

402

402

ILP Map # ILP# Watershed Code: 104G.046 102 .0 WATERBODY Local: SKC-1 Gazetted Name: ILP Map #: 104G.046 102 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/23 To: 2006/07/23 Agency: C660 Crew: KM/RS Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment 104G.046 FF 1 402 6 130 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In EF 1 402 1 2006/07/23 15:20 2006/07/23 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 1 472 SMITH-LR24 402 0 100.0 2.4 1 ROOT FISH SUMMARY Site# MTD/NO H/P Species Stage Total # Lgth (Min/Max) FishAct 231 43 402 EF RB 231<sup>′</sup> S Holding maybe? 13 131 INDIVIDUAL FISH DATA MTD/NO H/P Species Length Weight Sex Roll # Frame# Site# Vch# Genetic Mat Age Comment Str/Smpl#/Age Str/Smpl# 402 402 RΒ 2 402 EF RΒ 72 4.9 IM 3 402 RB 5.5

MTD/NO EF 1

H/P

Site#

404

Reach #					ILP Map #	ILP#
Watershed Cod	le: 000-00	00000-00000-00000-0000	0-0000-000-000-000-0	000-000-000	.0	104G.046 102
		V	WATERBODY	•		
	000-000000-00000-00	0000-0000-0000-000 0000-0000-0000-000	0-000-000-000-000 ILP Map #: 104G.046	Local: SKC-3 6 ILP Lake/Stream: S		Reach #: 0 - From Date:
Fish Permit #:		Date: 2006/07/24	To: 2006/07/24	Agency: C660	Crew: KM/F	RS Resample:
Site# NID Map 404 104G.046 403 104G.046 403 104G.046 403 104G.046 403 104G.046	NID # UTM:Zo	one/East/North/Mthd	TE / METHO MTD/NO Temp EF 1 8 MT 5 MT 4 MT 3 MT 2 MT 1	Cond Turbid 50 C	,	Comment
403 104G.046			EAR SETTII	NGS		
Site# MTD/NO 403 MT 1 403 MT 2 403 MT 3 403 MT 4 403 MT 5 404 EF 1	H/P Date In 1 2006/07/24 1 2006/07/24 1 2006/07/24 1 2006/07/24 1 2006/07/24 1 2006/07/24 1 2006/07/24	12:02 2006/07/24 12:04 2006/07/24 12:06 2006/07/24 12:08 2006/07/24 12:10 2006/07/24 12:00 2006/07/24	Time Out 12:03 12:05 12:07 12:09 12:11 12:01	ıv	Comment	

FISH SUMMARY

0

Age Total # Lgth (Min/Max) FishAct

Comment

Species Stage NFC

1

1

402

402

402

402

FF

ILP Map # ILP#

Watershed Code: 104G.046 .0 102

WATERBODY

Local: SKC1 Gazetted Name:

ILP Map #: 104G.046 102 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date:

Fish Permit #: Date: 2006/08/31 To: 2006/08/31 Agency: C660 Crew: KE/RS Resample:

SITE / METHOD

NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# Comment

402 104G.046 1003 FF 1 6.5 150

A. GEAR SETTINGS

0

Date Out Time Out Site# MTD/NO H/P Date In Time In

402 EF 1 1 2006/08/31 15:15 2006/08/31

1080

C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Model Make SMITHROOT

LR24

4

possible recap

FISH SUMMARY

Site# MTD/NO H/P Stage Total # Lgth (Min/Max) FishAct Comment **Species** 

100.0

EF 52 402 RB 22 189 R 1 ĒF 2 221 241 402 RB Α

INDIVIDUAL FISH DATA Site# MTD/NO H/P Species Length Weight Sex Age Vch# Genetic Roll # Frame# Comment Mat Str/Smpl#

FR

FR

13

18

Str/Smpl#/Age 402 RΒ 165.0 FR 241 402 FF RB 221 116.0 U М FR 2 EF 402 RB 67 17.0 U IM FR 3 402 EF RB 189 89.0 U U FR 4 FF 402 RB 147 35.0 U FR 5 RB 402 FF 91 11.0 U U FR 6 EF U FR 7 RB 125 22.0 U

402 EF 402 RB 99 13.0 U U FR 8 FF U 402 RΒ 84 8.0 U FR 9

EF 402 RΒ 98 12.0 U U FR 10 402 EF RΒ 67 3.0 U U FR 11 EF 402 RΒ 84 9.0 U U FR 12 87

9.0

7.0

1.0

U

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U

EF RΒ 402 EF RΒ U 402 RΒ 63 2.0 FR 15 RΒ 402 RΒ 82 7.0 17 EF

88 402 EF RΒ 74 4.0 FR 19 EF 78 Ū 402 RΒ 3.0 FR 20 402 EF RB 63 2.0 U U FR 21

RΒ

RB

EF FR 402 RB 64 2.0 U U 22 EF 60 2.0 U FR 23 402 RB U 52 24

Site#

Site#

403

403

MTD/NO

MTD/NO

H/P

1

H/P

Encl

0

Species NFC Sec

601

Stage

Length

100.0

Reach # ILP Map # ILP# Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000 .0 104G.046 102 WATERBODY Gazetted Name: Local: SKC2 ILP Map #: 104G.046 102 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid EF 1 9.5 300 C Site# NID Map NID# Comment 104G.046 403 1011 A. GEAR SETTINGS Time In Date Out Time Out 09:45 2006/09/01 10:30 MTD/NO H/P Site# Date In 403 EF 1 1 2006/09/01 C. ELECTROFISHER SPECIFICATIONS

Width

FISH SUMMARY

Voltage

Total # Lgth (Min/Max) FishAct

Frequency

Pulse

4

Make

**SMITHROOT** 

Comment

Model

LR24

Site#

404

Site#

404

MTD/NO

MTD/NO

H/P

1

H/P

Encl

0

Species NFC Sec

593

Stage

Length

200.0

Reach # ILP Map # ILP# Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000 .0 104G.046 102 WATERBODY Gazetted Name: Local: SKC3 102 ILP Map #: 104G.046 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/02 To: 2006/09/02 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment EF 1 104G.046 404 104 6 160 A. GEAR SETTINGS Time In Date Out Time Out 11:35 2006/09/02 12:15 MTD/NO H/P Site# Date In 404 EF 1 1 2006/09/02 C. ELECTROFISHER SPECIFICATIONS

Width

FISH SUMMARY

Voltage

Total # Lgth (Min/Max) FishAct

Frequency

Pulse

4

Make

**SMITHROOT** 

Comment

Model

LR24

Fish Permit #:

700

1

Reach # ILP Map # ILP#

Watershed Code: 104G.056 105 .0

WATERBODY

Local: WC1 Gazetted Name:

ILP Map #: 104G.056 105 Reach #:

Project ID: 15753 Lake/Stream: S Lake From Date:

> To: 2006/09/01 SITE / METHOD

Agency: C660

Crew: KE/RS

Resample:

Model

LR24

Make

SMITH-

ROOT

Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment

104G.056 FF 700 60

Date: 2006/09/01

A. GEAR SETTINGS

Date Out Time Out Site# MTD/NO H/P Date In Time In

EF 1 700 1 2006/09/01 09:10 2006/09/01

1

C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse

0

FISH SUMMARY Site# MTD/NO H/P Species Stage Total # Lgth (Min/Max) FishAct Comment

75.0

700 EF RB ŇĂ 4 103 141<sup>°</sup> 153

761

INDIVIDUAL FISH DATA H/P MTD/NO Vch# Genetic Site# Species Length Weight Roll # Frame# Sex Mat Age Comment Str/Smpl#

Str/Smpl#/Age 700 700 RΒ 0.08 2 700 EF RΒ 174 59.0 Μ 700 EF RB 12.0 U 103 EF U 700 RΒ 123 20.0 U FR 5 700 EF 33.0 RΒ 141 FR 6 EF 700 RΒ 168 59.0 FR

COMMENTS Comments

WATERBODY C2 - 7 RB captured in 761s EF.

WATERBODY C1 - 2 RB missed.

Section

Reach #		ILP Map #	ILP#
Watershed Cod	e: 000-00000-00000-0000-0000-000-000-000-	.0	104G.066 100
	WATERBODY		
	Local: SC5 600-000000-00000-0000-0000-000-000-000-	ILP#: 100 Lake	Reach #: 0 - From Date:
Fish Permit #:	Date: 2006/07/24 To: 2006/07/24 Agency: C6	660 Crew: PW	//LN Resample:
	SITE / METHOD		
Site# NID Map 105 104G.066	NID #         UTM:Zone/East/North/Mthd         MTD/NO         Temp         Cond         Turbid           EF         1         6         80         T           A.         GEAR         SETTINGS		Comment
Site# MTD/NO 105 EF 1	H/P Date In 10:45 Date Out Time Out 11:30 C. ELECTROFISHER SPECIFICATI	Comment O N S	
Site# MTD/No 105 EF	O H/P Encl Sec Length Width Voltage 1 1 O 559 200.0 10.0 700	Frequency Pulse 60 2	e Make Model SMITH- LR24 ROOT
	FISH SUMMARY		
Site# MTD/No 105 EF	1 1 RB NŠ 4 122 136	shAct R Missed 4 fish v recovery of fis	Comment while electrofishing due to frost sh.
Site# MTD/NO  105 EF 1 105 EF 1 105 EF 1 105 EF 1	H/P   Species   Length   Weight   Sex   Mat   Age   Vch#   Genet   Str/Smpl#/Age   Str/Smpl#		# Comment

105

105

105

105

105

105

105

105

105

EF

EF

FF

EF

FF

EF

EF

EF

EF

RB

RB

RB

RB

RB

RB

RΒ

RB

RΒ

1

1

171

151

153

125

88

166

206

128

125

50.6

35.9

43.3

21.3

7.3

43.0

91.2

20.8

20.5

U

U

U

U

U

U

U

U

U

U

U

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U

U

U

SC

SC

SC SC SC

SC

SC

SC

2

3

4

5

6

7

8

9

10

Deformed jaw.

Reach # ILP Map # ILP# Watershed Code: 104G.066 100 .0 WATERBODY Local: SC5 Gazetted Name: ILP Map #: 104G.066 100 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KM/MS Resample: SITE / METHOD NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# Comment 104G.066 FF 1 105 6 70 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In EF 1 105 1 2006/09/01 14:00 2006/09/01 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 1 643 SMITH-LR24 0 100.0 2.3 105 1 ROOT FISH SUMMARY Total # Lgth (Min/Max) 10 88 206 Site# MTD/NO H/P Species Stage FishAct Comment 105 EF RB R INDIVIDUAL FISH DATA H/P Age Roll # Frame# MTD/NO Vch# Genetic Site# Species Length Weight Mat Comment Sex Str/Smpl#/Age Str/Smpl# 105 EF 1 RB 172 35.1 U U SC plus otolith voucher. Dead in stream. Has gills full of parasites - found nearly dead in side channel, died in bucket.

Section

WATERBODY

Reach #				ILP Map # ILP #
W	/atershed Code:	000-000000-00000-00000-00	000-0000-000-000-000-000-000	.0 104G.066 101
WATERBODY				
Gazetted Name: Local: MC5  Project Code: 600-000000-00000-00000-0000-0000-000-00				
F	Fish Permit #:	Date: 2006/07/24	To: 2006/07/24 Agency: C660	Crew: PW/LN Resample:
Site# 205 Site#	NID Map NII 104G.066 MTD/NO H/P	) # UTM:Zone/East/North/Mthd	### SITE / METHOD  ### MTD/NO Temp Cond Turbid  ### EF 1 7 100 T  ### GEAR SETTINGS  Time Out	Comment
205 EF 1 1 2006/07/24 08:50 2006/07/24 09:20 C. ELECTROFISHER SPECIFICATIONS				
Site# 205	MTD/NO EF 1	H/P Encl Sec 1 O 507	Length Width Voltage Fre 120.0 5.0 395	equency Pulse Make Model 50 2.4 SMITH- 12B ROOT
FISH SUMMARY				
Site# 205	MTD/NO EF 1	H/P Species Stage A( 1 RB NS	ge Total# Lgth(Min/Max) Fish 1 131 131 R /IDUAL FISH DATA	Act Comment
Site#	MTD/NO H/P	Species Length Weight Sex M	Str/Smpl#/Age Str/Smpl#	Roll # Frame# Comment
205 EF 1 1 RB 151 42.4 U U FR 1 COMMENTS				

Comments

RB captured at stream margin under overhanging vegetation. Fast stream flow made capture difficult.

205

205

205

205

205

EF

EF

RB

RB

RΒ

RΒ

RB

122

151

148

142

114

39.7

34.0

32.1

Reach # ILP Map # ILP# Watershed Code: 104G.066 101 .0 WATERBODY Gazetted Name: Local: MC5 ILP Map #: 104G.066 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: RM/MS Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment FF 1 205 90 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In 205 EF 1 1 2006/09/01 16:15 2006/09/01 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 550 SMITH-12B 205 0 100.0 2.4 ROOT FISH SUMMARY Site# MTD/NO H/P Species Stage Age Total # Lgth (Min/Max) FishAct Comment 205 EF RB 114 151 INDIVIDUAL FISH DATA MTD/NO H/P Species Length Weight Site# Age Vch# Genetic Roll # Frame# Comment Sex

Str/Smpl#/Age

2

3

4

SC

SC

SC

SC

U

Str/Smpl#

201

Reach # ILP Map # ILP# Watershed Code: .0 104G.016 101 WATERBODY Gazetted Name: Local: MC1 ILP Map #: 104G.016 101 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/01 To: 2006/09/01 Agency: C660 Crew: KE/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid EF 1 6.5 80 T Site# NID Map NID# Comment 104G.016 201 A. GEAR SETTINGS Time In Date Out Time Out 16:30 2006/09/01 17:09 MTD/NO H/P Site# Date In 201 EF 1 1 2006/09/01 C. ELECTROFISHER SPECIFICATIONS Voltage Site# MTD/NO H/P Encl Sec Length Width Frequency Pulse Make Model

SMITH

ROOT

LR24

200.0 FISH SUMMARY

398

1

0

Site# MTD/NO H/P Species Stage Total # Lgth (Min/Max) FishAct Comment 201 EF 1 NFC 0

Site#

102

MTD/NO

EF

H/P

Species

NFC

ILP Map # ILP# Watershed Code: .0 104G.035 100 WATERBODY Gazetted Name: Local: SC1 ILP Map #: 104G.035 100 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/23 To: 2006/07/23 Agency: C660 Crew: KM/RS Resample: SITE / METHOD Site# NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment 104G.035 FF 1 102 70 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In 102 EF 1 1 2006/07/23 12:50 2006/07/23 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 684 SMITH-LR24 102 0 200.0 3 ROOT FISH SUMMARY

COMMENTS

Total # Lgth (Min/Max) FishAct

Comment

Section Comments
WATERBODY Shocked margins of main channel and smaller braids. Very high turbidity.

Stage

500

Site#

500

MTD/NO

EF 1

Reach # ILP Map # ILP# Watershed Code: .0 104G.036 103 WATERBODY Gazetted Name: Local: MT1 ILP Map #: 104G.036 103 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/24 To: 2006/07/24 Agency: C660 Crew: KM/RS Resample: SITE / METHOD UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# NID Map NID# Comment EF 1 500 104G.036 1008 50 A. GEAR SETTINGS Time In Date Out Time Out 09:15 2006/07/24 09:35 MTD/NO H/P Site# Date In 500 EF 1 1 2006/07/24 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model

FISH SUMMARY

0

Total # Lgth (Min/Max) FishAct

SMITH

ROOT

Comment

2.4

LR-24

440

Stage

200.0

0

Species

NFC

1

H/P

EF

EF

EF

EF

EF

FF

RB

RΒ

RB

RB

RΒ

RB

140

129

160

127

125

116

700

700

700

700

700

700

**FDIS Fish Card** ILP Map # ILP# Watershed Code: 104G.056 105 .0 WATERBODY Local: WC1 Gazetted Name: 105 Reach #: Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/07/24 To: 2006/07/24 Agency: C660 Crew: PW/LN Resample: SITE / METHOD NID Map NID# UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Site# Comment 104G.056 700 FF 60 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In 700 1 1 2006/07/24 13:15 2006/07/24 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 396 SMITH LR-24 700 0 200.0 2.4 1 ROOT FISH SUMMARY Site# MTD/NO H/P Species Stage Total # Lgth (Min/Max) FishAct Comment Age 700 EF RB 116 INDIVIDUAL FISH DATA MTD/NO H/P Site# Age Genetic Roll # Frame# Comment Species Length Weight Vch# Sex Str/Smpl#/Age Str/Smpl# 700 RΒ 220 1137 700 RΒ 202 700 EF RΒ 72.2 700 EF RΒ 53.5 U 164 700 EF RB 59.5 172 U

COMMENTS Section Comments

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30.0

27.4

38.4

26.1

24.3

167

WATERBODY fish photos 1137,1139-1141. Fished along left bank in a braid of channel. Fish captured in relatively fast flow.

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# APPENDIX 4 WETLAND HABITAT TRANSECT



Appendix 4
Wetland Habitat Transect Appendix

										R	Rearing	1	Ov	erwint	ering	Spav	wning	N	/ligrati	on	Ha	bitat	Qual	ity	
Wetland	Date	Crew	Trans/P	t Zone	Easting	Northing	Length (m)	Width (m)	Area (m²)			GR	РО	FO	GO		S GS	РМ	FM	GM	R	0	S	М	Comment
WL1	25-Jul-06	KM/RS	T1	9V	381216	6380171	35	1.5	52.5			52.5			52.5		52.5			52.5	G	G	G	G	fishy channel
WL1	25-Jul-06	KM/RS	end	9V	381181	6380154																			
WL1	25-Jul-06	KM/RS	T2	9V	381184	6380135	30	2	60			60			60		60			60		G	G	G	at alluvial fan
WL1	25-Jul-06	KM/RS		9V	381203	6380150	22.5	2.9	65.25		6	55.25			65.25		65.25			65.25	G	G	G	G	
WL1	25-Jul-06	KM/RS	end	9V	381220	6380159	00	4.5	45			45		45		45				45	_	_	_	_	
WL1 WL1	03-Sep-06		T1	9V 9V	388930 388913	6377634 6377643	30 30	1.5 2	45 60			45 60		45 60		45 60				45 60	G G	F F	P P	G G	
WL1	03-Sep-06 03-Sep-06			9V	388913	6377674	35	2	70			70	70	60		70			70	60	G	г Р	P	F	
WL1	03-Sep-06 03-Sep-06			9V	388891	6377693	30	4.5	135			135	70	135		135			70	135	G	F	Р	G	
WL1	03-Sep-06			9V	388852	6377712	30	5	150			150		100	150	150				150	G	G	P	G	
WL1	03-Sep-06			9V	388842	6377743	30	5	150			150			150	150				150	G	G	Р	G	
WL1	03-Sep-06			9V	388826	6377766	30	4.75	142.5			142.5			142.5	142.5				142.5	Ğ	Ğ	P	Ğ	
WL1	03-Sep-06			9V	388815	6377799	30	6	180			180			180	180				180	G	G	Р	G	
WL1	03-Sep-06	KM/MS		9V	388815	6377825	30	5.5	165			165			165	165				165	G	G	Ρ	G	
WL1	03-Sep-06	KM/MS		9V	388814	6377857	30	6.5	195			195			195	195				195	G	G	Р	G	
WL1	03-Sep-06			9V	388799	6377878	30	7.5	225			225			225	225				225	G	G	Р	G	
WL1	03-Sep-06			9V	388780	6377898	30	7.5	225			225			225	225				225		G	Р	G	
WL1	03-Sep-06			9V	388751	6377908	30	10	300			300			300	300				300		G	P	G	
WL1	03-Sep-06			9V	388720	6377900	40	10	400			400			400	400				400	G	G	Р	G	
WL1 WL2	03-Sep-06		T1	9V 9V	388677	6377906	30	10.5	315			315			245	315				315	G	G	Р	G	turbid backshappal at Mass
WL2	25-Jul-06 25-Jul-06		- 11	9V	388673 388709	6377896 6377903	30	8.5	255			255			315 255	255				255		G	P	G	turbid backchannel at Mess
WL2	25-Jul-06 25-Jul-06	KM/RS		9V	388740	6377914	30	8.5	255			255			255	255				255		G	Р	G	
WL2	25-Jul-06	KM/RS		9V	388771	6377893	30	12	360			360			360	360				360	G	G	P	G	
WL2	25-Jul-06	KM/RS		9V	388794	6377883	37	13	481			481			481	481				481		G	Р	G	
WL2	25-Jul-06	KM/RS		9V	388818	6377848	30	10	300			300			300	300				300	G	G	Р	G	low turbidity
WL2	25-Jul-06	KM/RS		9V	388815	6377816	30	7	210			210			210	210				210	G	G	Р	G	·
WL2	25-Jul-06	KM/RS		9V	388815	6377789	30	7	210			210			210	210				210	G	G	Р	G	
WL2	25-Jul-06	KM/RS	end	9V	388835	6377759	30																		lots of RB seen feeding at surface
WL2	25-Jul-06																								all RB between 15 and 20 cm approx
WL2	25-Jul-06	KM/RS																			_	_	_	_	also kingfishers seen
WL2	03-Sep-06		T1	9V	381220	6380173	20	2.5	50	50			50			50				50	Р	Р	Р	G	
WL2	03-Sep-06			9V	381209	6380164	30	1	30			30		30			30			30	G	F	G	G	
WL2	03-Sep-06		end T2	9V 9V	381182	6380157	20	2	60			60		60		60				60	G	F	Р	G	
WL2 WL2	03-Sep-06 03-Sep-06		12	9V	381195 381234	6380138 6380172	30 28	2.5	70		70	60		70		70				60 70	F	F	P	G	
WL3	04-Sep-06		T1	9V	377970	6373029	30	9	270			270		70	270	270				270		Ġ	P	G	very sandy
WL3	04-Sep-06			9V	0	00.0020	30	6.5	195			195			195	195				195		G	Р	Ğ	voly callay
WL3	04-Sep-06			9V	377920	6372985	30	6	180			180			180	180				180	Ğ	Ğ	P	Ğ	
WL3	04-Sep-06			9V	377906	6372962	30	6	180			180			180	180				180		G	Р	G	
WL3	04-Sep-06	KM/MS		9V	377886	6372940	30	9	270			270			270	270				270	G	G	Ρ	G	
WL3	04-Sep-06	KM/MS	end	9V	377870	6372916																			
WL3	04-Sep-06		PT1	9V	377824	6373022															F	F	Р		turbid pond
WL3	04-Sep-06			9V	377782	6372989															F	F	Р		tadpoles
WL4	03-Sep-06		1	1	382176	6366220	70	0.5	35			35	35				35		35		G	Р	G	F	
WL4	03-Sep-06		2	1	382180	6366242	32	0.5	16		16		16			16		16			F F	Р	Р	P F	
WL4 WL5	03-Sep-06		3 1	1 1	382195 385651	6366246	75 18	0.5 22	37.5 396		37.5 396		37.5 396			37.5 396		396	37.5		F	P	P P	P	
WL5	02-Sep-06 02-Sep-06		2	2	385585	6365632 6365515	110	45	396 4950			4950	396		4950	396 4950		4950			G	G	P	P	
WL5	02-Sep-06 02-Sep-06		3	3	385535	6365417	90	30	2700			4930 2700		2700	4930	2700		2700				F	Р	Р	
WL6	27-Jul-06		A0	9	384232	6361127	0	30	2700		-	2700		2700		2700		2700			O				Start. Photo 1232 ds
WL6	27-Jul-06	PW/LN	A1	9	384197	6361145	20	1.3	26			26			26	26				26	G	G	Р	G	
	2. 00. 00	,		Ü	001.01	0001110	0								20						Ū	•	•	•	Joins channel chaining up adjascent
WL6	27-Jul-06	PW/LN	A2	9	384178	6361162	43	1.5	64.5		(	64.5			64.5	64.5				64.5	G	G	Р	G	wetland
WL6	27-Jul-06	PW/LN	B0	9	384178	6361162	0																		
WL6	27-Jul-06	PW/LN	B1	9	384203	6361179	20	3	60			60			60	60				60		G	Р	G	Photo 1234 ds, 1233 us
WL6	27-Jul-06	PW/LN	B2	9	384216	6361186	40	4	160			160			160	160				160		G	Р	G	Photo 1235 channel fork ds
WL6	27-Jul-06	PW/LN	B3	9	384234	6361198	60	5	300			300			300	300				300	G	G	Р	G	5
WL6	27-Jul-06	PW/LN		9																					B turns NW away from wetland and smaller channel "c" joins here flwoing from NE

Appendix 4
Wetland Habitat Transect Appendix (completed)

											Rearii	ng	Ov	erwinte	ring	Sp	oawn	ning	N	Migrati	ion	На	bita	Qual	lity	
Wetland	Date	Crew	Trans/Pt	Zone	Easting	Northing	Length (m)	Width (m)	Area (m²)	PR	FR	GR	РО	FO	GO	PS	FS	GS		FM	GM	R	0	S	M	Comment
WL6	27-Jul-06	PW/LN	C0	9	384308	6361325																				
WL6	27-Jul-06	PW/LN	C1	9	384323	6361305	30	4	120			120		120		120					120	G	F	Р	G	Photo 1236 us, joins Mess Creek
WL6	27-Jul-06	PW/LN	C2	9	384324	6361271	60	2.5	150			150	150			150					150	G	Р	Р	G	Photo 1237 ds
WL6	27-Jul-06	PW/LN	C3	9	384324	6361251	90	2	180			180	180			180					180	G	Р	Р	G	
WL6	27-Jul-06	PW/LN	C4	9	384274	6361240	120	2.5	300			300		300		300					300	G	F	Р	G	
WL6	27-Jul-06	PW/LN	C5	9	384251	6361219	150	2.5	375			375		375		375					375	G	F	Р	G	
WL6	27-Jul-06	PW/LN	C6	9	384234	6361200	187	3	561			561			561	561					561	G	G	Р	G	Joins "B"
WL6	04-Sep-06	KM/MS	T1	9V	384184	6361163	30	4.25	127.5			127.5		127.5		127.5					127.5	G	F	Ρ	G	
WL6	04-Sep-06	KM/MS			384166	6361144	30	4.5	135			135		135		135					135	G	F	Ρ	G	
WL6	04-Sep-06	KM/MS			384148	6361107	30	5.5	165			165		165		165					165	G	F	Ρ	G	
WL6	04-Sep-06	KM/MS			384145	6361079	30	7.5	225			225			225	225					225	G	G	Ρ	G	
WL6	04-Sep-06	KM/MS			384127	6361060	30	8.5	255			255		255		255					255	G	F	Ρ	G	
																										outlet of pond ~500m long (N/S) and
WL6	04-Sep-06	KM/MS			384095	6361062																				~300m wide
WL6	04-Sep-06	KM/MS	T2		384184	6361163	40	2	80			80		80		80					80	G	F	Ρ	G	
																										outlet of pond ~400m long (N/S) and
WL6	04-Sep-06	KM/MS			384201	6361137																				~200m wide- shallow.
WL7	04-Sep-06	KE/RJ	1				75	3	225			225	225			225				225		G	Ρ	Ρ	F	heavy sedimentation
WL7	04-Sep-06	KE/RJ	2				75	5	375			375	375			375				375		G	Р	Ρ	F	sedimentation
																										numerous inactive beaver dams limiting
WL7	04-Sep-06	KE/RJ																								migration
WL8		KM/RS	T1	9V	379590	6358207	30	9	270		270		270					270		270		F	Ρ	G	F	Alluvial fan
WL8		KM/RS		9V	379615	6358231	30	2.5	75		75		75					75		75		F	Р	G	F	
WL8		KM/RS		9V	379635	6358235	30	3	90		90		90				90			90		F	Р	F	F	turbid
WL8		KM/RS		9V	379643	6358252	30	3	90		90		90				90			90		F	Р	F	F	
WL8		KM/RS		9V	379679	6358288	30	10	300		300		300				300	)	300			F	Р	F	Р	
WL8		KM/RS	END	9V	379686	6358314																				water spreads out through W/L
WL8		KM/RS		9V																						
WL8		KM/RS	T2	9V	379774	6358502	30	5	150	150			150				150	)		150		Р	Р	F	F	start at beginning of trib
WL8		KM/RS		9V	379751	6358502	30	1.7	51	51			51				51			51		P	P	F	F	
WL8		KM/RS		9V	379728	6358489	30	2.1	63	63			63				63			63		Р	P	F	F	
WL8		KM/RS		9V	379722	6358465	30	1.8	54	54			54				54			54		Р	Р	F	F	
WL8		KM/RS		9V	379709	6358441	30	3	90	90			90				90			90		Р	Р	F	F	
WL8		KM/RS		9V	379690	6358419	30	2	60	60			60				60			60		Р	Р	F	F	
WL8		KM/RS		9V	379668	6358411	30	1.6	48	48			48				48			48		Р	P	F	F	
WL8		KM/RS		9V	379649	6358407	30	0.9	27	27			27				27			27		Р	P	F	F	
WL8		KM/RS		9V	379638	6358383	30	1.5	45	45			45				45			45		Р	Р	F	F	
WL8		KM/RS		9V	379632	6358359	30	1.6	48	48			48				48			48		Р	Р	F	F	
WL8		KM/RS		9V	379621	6358331	30	2	60	60			60				60			60		Р	P	F	F	
WL8		KM/RS		9V	379605	6358295	30	2.5	75	75			75				75			75		P	P	F	F	
WL8		KM/RS		9V	379600	6358284	30	2.5	75 75	75			75				75		75	75		Р	ı P	F	P	
WL8		KM/RS		31	379601	6358262	30	2.5	73	73			13				13		13					•		
WL8	04-Sep-06		1		379676	6558295	25	2	50	50			50			50			50			Р	D	Р	Р	very turbid water
WL8	04-Sep-06 04-Sep-06		2		379648	6358253	25 25	2.5	62.5	62.5			62.5			62.5			62.5			P	P	P	P	very turbiu water
WL8	04-Sep-06 04-Sep-06		3		379586	6358214	25 25	2.5 1.5	37.5	37.5			37.5			37.5			37.5			P	P	P	P	
WL8	04-Sep-06		3 4		379559	6358178	25 25		30	30			30			37.5			30			P	P	P	P	
WL8	04-Sep-06 04-Sep-06		4 5		379559	6358178	25 25	1.2 0.5	30 12.5	12.5			30 12.5			12.5			12.5			P	P	P	P	
VVLO	04-3ep-06	NE/NJ	Ü		3/33/4	0330132	20	0.0	12.0	12.5			12.0			12.5			12.5					Г	г	

# APPENDIX 5 WETLAND FISH COLLECTION FORM APPENDIX



Reach #											IL	P Map #	I	LP#		
W	atershed Coo	de: 807	000	-000000-	00000-00000	-0000-	000-000	0-000-00	00-000-00	00-000	.(	)	104G	.035		
						W	ATE	RBOI	ΟY							
	zetted Name: Project Code:		000-00000	)-00000-(	0000-0000-00	00-000-	000-000	-000-000		cal: W	L7					
٧	WS Code: Vaterbody ID:		000-0000	)-00000-(	0000-0000-00		000-000 P Map #				ILP#:	30	7 R	each #:	0 -	
	Project ID:	15753					·		Lake/S	Stream:	W	L	ake Fron	n Date:		
F	Fish Permit #:			Date:	2006/07/26		To: 20	06/07/26	6 A	gency:	C660	Crew:	PW/LN	ı	Resample	):
						SIT	E / I	METH	1 O D							
Site# 307	NID Map 104G.035 104G.035	NID#	UTM	:Zone/Ea	st/North/Mtho	M k M M		Temp	Cond	Turk	oid		Comi	ment		
307 307	104G.035 104G.035					IV M										
307	104G.035					M										
307	104G.035					M	T 2									
307	104G.035					M										
307	104G.035 nm of this utm					Е	F 1	6	90	Т	EF 50n	n usptreai	m ; 50m			
viistiea	un or uns uun	i.			А	. G I	EAR	SETI	INGS	3						
Site#	MTD/NO	H/P I	Date In	Time I			me Out					Commer	nt			
307	EF 1		06/07/26	11:40			12:35					Common				
307	MT 1		006/07/26	10:15			07:40									
307	MT 2	1 20	06/07/26	10:20	2006/07	/27	07:43									
307	MT 3	1 20	06/07/26	06:22	2006/07/	/27	07:46									
307	MT 4	1 20	006/07/26	10:25			07:48									
307	MT 5		006/07/26	10:35			07:50									
307	MT 6	1 20	006/07/26	10:40	) 2006/07 <i>i</i> ELECTF		07:53	D C D	FOLE		TIONE					
2	NATO (N	10	11/0													
Site# 307	MTD/N EF	1	H/P 1	Encl O	Sec 435	Len		Width 4.5		oltage 380	Frequei 60	ncy i	Pulse 2	Mak SMIT ROC	TH-	Mode LR24
						FIS	нѕι	JMM	ARY							
Site#	MTD/N			ecies	Stage	Age	Tota	al# L	gth (Min/	Max)	FishAct		(	Comme	nt	
307	EF	1		NFC				0								
307	MT	1		NFC				0								
307	MT	2		NFC				0								
307	MT	3		NFC				0								
307 307	MT MT	4 5		NFC NFC				0 0								
307	MT	6		NFC				0								
001		Ü		0		C	OMN	-	S							
	Section									ments						
	WATERBOD eches, and	Y	Shocked	50m do	wnstream ; 50	m upst	ream of	utm give			captured b	eetles, dra	agonfly			
, ide	, o. 100, and		tadpoles	_												
				•												

Reach #											ILP Map #	ILP#	
W	atershed Co	ode: 307	0	00-000000-0	00000-00000-00	000-000	0-000-0	00-000	)-000-000	-000	.0	104G.035	
						W A	TERE	3 O D	Υ				
F		e: 600-0 e: 000-0 ):	000000-000		000-0000-000-0 000-0000-000-0	000-000		0-000	35	al: WL7 ILF ream: W	P#: 30	7 Reach # Lake From Date	
F	ish Permit #	<b>#</b> :		Date:	2006/09/04	To	: 2006/	09/05	Age	ency: C660	Crew:	KE/MS	Resample:
					8	SITE	/ M E	EΤΗ	O D				
Site# 307 307 307 307 307 307 307	NID Map	NID	# UT 9 9 9 9 9 9	M:Zone/Eas	st/North/Mthd	MTD MT MT MT MT MT EF EF	/NO T 5 4 3 2 1 2 1	emp 7 7 7 7 7 7	Cond	Turbid T T T T T T T		Comment	
001			Ü		Α.		-		INGS				
Site# 307 307 307 307 307 307 307	MTD/NO EF 1 EF 2 MT 1 MT 2 MT 3 MT 4 MT 5	H/P 1 1 1 1 1 1	Date In 2006/09/0 2006/09/0 2006/09/0 2006/09/0 2006/09/0	12:25 14 13:30 14 13:30 14 13:30 14 13:30 14 13:30	Date Out 2006/09/04 2006/09/04 2006/09/05 2006/09/05 2006/09/05 2006/09/05 2006/09/05	09: 09: 09:	19 50 30 30 30 30 30 30	E C I I	FIC A 1	TIONS.	Comme	nt	
Site #		M	TD/NO.			Net Typ		Leng		Depth	Mesh	Set	
Habita 307	at	MT	1		1					0.7		MD	
NA 307		MT	2	2	1					0.7		MD	
NA 307		MT	3	3	1					0.5		MD	
NA 307		MT	4	ı.	1					0.5		MD	
NA 307 NA		МТ	5	i	1					0.5		MD	
						_	SUN						
Site# 307 307 307 307 307 307 307	MTD/ EF EF MT MT MT MT MT	NO 1 2 1 2 3 4 5	H/P 1 1 1 1 1 1	Species NFC NFC NFC NFC NFC NFC NFC NFC	Stage A		Total #  0 0 0 0 0 0 0 0 0 0 0 M M E	ū	th (Min/M	ax) FishAi	ct	Comm	ent
	Section						=		Comm	ents			
,	WATERBOI	ΣΥ	No fish	n caught (NF	C) in total of 10	)27 sec	onds of I	EF effo	ort and to	tal of 40 hour	s of MT effor	t.	

Reach #										ILP I	Лар #	ILP#	
W	atershed Cod	le: 08	C	000-000000-	00000-0000	00-0000-000	0-000-000	0-000-0	00-000-000	.0	104	4G.035	
						WA	TERB	O D Y					
F	zetted Name: Project Code: WS Code: /aterbody ID: Project ID:	000-0	00000-00			000-000-000		-000 4G.035	Local: W	ILP#:		Reach #: om Date:	0 -
F	ish Permit #:			Date:	2006/07/2	6 To	: 2006/0	7/26	Agency:	C660	Crew: KM/R	S Resa	ample:
						SITE	/ ME	тно	D				
Site# 108	NID Map	NID:	# U	TM:Zone/Ea		EF		6 '	Cond Turk 80 T		Со	mment	
Site# 108	MTD/NO EF 1	H/P 1	Date Ir 2006/07/	26 15:15	2006/0	7/26 15:	30	SPFO	CIFICA		omment		
Site#	MTD/N	0	H/P	Encl	Sec	Length		dth	Voltage	Frequency	Pulse	Make	Model
108	EF	1	1	0	245	100.0		2.0	450	50	2.4	SMITH- ROOT	LR24
						FISH	SUM	MAR	Υ				
Site# 108	MTD/N	0 1	H/P 1	Species NFC	Stage	Age	Total # 0	Lgth	(Min/Max)	FishAct		Comment	
						CO	MME	NTS					
	Section								Comments				
	WATERBODY g sedges in	Y						oss allu	vial, fan and	through wetla	and. Flows ov	er	
			many	nlaces Ah	ove Schaft	canvon harri	er						

many places. Above Schaft canyon barrier.

Reach #	1.1911	Car									ILP N	Лар #	ILP#		
Wa	tershed C	ode: 308		000-000000	-00000-00000-0	000-000	0-000-0	000-000-	-000-000-0	00	.0	1	04G.035		
						W A	TER	BOD	Y						
Pr		le: 600- le: 000- D:	000000-00		0000-0000-000- 0000-0000-000-	000-000	-000-0	00-000 104G.03	Local: 35 Lake/Strea		ILP#:	308 Lake	Reach #: From Date:		
Fis	sh Permit	#:		Date	2006/09/04	To	: 2006	/09/05	Agen	cy: C6	660	Crew: KE/	'RJ	Resample:	
<b>-</b>								ETH(							
Site# 308 308 308 308 308 308 308 308 308 308	NID Mar	o NIE	0# 9 99 99 99 99 99	TM:Zone/Ea	ast/North/Mthd	MTD MT EF MT EF MT EF MT EF	5 5 4 4 3 3 2 2 1 1	Temp 7 7 7 7 7 7 7 7 7 7 7 7 7 7		Turbid T T T T T T T T T T T T T	Very turbio	( d conditions	Comment		
Site#	MTD/NC		Date I		In Date Out	Time	Out				Co	omment			
308 308 308 308 308 308 308 308 308 308	EF 1 EF 2 EF 3 EF 4 EF 5 MT 1 MT 2 MT 3 MT 4 MT 5	1 1 1 1	2006/09. 2006/09. 2006/09. 2006/09. 2006/09. 2006/09. 2006/09. 2006/09.	/04 12:44 /04 12:45 /04 12:45 /04 12:45 /04 15:00 /04 15:00 /04 15:00 /04 15:00	5 2006/09/04 5 2006/09/04 5 2006/09/04 5 2006/09/04 5 2006/09/05 0 2006/09/05 0 2006/09/05 0 2006/09/05 0 2006/09/05	14: 14: 14: 14: 14: 15: 10: 10: 10: 10: 10: 10: 10: 10: 10: 10	40 40 40 40 00 00 00 00 00	ECIF	· IC A T I	O N S	S				
Site # Habitat		M	ITD/NO.		H/P	Net Typ	oe	Leng	th	Depth		Mesh	Set		
308		MT		1	1					0.3			MD		
NA 308		MT		2	1					0.3			MD		
NA 308		MT		3	1					0.5			MD		
NA 308		МТ		4	1					0.3			MD		
NA 308		MT		5	1					0.3			MD		
NA				C	ELECTRO	FIS	HFR	SPF	CIFIC	ΔΤΙ	ONS				
Site#	MTD		H/P	Encl	Sec	Length		Width	Voltag	ge	Frequency	Pulse			
308	EF	1	1	0	1123	125.0		2.0	500		30	4	SMI RO	OT	24
308	EF	2	1	0	1123	125.0		2.0	500		30	4	SMI RO		24
308	EF	3	1	0	1123	125.0		2.0	500		30	4	SMI RO		24
308	EF	4	1	0	1123	125.0		2.0	500		30	4	SMI RO	TH- LR	24
308	EF	5	1	0	1123	125.0		2.0	500		30	4	SMI RO	TH- LR	24
					ı	FISH	SUI	MMA	RY						
Site# 308 308 308 308 308 308	MTD EF EF EF EF MT	/NO 1 2 3 4 5	H/P 1 1 1 1 1	Species NFC NFC NFC NFC NFC NFC	Stage A	ge	Total # 0 0 0 0 0 0 0 0 0	≠ LgtI	h (Min/Max	:) Fi:	shAct		Comme	ent	

Reach #									ILP Map	# ILP#
Wa	atershed C	ode: 308		000-000000	-00000-000	00-0000-0	000-000-000	0-000-000-000-000	.0	104G.035
						FIS	н ѕим	MARY		
Site#	MTD	/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment
308	MT	2	1	NFC	ū	ū	0	,		
308	MT	3	1	NFC			0			
308	MT	4	1	NFC			0			
308	MT	5	1	NFC			0			
						С	OMME	NTS		
	Section							Comments		
V	VATERBO	DY	No f	ish caught at	t WL8.					
V	VATERBO	DY		•		ted evenly	among 5 tra	ansects (25m) each,	, MT effort = 35 ho	urs.

Reach #		11 (	ai (													LP Map	. #	ILP#		
	Vatersh		de: 306		000-0000	00-0000	0-0000	0-0000	)-0000	-000-0	000-000	-000	-000-0	000	,	.0		G.036		
								٧	VAT	ERI	BOD	Y								
	WS Vaterbo	Code Code ody ID	: 600- : 000-	000000-00 000000-00				00-000	0-000-0	00-00		36	Local: e/Strea		ILP #	<b>#</b> :		Reach #: om Date:	0 -	
1	Fish Pe	rmit #	:		Da	ate: 2006	6/07/27		To:	2006	/07/28		Agen	icy: (	C660	Cre	ew: PW/LN	N R	esample	:
								SI	ΤE	/ M	ETHO	O C								
Site# 306 306 306		Мар 3.036	NIE	)# L	JTM:Zone	/East/No	rth/Mth		MTD/N MT MT EF	NO 3 2 1	Temp 15 14 15	Coi 14 12 14	0	Turbi L L L	d Pond Chan		Cor	mment		
							A	۱. G	EAI	R S	ETTI	NG	S							
Site# 306 306 306	MTI EF MT MT	D/NO 1 2 3	H/P 1 1 1	Date I 2006/07 2006/07 2006/07	/27 15 /27 13 /27 14	3:55 2	Date C 2006/07 2006/07 2006/07 E C T I	7/27 7/28 7/28	Time ( 15:4: 08:4: 08:4: <b>1 S H</b>	5 0 5	SPE	CI	FIC	AT	IONS	Comr	ment			
Site# 306	El	MTD/N =	10 1	H/P 1	End O		Sec 365	10	ngth 00.0		Width 1.5		Voltaç 300		Frequ 60		Pulse 2	Make SMITH ROO	<b>-</b>	Model LR24
									_		ИМΑ									
Site# 306 anode but	El		1	H/P 1	Species RB	Stag NS		Age	٦	Γotal # 1	3	h (Mi 20	n/Max 20	,	FishAct R	Caugh	nt; verified o	Comment		
arioue bui	105111	Deloie														proces	ssing.			
306 306	M <sup>*</sup>		2 3	1 1	RB RB	NS NS	3	3 I V I	חום	2 3	10 14 FISH		15 <sup>4</sup> 19 <sup>4</sup>	4	R R					
Site#	MTD	/NO	H/P	Species	Lenath	Weight		ויאוכ Mat	יטע	A L Ag	-		ch#		netic	Roll#	Frame#	С	omment	
				•		· ·				r/Smp	l#/Age				mpl#					
306 306	MT MT	2 2	1 1	RB RB	134 154	34.7 38.6	U	U U	FR	1										
306	MT	3	1	RB	187	66.9	U	U												
306	MT	3	1	RB	194	76.6	U	U	FR	2										
306	MT	3	1	RB	146	33.6	U	U	C O I	/ N/ E	NTS									
	Sec	ction							001	VI IVI L			mmer	nts						
	WATE	RBOD	Υ	Cauç	ght 1 RB v	vith EF b	ut lost i	it off a	node n	et. Fl	ipped it				out still c	ouldn't l	and it. Dee	ер		
channel fi	shed fr	om		bank	made ca	pture diff	icult. V	/O con	firmed	RB p	resence									

Reach #															ILP	Мар	#	ILP#		
V	Vatersh		de: 306		000-0000	000-0000	0-0000	0-0000	-0000-0	00-00	0-000	000	-000-00	0	.0		10	4G.036		
								٧	VATE	RB	O D	Y								
	WS Waterbo	Code Code ody ID	: 600- : 000-	000000-00 000000-00				00-000		00-000	-000 04G.03	36	Local: e/Strear		ILP#:		306 Lake F	Reach #		-
ı	Fish Pe	rmit #	:		D	ate: 2006	6/09/04	ļ	To: 2	2006/0	9/05		Agenc	y: C6	60	Cre	ew: KM/N	1S	Resam	ple:
								SI	TE /	ΜE	ТНО	D C								
Site# 306 306	1040	Map 3.036 3.036	NIE	)# ( 9 9	JTM:Zone	e/East/No	rth/Mth	I	MTD/NO MT 1 EF 1		emp	Со	nd Tu	urbid	5 MT's s	et	Co	mment		
Site# 306 306	MTI EF MT	D/NO 1 1	H/P 1 1	Date I 2006/09 2006/09	/04 1	5:00 2	Date 0 2006/09 2006/09	Out	EAR Time Ou 15:40 08:00 AP	ut			3 S : A T I (	ONS		Comr	ment			
Site	#		М	TD/NO.		 H/I			t Type	· -	Leng			Depth		Me	sh	Set		
Habit 306 NA	at		MT		1	1			, , , .		3			10.0				ВТ		
					С	. ELE	ЕСТ	ROF	ISHE	ER :	SPE	CI	FICA	ATIO	ONS					
Site# 306	El	MTD/N	NO 1	H/P 1	End O		Sec 504		ngth 00.0		idth 4.0		Voltage 525	e F	requenc 40	y.	Pulse 2.4	SM	ake IITH- OOT	Model LR24
								FI	SH S	UM	MΑ	RY								
Site# 306 306	EI M		NO 1 1	H/P 1 1	Species RB RB	s Stag NS NS	3	Age	To	otal # 3 14	ͺ	n (M 35 '3	in/Max) 252 172		hAct R R			Comm	ent	
300	101	•			NB	140		ועוכ	DUA				) A T A							
Site#	MTD	/NO	H/P	Species	Length	Weight	Sex	Mat	Str/S	Age Smpl#	/Age	V		Geneti tr/Smp		oll #	Frame#		Comm	ent
306 306 306 306 306 306 306 306 306 306	EF EF MT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RB B B B B B B B B B B B B B B B B B B	252 171 85 104 73 87 97 125 143 97 137 167 139 98 151 165 172	56.2 7.8 13.4 4.4 7.0 11.2 20.5 33.8 11.4 29.1 55.2 32.3 10.5 35.9 49.1 54.9			FR FR FR	1 2 3										

Reach #											ILP Ma	p #	ILP#	
Watershed Cod 30	de: 03	000-0000	000-0000	0-00000-	0000-0	00-00	0-000-00	0-00	0-000-0	00	.0	104	G.045	
					W	A T E	RBOD	Υ						
Gazetted Name: Project Code: WS Code: Waterbody ID: Project ID:	000-000000				0-000-0	00-000		045	Local:	IL	P#:		Reach #: om Date:	0 -
Fish Permit #:		Da	ate: 2006	6/07/28		To: 20	06/07/28		Agen	cy: C660	Cr	rew: PW/LI	<b>N</b> 1	Resample:
					SIT	E /	МЕТН	0 [	) כ	•				·
Site#         NID Map           303         104G.045           303         104G.045	NID #	UTM:Zone	e/East/No	rth/Mthd	MT MT MT MT MT EF	5 4 3 2 1	Temp 9 9 9 9 9 9 9 9 9 S E T T		50 50 50 50 50 50 50	Turbid T T T T T T T T T		Cor	mment	
Site# MTD/NO	H/P Date	e In Tir	ne In	Date Ou		ne Out	3611	1 14	0 3		Com	ment		
303 EF 1 303 MT 1 303 MT 2 303 MT 3 303 MT 4 303 MT 5 303 MT 6	1 2006/ 1 2006/ 1 2006/ 1 2006/ 1 2006/ 1 2006/	07/28 13 07/28 13 07/28 13 07/28 13 07/28 13 07/28 13	4:20 2 3:00 2 3:00 2 3:00 2 3:00 2 3:00 2 3:00 2	2006/07/2 2006/07/2 2006/07/2 2006/07/2 2006/07/2 2006/07/2	28 1 29 0 29 0 29 0 29 0 29 0 29 0	5:00 8:40 8:40 8:40 8:40 8:40 8:40 <b>S H E</b>	R SP	EC	IFIC	ATIOI	N S			
Site# MTD/No 303 EF	O H/F 1 1	End O		Sec 285	Leng 80.	0	Width 6.0		Voltag 475		quency 60	Pulse 2	Mal SMIT ROC	TH- LR24
			_				JMMA						_	
Site# MTD/No 303 EF 303 MT	O H/P 1 1 1 1	Species RB RB	s Stag NS NS	8	Age		1	174 132	Min/Max 174 132 <b>D A T</b>	R R	ct		Comme	nt
Site# MTD/NO	H/P Specie	s Length	Weight	Sex	Mat	_	Age npl#/Age	,	Vch#	Genetic Str/Smpl#		Frame#		Comment
303 EF 1 303 MT 1 Captured but lost.	1 RB 1 RB	174 132	60.4	U U	U U	FR	1	•		оп/отгрі#				
					С	OMN	I E N T	S						
Section WATERBODY	Y 1 f	sh caight ir	n MT but l	lost upor	n attemp	ot to we	eigh and r		Commer sure.	nts				

Reach #	!												ILP Ma	ıp #	ILP#	
V	Vatersh		de: 303		000-0000	00-0000	0-0000	0-0000-	-0000-00	0-000-000	-000-000-	000	.0	104	4G.045	
								W	ATE	RBOD	Υ					
	zetted			000000 00	2000 0000	20,0000	2000 0	00 000	000 000	000 000	Loca	l: WL3				
	,			000000-00												
٧	Naterb			000000-00	3000-0000	0-0000-0	J000-01			: 104G.0	45		ILP#:	303	Reach #:	0 -
			: 1575	53					- 1		Lake/Str	eam: W		Lake Fr	rom Date:	
ı	Fish Pe	ermit #	:		Da	ate: 2006	6/09/04		To: 20	06/09/05	Age	ncy: C66	60 C	rew: KM/M	IS Res	sample:
								SIT	TE /	METH	0 D					
Site#	NID	Мар	NIE	)# L	JTM:Zone	/East/No	rth/Mth	d N	/ITD/NO	Temp	Cond	Turbid		Co	mment	
303	104	G.045		9				٨	/IT 1			5	MT'S set,	only 1 MT o	caught	
fish 303	104	G.045						F	≣F 1							
000	101	0.010					A	_		SETTI	NGS					
Site#	МТ	D/NO	H/P	Date I	n Tim	ne In	Date C	Out T	ime Out				Con	nment		
303	EF	1	1	2006/09	)/04 11	:30 2	2006/09	9/04	12:15							
303	MT	1	1	2006/09	)/04 11		2006/09		12:15							
								-	_	PECIF	_	IONS				
Site Habit			M	ITD/NO.		H/F	)	Net	Type	Leng	th	Depth	М	esh	Set	
303			МТ		1	1						5.0			ВТ	
NA					•	•						0.0			2.	
					С	. ELE	CTI	ROF	ISHE	R SPE	CIFI	CATIC	NS			
Site#		MTD/N	NO	H/P	Enc		Sec	Len		Width	Volta		requency	Pulse	Make	Mode
303	Е	F	1	1	0		567	15	0.0	4.0	30	0	40	24	SMITH-	LR2
								FIS	. H S I	JMMA	RΥ				ROOT	
Site#		MTD/N	JO.	H/P	Species	Stag	10	Age	Tota		h (Min/Ma	v) Fiel	nAct		Comment	
303	Е		1	1	RB	, Siai		Age					7		Comment	
303	M		1	1	RB	NS				4 10			₹			
									_	FISH						
Site#	MTD	/NO	H/P	Species	Length	Weight	Sex	Mat		Age	Vch#	Geneti		Frame#	Coi	mment
303	EF	1	1	RB	146	39.6	U	U	Str/Sr SC	npl#/Age 1		Str/Smp	I#			
303	EF	1	1	RB	107	16.4	Ü	Ü	SC	2						
303	MT	i	1	RB	167	49.2	Ŭ	Ŭ	SC	5						
303	MT	1	1	RB	226	107.5	Ŭ	Ü	SC	6						
303	MT	1	1	RB	176	56.3	Ŭ	Ŭ	FR	7						
303	MT	1	1	RB	169	51.8	Ũ	Ũ	FR	8						

Reach #							ILF	P Map #	ILP#
٧	Vatershed Cod 30	le: 04	000-000000-0	00000-00000-00	000-0000-000-000-0	000-000-000-0	.00 .00	104	G.046
					WATERBO	DΥ			
		000-000000			000-000-000-000-0 000-000-000-000-0 ILP Map #: 1040	00	ILP#:	304   Lake Fro	Reach #: 0 - om Date:
1	Fish Permit #:		Date:	2006/07/28	To: 2006/07/2	29 Agen	cy: C660	Crew: PW/LN	Resample:
					SITE / MET	_			
Site# 304 304 304 304 304	NID Map 104G.046 104G.046 104G.046 104G.046 104G.046	NID#	UTM:Zone/Eas	st/North/Mthd	MTD/NO Tem MT 5 6 MT 4 6 MT 3 6 MT 2 6 MT 1 6 GEAR SET	p Cond 140 140 140 140 140 140 TINGS	Turbid C C C C C	Cor	nment
Site#	MTD/NO		te In Time Ir		Time Out			Comment	
304 304	MT 1 MT 2		/07/28 07:50 /07/28 07:55	2006/07/29 2006/07/29					
304	MT 3		/07/28 07:59	2006/07/29					
304 304	MT 4 MT 5		/07/28 08:05 /07/28 08:09	2006/07/29 2006/07/29					
001	0	1 2000/	00.00		FISH SUMM	ARY			
Site# 304	MTD/NO MT	O H/P 5 1	Species RB	NŠ	ge Total# 3 <b>VIDUAL FI</b> 3	Lgth (Min/Max 93 99 <b>S H D A T</b>	Ŕ		Comment
Site#	MTD/NO		Ü	· ·	lat Age Str/Smpl#/A	Vch# ge	Genetic F Str/Smpl#	Roll # Frame#	Comment
304 304 304	MT 5 MT 5 MT 5	1 RB 1 RB 1 RB	93	8.3 U l	U U U				

Reach #	1 1511	Jarc												ILP	Map#		ILP#		
	atershed Co	0-00000	-0000	0-000	-000-	-000-000	)-000-(	000-000	)	.0			4G.046						
		304							. – –		.,								
Р	aterbody ID	e: 600-0 e: 000-0	000000-00				0-000 0-000	)-000- )-000-	000-0 000-0		L 146	_ocal: \		ILP#:	30	04	Reach #:	0 -	
_	Project IE		3			_,,				_ ,		/Stream			_		om Date:		
Fis	sh Permit #	<i>‡</i> :		Da	te: 200	6/09/03	S I			6/09/04 I <b>E T H</b>		Agency	/: C6	60	Crew	: KE/RS	S R	esample	:
Site# 304 304 304 304 304 304 304	NID Map	NID	0# U 9 9 9 9 9 9	TM:Zone/	/East/No			MTD/I MT MT MT MT MT EF EF	NO 5 4 3 2 1 3 2 1	Temp  6 6 6	Cor	,	С	Inflow cl Inflow cl Inflow cl	nannel.		mment		
Cito#	MTD/NO	⊔/D	Doto I	n Tim	o In				_	ETT	I N G	S			Commo	nt			
Site# 304 304 304 304 304 304 304 304	MTD/NO EF 1 EF 2 EF 3 MT 1 MT 2 MT 3 MT 4 MT 5	H/P 1 1 1 1 1 1 1	Date II 2006/09/ 2006/09/ 2006/09/ 2006/09/ 2006/09/ 2006/09/	/03 12 /03 13 /03 13 /03 11 /03 11 /03 11	3:20 3:50 3:50 3:50 3:00 3:00 3:00 3:00 3:0	Date Or 2006/09/2006/09/2006/09/2006/09/2006/09/2006/09/2006/09/N E T	03 03 04 04 04 04 04	Time ( 13:0 13:4 14:3 09:0 09:0 09:0 09:0 09:0	0 5 0 0 0 0 0	PECII	FIC	ATIC	O N S		Comme	ent			
Site #		M	TD/NO.		H/	Р	Ne	t Type	e	Leng	gth	С	Depth		Mesh	ı	Set		
Habitat 304	t	MT		1	1								0.5				вт		
NA 304		MT		2	1								0.5				ВТ		
NA 304		MT		3	1								0.5				ВТ		
NA 304		МТ		4	1								0.5				ВТ		
NA 304		MT		5	1								0.5				BT		
NA		IVI I															ы		
Site#	MTD/	NO	H/P	<b>C</b> Enc		E <b>C</b> T R Sec		ISF ngth	IER	SPE Width	_	FICA Voltage		ONS Frequenc	CV	Pulse	Make	<u>,</u>	Model
304	EF	1	1	0		433		70.0		0.5		375	'	30	Jy	4	SMITH	<del>-</del> 1-	LR24
304	EF	2	1	0		102	3	32.0		0.5		375		30		4	ROO' SMITH	<del>1</del> -	LR24
304	EF	3	1	0		89	7	75.0		0.5		375		30		4	ROO' SMITH	<del>1</del> -	LR24
							FI	SH	s u	мма	RY						ROO	Γ	
Site# 304 304 304 304 304	MTD/ EF EF EF EF MT	NO 1 1 2 3 4	H/P 1 1 1 1	Species RB RB NFC NFC NFC RB	Sta J A		Age NA NA	-	Total 1 1 0 0 4	# Lgt 1 2	th (Mir 91 46 17	191 246 171 <b>A T A</b>		shAct R R R			Comment	i	
Site#	MTD/NO	H/P	Species	Length	Weight		Mat		A	ge		:h# (	Genet		oll# F	-rame#	С	omment	:
304 304 I 304 I	EF 1 EF 2 MT 4 MT 4 MT 4	1 1 1 1	RB RB RB RB	191 246 171 171 148	71.0 187.0 46.0 35.0 30.0	U U U U	IM M IM IM	FR FR FR FR FR	3 3 3	pl#/Age 32 33 34 35 66		Si	tr/Sm <sub>l</sub>	pi#	1 1 1	471 472 484			

Reach # ILP Map # ILP #

Watershed Code: 000

.0 104G.046

INDIVIDUAL FISH DATA

 Site#
 MTD/NO
 H/P
 Species
 Length
 Weight
 Sex
 Mat
 Age
 Vch#
 Genetic
 Roll #
 Frame#
 Comment

 304
 MT
 4
 1
 RB
 117
 16.0
 U
 IM
 FR
 37
 1
 485

Reach #					ILP Map #	ILP#
Watershed Co	de: 605	000-000000-00000-00	0000-0000-0000-000-000-00	00-000-000-000	.0	104G.046
			WATERBO	DΥ		
	600-000000-0		0-000-000-000-000-000 0-000-000-000-000	0	ILP#: 30	D5 Reach #: 0 - Lake From Date:
Fish Permit #:		Date: 2006/07	7/27 To: 2006/07/28	Agency:	C660 Crew	: PW/LN Resample:
Site# NID Map 305 104G.046 305 104G.046 305 104G.046		UTM:Zone/East/North/l	MT 3 14 MT 2 MT 1 A. GEAR SET	Cond Turbi	Clear water.	Comment
Site#         MTD/NO           305         MT         1           305         MT         2           305         MT         3	H/P Date 1 2006/0 1 2006/0 1 2006/0	7/27 07:40 2006 7/27 07:44 2006	re Out Time Out 5/07/28 07:55 5/07/28 08:00 5/07/28 08:05 FISH SUMM	A R Y	Comme	ent
Site# MTD/N 305 MT 305 MT 305 MT	10 H/P 1 1 2 1 3 1	Species Stage NFC NFC NFC	Age Total # L 0 0 0	gth (Min/Max)	FishAct	Comment

Reach #											ILP I	Map #	ILP#		
Wa	atershed (	Code: 305	0	00-000000-0	00000-00000-00	000-000	0-000-	000-000-0	000-000-	000	.0		104G.046		
						W A	TER	BODY	,						
Р	WS Cod aterbody	de: 600- de: 000-	000000-000		000-0000-000-0 000-0000-000-0	000-000	-000-0	00-000 104G.04		l: WL5 eam: V	ILP#:	305 Lak	Reach # se From Date		-
Fi	ish Permit	#:		Date:	2006/09/02	То	: 2006	5/09/03	Age	ncy: C	660	Crew: K	E/RJ	Resamp	ole:
					5	SITE	/ M	ETHO	D						
Site# 305 305 305 305 305 305 305 305 305	NID Ma	p NII	0 # U <sup>-</sup> 9 9 9 9 9 9 9	ΓM:Zone/Eas	st/North/Mthd	MTD, MT MT MT MT EF EF EF	5 4 3 2 1 3 2 1	7 7 7 ETTI	Cond  N G S	C C C			Comment		
Site# 305 305 305 305 305 305 305 305	MTD/NC EF 1 EF 2 EF 3 MT 1 MT 2 MT 3 MT 4 MT 5	1 1 1 1 1 1 1 1	Date In 2006/09/0 2006/09/0 2006/09/0 2006/09/0 2006/09/0 2006/09/0	02     10:30       02     11:00       02     11:50       02     13:30       02     13:45       02     14:16       02     14:31       02     14:40	Date Out 2006/09/02 2006/09/02 2006/09/03 2006/09/03 2006/09/03 2006/09/03 8 NET/T	11:4 12:4 09:4 09:4 09:4 09:4 09:4	47 45 02 30 30 30 30 30	FCIF	IC A T	I O N		omment			
Site #		N	ITD/NO.			Net Typ		Length		Depti		Mesh	Set		
Habita 305	t	MT		1	1					0.4			MD		
NA 305		MT	:	2	1					0.8			MD		
NA 305		MT	;	3	1					0.5			MD		
NA 305		МТ		4	1					0.4			MD		
NA 305		МТ		5	1					0.4			MD		
NA				C F	ELECTRO	FISI	HFR	SPF	CLEIC	. A T I	ONS				
Site#	MTE	)/NO	H/P	Encl		Length		Width	Volta		Frequency	y Pul	se M	ake	Model
305	EF	1	1	0	250	18.0		2.0	30	0	40	4	-	ITH- OOT	LR24
305	EF	2	1	0	507	110.0		2.0	30	0	40	4	. SM	ITH- OOT	LR24
305	EF	3	1	0	246	90.0		2.0	30	0	40	4	. SM	ITH- OOT	LR24
					F	ISH	S U	ММАР	RY				1	, ,	
Site# 305 305 305 305 305 305 305 305 305 305	MTC EF EF MT MT MT MT	0/NO 1 2 3 1 2 3 4 5	H/P 1 1 1 1 1 1 1	Species NFC NFC NFC NFC NFC NFC NFC NFC NFC	Stage A	ge	Total: 0 0 0 0 0 0 0 0 0 0 0 0 0	# Lgth	(Min/Ma	ıx) F	ishAct		Comm	ent	

Reach #													ILP Map	# ILP	#
V	/atershed		le: 01		000-0000	00-0000	0-00000-0	000-000	00-000	0-000-000	-000-000	-000	.0	104G.05	56
								W A	TE	RBOD	Υ				
		Code: Code: ly ID:	000-	000000-0	0000-0000 0000-0000			-000-000	0-000		56	al: WL1 ILF eam: W	P#:	301 Rea Lake From D	
ı	ish Perr	nit #:			Da	te: 200	6/07/25	To	o: 200	06/07/25	Age	ency: C660	Cr	ew: KM/RS	Resample:
								SITE	/ [	METH	O D				
Site# 301 301 301 301 301	NID N	Лар	NIC	)# (	JTM:Zone,	East/No	orth/Mthd	MTC MT MT MT MT MT	5 4 3 2 1	Temp 13 13 13 13 13 <b>SETT</b>	Cond 480 480 480 480 480 I N G S	Turbid M M M M M		Comme	nt
Site# 301 301 301 301 301	MTD/ MT MT MT MT MT	NO 1 2 3 4 5	H/P 1 1 1 1	Date 2006/07 2006/07 2006/07 2006/07 2006/07	7/25 01 7/25 01 7/25 01 7/25 01	:30 :30 :30	Date Out 2006/07/2 2006/07/2 2006/07/2 2006/07/2 2006/07/2	6 12 6 12 6 12 6 12	:00 :00 :00 :00				Com	ment	
								FISH		JMMA					
Site# 301	MT MT	TD/N	0 1	H/P 1	Species RB	Sta J		∖ge		1		19 R	ct	Со	mment
Site#	MTD/N		H/P	•	Ü	Weight	Sex M	Mat	A	. <b>FISH</b> Age npl#/Age	I DA Vch#	Genetic Str/Smpl#	Roll #	Frame#	Comment
301	MT	1	1	RB	119	17.9	U	U							

Reach #	#													ILP Map a	# ILP	· #
V	Watershe		e: )1		000-0000	00-00000	-00000	-0000	-0000-0	00-000-00	00-000-000	0-000		.0	104G.0	56
								٧	VATE	RBO	ΣY					
	WS ( Waterbo	Code: Code:	000-0	00000-0				0-000	0-000-00	00-000-000 00-000-000 #: 104G.	) )	al: Wi	ILP	#: 3	301 Rea Lake From [	ch #: 0 -
	Fish Per		.0.0		Da	ate: 2006	/09/03		To: 2	2006/09/04		ency:		Crev	v: KM/RS	Resample:
								SI		METH	Ü	,				
Site# 301 301 301 301 301	NID	Мар	NID	# L	JTM:Zone	/East/Nor			MTD/NC MT 5 MT 4 MT 3 MT 2 MT 1	,		Turb	id		Comme	ent
Site#	MTD	/NO	H/P	Date	In Tin	ne In	ת Date O		Time Ou	-	114 6 5			Comm	ent	
301 301 301 301 301	MT MT MT MT	1 2 3 4 5	1 1 1 1	2006/09 2006/09 2006/09 2006/09	9/03 12 9/03 12 9/03 12 9/03 12	2:00 2 2:00 2 2:00 2 2:00 2	006/09/ 006/09/ 006/09/ 006/09/	/04 /04 /04 /04 /04	10:05 10:05 10:05 10:05 10:05	UMMA	ΔRY					
Site#	N	/ITD/N	O C	H/P	Species	Stag	е	Age			gth (Min/M	lax)	FishAct		Co	mment
301 301	MT MT		1 2	1 1	RB NFC	NS				6 0		•	R			
301	MT		3	1	RB	NS				2			R			
301	MT		4	1	RB	NS				3			R			
301	MT		5	1	RB	NS		ıvı	ПΙΙΔ	7 L FIS	H DA	ТΔ	R			
Site#	MTD/I	NO	H/P	Species	Length	Weight	Sex	Mat	<i>D</i> 0 A	Age	Vch#		netic	Roll#	Frame#	Comment
201	MT	1	1	DD	110	16.0				Smpl#/Age	Э	Str/s	Smpl#		All £	-h
301 caught in	MT MTs 1-5		1	RB	110	16.2	U	U	SC	1					All fis	sn
301	MT	1	1	RB	104	13.6	U	U	SC	2						
301	MT	1	1	RB	78	5.9	U	U	SC	3						
301	MT	1	1	RB	111	14.2	U	U	SC	4						
301	MT	1	1	RB	83	6.4	U	U	SC	5						
301	MT	1	1	RB	84	6.6	U	U	SC	6						
301	MT	1	1	RB	126	22.9	U	U	SC	7						
301	MT	1	1	RB	127	23.9	U	U U	SC SC	8						
301	MT	1 1	1	RB RB	141	31.6	U U	U	SC	9						
301		- 1	1		135	25.1 14.8	U	U	SC	10 11						
201	MT MT	1	1	DΒ			-	_								
301	MT	1	1	RB	113		- 11	- 11	SU.							
301	MT MT	1	1	RB	143	31.2	U	U	SC	12						
301 301	MT MT MT	1 1	1 1	RB RB	143 129	31.2 24.8	U	U	SC	12						
301 301 301	MT MT MT MT	1 1 1	1 1 1	RB RB RB	143 129 151	31.2 24.8 39.4	U	U U	SC	12						
301 301 301 301	MT MT MT MT MT	1 1 1	1 1 1	RB RB RB RB	143 129 151 127	31.2 24.8 39.4 23.4	U U U	U U U	SC	12						
301 301 301 301 301	MT MT MT MT	1 1 1	1 1 1	RB RB RB RB	143 129 151 127 135	31.2 24.8 39.4 23.4 27.0	U	U U U	SC	12						
301 301 301 301	MT MT MT MT MT MT	1 1 1 1	1 1 1 1	RB RB RB RB	143 129 151 127	31.2 24.8 39.4 23.4	U U U	U U U	SC	12						

Reach #															ILP Map	)# I	LP#	
W	/atershe		de: 802		000-0000	000-0000	-00000	0-0000	0-0000-0	000-000-	0-000	000-000	-000		.0	104G	.056	
								٧	N A T I	RBC	DΥ	,						
Ga	zetted N	lame:										Loca	al: W	L2				
				000000-00														
٧	vvs ( Vaterboo			000000-00	0000-0000	00-0000-0	000-00			)#: 104		6		ILP	#:	302 R	each #:	0 -
	Proje	ct ID:	1575	53								_ake/Str	eam:	W		Lake Fron	n Date:	
F	Fish Peri	mit #:			Da	ate: 2006	/07/25		To:	2006/07/	26	Age	ency:	C660	Cre	ew: KM/RS	Re	esample:
								SI	TE /	MET	ΗО	D						
Site# 302 302 302 302 302	1 DIN	Мар	NIC	)# L	JTM:Zone	e/East/No	th/Mth		MTD/Nº MT 6 MT 5 MT 2 MT 3 MT 2		p	Cond	Turt	oid		Comi	ment	
302									MT 1									
302			101	13			^		EF 1	6 <b>SET</b>	т.,	50 N.G.S	С					
Site#	MTD	/NO	H/P	Date I	n Tir	ne In	Date O		Time O	_		N G S			Comi	ment		
302 302 302 302 302	EF MT MT MT MT	1 1 2 3 4	1 1 1 1	2006/07 2006/07 2006/07 2006/07 2006/07	/25 09 /25 09 /25 09 /25 09	9:00 2 9:00 2 9:00 2	006/07 006/07 006/07 006/07 006/07	/26 /26 /26 /26	10:00 08:30 08:30 08:30 08:30	ER S	ΡE	CIFI	C A	TION	S			
Site#		ITD/N	Ю	H/P	End		Sec		ngth	Wid		Volt		Frequ		Pulse	Make	
302	EF		1	1	0	2	96		00.0	3.			50	50	)	2.4	SMITH ROOT	
Site#	M	1TD/N	10	H/P	Species	s Stag	ıe.	Age		UMM otal#		(Min/M	av)	FishAct			Comment	
302	EF		1	1	RB	A	,0	, igo		11	130		26	R			Commont	
302	MT		1	1	RB	Α				1	153	3 1	53	R	In low	er pond sedg	ges,	
lear wate	·I.						IND	1 V I	DUA	L FI	S H	DA.	ГΑ					
Site#	MTD/N	NO	H/P	Species	Length	Weight	Sex	Mat		Age Smpl#/A		Vch#		enetic Smpl#	Roll #	Frame#	Co	omment
302	EF	1	1	RB	181		U	U	SC	1	<b>J</b>			- '				
302 302	EF EF	1 1	1 1	RB RB	185 226		U	U U	SC	2								
302	EF	1	1	RB	130		U	U	SC	3								
302	ĒF	i	1	RB	194		М	M	SC	4								
302	EF	1	1	RB	184		U	U	SC	5								
302	EF	1	1	RB	170		U	U	SC	6								
302	EF	1	1	RB	199		U	U										
302	EF	1	1	RB	225		U	U										
302	EF	1	1	RB	168	47.5	U	U										
302 302	EF MT	1 1	1 1	RB RB	209 153	101.4 40.2	M U	M U										
302	IVI I	1	ı	KD	153	40.2	U	_	СОМ	MEN	T S							
	Sect	tion									-	Comm	ents					
	WATER		Y	Most	fish capt	ured in a	ar trih	utarvi	unetran	n at RD	. ann			m stratch	Fieh	cantured		
downstrea				111001		ou iii oi	JAI 1110	y (	~poti oui		app	· Sama	., <u>-</u> 0	011 0101		oaptai oa		

Reach #		-		ILP Map # ILP #
٧	Vatershed Code: 302	000-000000-00000-00000-00	000-0000-000-000-000-000-000	.0 104G.056
			WATERBODY	
		000000-00000-00000-0000-0000-000-000-0	000-000-000-000	LP #: 302 Reach #: 0 - Lake From Date:
I	Fish Permit #:	Date: 2006/09/03	To: 2006/09/04 Agency: C660	Crew: KM/MS Resample:
Site# 302 302 302 302 302 302 302	NID Map NIE	D# UTM:Zone/East/North/Mthd  A.	MTD/NO Temp Cond Turbid MT 5 MT 4 MT 3 MT 2 MT 1 EF 1 C GEAR SETTINGS	Comment
Site# 302 302 302 302 302 302	MTD/NO H/P EF 1 1 MT 1 1 MT 2 1 MT 3 1 MT 4 1 MT 5 1	Date In         Time In         Date Out           2006/09/03         13:00         2006/09/03           2006/09/03         12:40         2006/09/04           2006/09/03         12:40         2006/09/04           2006/09/03         12:40         2006/09/04           2006/09/03         12:40         2006/09/04           2006/09/04         12:40         2006/09/04           C. ELECTRO	08:30 08:30 08:30	Comment N S
Site# 302	MTD/NO EF 1	1 O 521	80.0 4.0 375	equency Pulse Make Model 50 24 SMITH- LR24 ROOT
Site# 302 302	MTD/NO EF 1 MT 1	H/P Species Stage Ag 1 RB NS 1 RB NS INDIN	2 44 84 R 2 139 181 R VIDUAL FISH DATA	
302 302 302 302 302	MTD/NO H/P  EF 1 1  EF 1 1  MT 1 1  MT 1 1	RB 44 .9 U II RB 181 58.5 U U	Str/Smpl#/Age Str/Smpla M M	

# APPENDIX 6 LAKE FISH COLLECTION FORM



Reach #							IL	_P Map #	ILP#	
Wa	atershed Cod 1	de: 00	000-000	000-00000-00000	0-0000-0000-000	-000-000-000-00	00-000 .	.0	104G.016	
					WATER	RBODY				
Р		600-000		000-0000-0000-00 000-0000-0000-00	00-000-000-000-	000-000 000-000 104G.016	ILP#		Reach #: From Date:	0 -
Fi	sh Permit #:			ate: 2006/09/09	To: 200	06/09/10 A	gency: C660	Crew: KE	/MS Re	sample:
					SITE / N	METHOD				
Site# 106 106 set, no fish	NID Map 104G.016 104G.016 caught	NID#	UTM:Zon 9 9	e/East/North/Mth	GN 1 MT 1	Temp Cond 9 9 9	T 6 GN's T Very to	s set, no fish ca urbid water. 11		
Site# 106 106	MTD/NO GN 1 MT 1	1 20	06/09/09 1	me In Date C 2:00 2006/09 2:00 2006/09 <b>B. NET</b>	0/09 13:00 0/10 12:00	PECIFICA	TIONS	Comment		
Site #		MTD/I	NO.	H/P	Net Type	Length	Depth	Mesh	Set	
Habita 106 NA		ΞN	1	1	SK	15.0	10.0		ВТ	
106 NA	ľ	MT	1	1	SK		5.0		ВТ	
					FISH SU	MMARY				
Site# 106 106	MTD/N GN MT	IO F 1 1	H/P Specie 1 NFC 1 NFC	es Stage	Age Tota	)	Max) FishAct		Comment	

Reach #						ILP Map #	ILP#
Watershed Co	ode: 100	000-000000-00000	-00000-0000-0000	0-000-000-000-0	00-000-000	.0	104G.046
			WAT	TERBODY			
	e: 600-000000-0 e: 000-000000-0	00000-00000-0000-0 00000-00000-0000-0	000-000-000-000	000-000-000 ap #: 104G.046	Local: L7	ILP#: 100 . L	) Reach #: 0 - ake From Date:
Fish Permit #	t:	Date: 2006	/09/08 To:	2006/09/08	Agency: C	660 Crew:	KE/MS Resample:
			SITE	/ METHO	D		
Site# NID Map 108 104G.046 108 104G.046			MT GN	NO Temp ( 1 11 1 11 R SETTIN	Cond Turbid C C	11 MT's set, no fis 6 GN's set, no fis	
Site# MTD/NO 108 GN 1 108 MT 1	H/P Date 1 2006/0 1 2006/0	09/08 10:00 2 09/08 10:30 2	Date Out Time 006/09/08 11:0 006/09/09 08:3 NET/TRAP	00 80	CATION	Commen	t
Site #	MTD/NO.	H/F				_	Set
Habitat 108 NA	GN	1 1	SK	15.0	10.0		ВТ
108 NA	MT	1 1	SK		5.0		ВТ
			FISH	SUMMAR	Υ		
Site# MTD/ 108 GN 108 MT	NO H/P 1 1 1 1	Species Stag NFC NFC	e Age	Total # Lgth 0 0 0	(Min/Max) F	ishAct	Comment

Reach #						ILP Map #	ILP#
Watershed Co	de: 100	000-000000-0000	00-00000-0000-0000	)-000-000-000-0	000-000-000	.0	104G.046
			WAT	TERBODY	1		
	: 600-000000-0 : 000-000000-0		-0000-000-000-000 -0000-000-000-000- ILP M	-000-000-000 lap #: 104G.04	Local: L6 6 Lake/Stream:	ILP#: 100 L L	) Reach #: 0 - .ake From Date:
Fish Permit #	:	Date: 200	06/09/10 To:	2006/09/11	Agency: C	C660 Crew:	KE/MS Resample:
			SITE	/ METHO	D		
Site# NID Map 107 104G.046 107 104G.046	NID # 9 9		MT GN	NO Temp 1 11 1 11 <b>R SETTI</b>	Cond Turbic C C N G S	11 MT's set, no f 6 GN's set, no fis	
Site# MTD/NO 107 GN 1 107 MT 1	H/P Date 1 2006/0 1 2006/0	09/10 09:00 09/10 08:35	Date Out Time 2006/09/10 10:0 2006/09/11 08:3 NET/TRAP	00 30	ICATION	Commen	ıt
Site #	MTD/NO.	H,	P Net Typ	e Lengtl	h Dept	th Mesh	Set
Habitat 107 NA	GN	1	1 SK	15.0	10.0	0	ВТ
	MT	1	1 SK		5.0	)	ВТ
			FISH	SUMMAF	RY		
Site# MTD/t 107 GN 107 MT	NO H/P 1 1 1 1	Species Sta NFC NFC	age Age	Total # Lgth 0 0	(Min/Max) i	FishAct	Comment

Reach #			-											ILP Map	o #	ILP#	
٧	Vatershed Co	de: 102	0	00-00000	0-00000-0000	00-000	0-0000	0-000	-000-00	00-00	00-000-0	000		.0		104G.046	
						,	WAT	ΓER	ВОІ	DΥ							
	zetted Name Project Code		000000-000	000-00000	-0000-0000-						Local	l: L5					
١	WS Code: Vaterbody ID: Project ID:	:		000-00000	-0000-0000-0				000-000 104G	.046	ake/Stre	oom:	ILP	#:	102 Lako	Reach #	
1	Fish Permit #:		,5	Date	e: 2006/07/2	7	To:	200	6/07/27			ncy: C		Cro	ew: KM		Resample:
							TE	/ M	IETH	10	ŭ	.,					
Site# 400 400 400 400 400 400 400 400 400 40	NID Map 104G.046 104G.046 104G.046 104G.046 104G.046 104G.046 104G.046 104G.046	NIE	)# U <sup>-</sup>	ΓM:Zone/E	ast/North/Mt	hd	MTD/ MT MT MT MT MT MT MT MT MT MT MT	NO 10 9 8 7 6 5 4 3 2 1 3	Temp			Turbio	i		,	Comment	
400	104G.046						GN	2					D	/	/		
400	104G.046						GN BEA	1 R S	ET1	ГІМ	IGS		Deep	/snallov	v/outflov	V	
Site# 400 400 400 400 400 400 400 400 400 40	MTD/NO GN 1 GN 2 GN 3 MT 1 MT 2 MT 3 MT 4 MT 5 MT 6 MT 7 MT 8 MT 9 MT 10	H/P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date In 2006/07/2 2000/07/2 2000/07/2 2000/07/2 2000/07/2 2000/07/2 2000/07/2 2000/07/2 2000/07/	27 11:0 27 12:1 27 13:5 27 10:1 27 10:2 27 10:2 27 10:2 27 10:2 27 10:2 27 10:2 27 10:2 27 10:4 27 10:4 27 10:4	e In Date 2006/0 19 2006/0 15 2006/0 15 2006/0 25 2006/0 25 2006/0 26 2006/0 29 2006/0 32 2006/0 34 2006/0 38 2006/0 38 2006/0 38 2006/0 38 2006/0 39 2006/0 30 2006/0 30 2006/0 30 2006/0 30 2006/0 30 2006/0 30 2006/0 30 2006/0 30 2006/0	Out 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27 17/27	Time 12:1 13:3 15:1 15:4 15:4 15:4 15:4 15:4 15:4 15:4	Out 15 30 15 45 45 45 45 45 45 45 45 45	мм					Com	ment		
Site#	MTD/N		H/P	Species	Stage	Age	:	Total		gth (	(Min/Ma	ax) F	FishAct			Comm	ent
400 400 400	GN GN GN	1 2 3	1 1 1	NFC RB RB	NS NS	עום	יוחו	0 2 7 <b>A I</b>		181 162 <b>H</b>		32	R R				
Site#	MTD/NO	H/P	Species	Length V	Veight Sex			A	ge		Vch#	Gen		Roll #	Frame	е#	Comment
400 400 400 400 400 400 400 400 400	GN 2 GN 2 GN 3 GN 3 GN 3 GN 3 GN 3 GN 3	1 1 1 1 1 1 1	RB RB RB RB RB RB RB	181 213 332 226 205 162 177 202 223	68.1 U 105.6 U 7200.0 U 127.8 U 95.7 U 48.5 U 65.7 U 86.2 U	0 0 0 0 0	S	ur/SM	pl#/Age	<del>U</del>		Str/Si	прі#				

Reach #	, <u> </u>	· Cui	•										LP Map	. #	ILP#	
Reach #	+											'	LP IVIAP	) #	ILP#	
V	Vatershed	d Code: 101		000-000	000-0000	0-00000-	0000-00	000-000	0-000-000	-000-000-	000		.0	10	4G.046	
							W A	ATE	RBOD	Υ						
	WS C Waterbod	Code: 630 Code: 000	0-000000-0 0-000000-0 053				0-000-0	00-000		Loca 46 Lake/Stre		ILP#	<b>#</b> :	101 Lake F	Reach # rom Date	
	Fish Pern	nit #:		D	ate: 2006	5/07/29	-	To: 20	06/07/29	Age	ncy: C6	60	Cre	ew: PW/L	.N	Resample:
							SIT	E / I	METH	0 D						
Site# 209 fish.	NID N 104G.		D# l	JTM:Zon	e/East/No	rth/Mthd	MT MT	D/NO 1	Temp	Cond	Turbid	10 M	T's set. (	Co Only MT1	omment caught	
209 209 209	104G. 104G. 104G.	046				_	GN GN GN	l 2								
Cito#	MTD/	NO H/P	Date	lo Ti	me In	A . Date Ou		AR ne Out	SETTI	NGS			Comr			
Site# 209 209 209 209	GN GN GN MT	1 1 2 1 3 1 1 1	2006/07 2006/07 2006/07 2006/07	7/29 1 7/29 1 7/29 1	0:05 2 1:39 2 3:33 2 0:00 2	2006/07/2 2006/07/2 2006/07/2 2006/07/2	29 1 29 1 29 1 29 1	1:15 3:15 5:30 6:00	PECIF	IC A T	I O N S	2	Comi	пепі		
Site	#	r	MTD/NO.		H/F	_	Net T		Leng	_	Depth		Me	sh	Set	
Habi	tat	GN		1	1		Sł		30.0		10.0				ВТ	
L					•											
209 L	9	GN		2	1		Sł	<	30.0	)	10.0				BT	
209 L	Э	GN		3	1		Sk	<	30.0	)	10.0				BT	
209	9	MT		1	1				30.0	)	10.0				вт	
L							FISI	н ѕі	JMMA	RY						
Site# 209 209 209 209	M' GN GN GN MT	TD/NO 1 2 3 1	H/P 1 1 1	Specie RB NFC RB RB	s Stag NS NS NS	§	Age		al # Lgt 1 0 1	h (Min/Ma 17 15 13	74	shAct R R R			Comm	ent
C:to#	MTD/N	IO 11/0	Chasias	Longth	\\/aiabt			_	. FISH			410	Dall #	Frame#		Commont
Site#	MTD/N			Length	· ·		Mat		Age mpl#/Age	Vch#	Gene Str/Sm		KUII #	riame#		Comment
209 209	GN GN	1 1 3 1	RB RB	196 156	86.7 47.0	U U	U U									
209	MT	1 1	RB	135	27.2	Ü	Ü									
							С	OMN	MENTS							
	Secti		_							Comme						
	WATERI	BODY	Pers	sonal com	nmunicatio	n with lo	cal resi	dent (K	Cen Cattrel	): "RB up	to 24 inc	ches"				

Reach #					ILP	Map # ILP	#					
Watershed Coo 1	de: 000 02	0-000000-00000-00000-	-0000-0000-000-00	0. 0	104G.04	6						
WATERBODY												
	630-000000-0000 000-000000-0000	10-00000-0000-0000-00 10-00000-0000-000		.2 ILP#: n: L	: 102 Reach #: 0 Lake From Date:							
Fish Permit #:		Date: 2006/07/30	To: 2006/0	7/30 Agency	r: C660	Crew: PW/LN	Resample:					
			SITE / ME	THOD								
Site# NID Map 401 104G.046 401 104G.046 401 104G.046 401 104G.046	NID# UTM	∄:Zone/East/North/Mthd	MT 1 GN 3 GN 2 GN 1		rbid 11 MT's	Comment T's set, no fish caught						
Site# MTD/NO 401 GN 1 401 GN 2 401 GN 3 401 MT 1	H/P Date In 1 2006/07/30 1 2006/07/30 1 2006/07/30 1 2006/07/30	10:15 2006/07/ 12:06 2006/07/ 10:00 2006/07/	30 10:03 30 11:45 30 13:30	CIFICATIO		Comment						
Site # Habitat	MTD/NO.	H/P	Net Type	Length D	epth	Mesh Se	et					
401	SN 1	1		30.0	10.0	В	Т					
L 401 (	GN 2	1		30.0	10.0	В	Т					
L 401 (	SN 3	1		30.0	10.0	В	Т					
L 401 N	ИТ 1	1			10.0	В	т					
L	vii i	!			10.0	Ь	ı					
Site# MTD/N	O H/P S	pecies Stage	FISH SUM Age Total#	MARY Lgth (Min/Max)	FishAct	Cor	nment					
401 GN 401 GN 401 GN 401 GN 401 MT	1 1 2 1 3 1	pecies Stage NFC NFC NFC NFC	Age Total # 0 0 0 0 0	∟gui (iviii/ivilax)	ristiact	Cor	nment					

Reach #					ILP Map #	ILP#							
Watershed Co	de: 000 06	0-000000-00000-00000	.0	104G.046									
WATERBODY													
	630-000000-0000 000-000000-0000	0-00000-0000-0000-00 0-00000-0000-0000		-000	ILP #: 10	6 Reach #: 0 - Lake From Date:							
Fish Permit #:		Date: 2006/07/28	To: 2006/0	7/28 Agency:	C660 Crew	KM/RS Resample:							
Site# NID Map 800 104G.046 800 104G.046	NID# UTM	l:Zone/East/North/Mtho	SITE / ME MTD/NO TO MT 1 GN 1 . GEAR SE	emp Cond Tur	bid 10 MT's set, noi	Comment ne caught fish.							
Site# MTD/NO 800 GN 1 800 MT 1	H/P Date In 1 2006/07/28 1 2006/07/28	Time In Date O 09:53 2006/07/ 09:22 2006/07/ B. NET	/28 11:00 /28 14:00	CIFICATIO	Comme N S	nt							
Site # Habitat	MTD/NO.	H/P	Net Type	Length De	epth Mesh	Set							
800	GN 1	1	SK	30.0	0.0	ВТ							
L 800 I L	MT 1	1	SK	1	0.0	ВТ							
			FISH SUM	MARY									
Site# MTD/N 800 GN		pecies Stage NFC	Age Total #	Lgth (Min/Max)	FishAct	Comment							

# APPENDIX 7 STREAM CROSSING SITE CARD



#### **FDIS Site Card**

	ch#		ILP Map #	ILP # Site									
	Watershed Code:	.0 000-0000-0000-0000-0000-0000-0000-00	104G.016	151 151									
		PROJECT											
	Stream Nam	t Name: Stikine & Mess River Fish Collections - 2006 e (gaz.): STIKINE RIVER P d Code: 600-000000-00000-0000-0000-000-000-000-	roject Code:	15753									
		WATERSHED											
	Gazetted Name: Watershed Code: ILP Map#: 151	Local Name 000-00000-00000-0000-0000-000-000-000-	e: RC8 Reach #:	.0 Site #:									
	Field UTM (Z.E.N): GIS UTM (Z.E.N):	Method: Site Lg: 200 9.383983.6337410 Ref. Name:	Method:	GE Access: H									
	Date	: 2006/09/06 Time: 13:30 Agency: C660 Crew: KM/RS C H A N N E L	Fish Cr	rd?: Incomplete:									
	Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd         width         w	Avg 13.40 Metho 9.60 Method	Gadient % Mtd Avg od I: 3.0 C 3.00 d II:									
	Wb Depth:	1.4 Avg: 1.40 Method: MS Stage: L M	No Vis.	c.Ch.: Intermittent: Dw: Tribs.:									
	Type: Amount: Loc: P/S/O:		-20%	M V									
	LWD:	F DIST: E											
	LB SHP: Texture:			B R A									
	RIP: STG:												
	WATER												
0.5	EMS: Temp: pH:			Method: S3 C Method:									
GE	Flood Signs:	abam channel Method: NS											
		MORPHOLOGY											
	Bed Material:	Dominant:         B         Subdom:         C         O1         B1           100.00         D (cm):         30.00         Morph:         CP         DISTURBANCE	B2 B3 D1	D2 D3									
	Pattern: Islands: Coupling: Confinement:	IM INDICATORS C1 C2 O PC	C3 C4 C5	S1 S2 S3 S4 S5									
	FSZ:	Bars: N SIDI	E DIAG	MID SPAN BR									
		HABITAT QUALITY											
	Name Spawning Habitat Rearing Habitat Other OverWinter Habita	Comments fair - mostly bouldery, but some gravel. good - clear water cover by boulders. Overall, important poor - little shelter from flow											
		WILDLIFE											
	Group BIR Dip	Observations  Oer  COMMENTS											

COMMENTS

#### **FDIS Site Card**

Section CHANNEL Comments Crossing occurs on large bend in

river. There is an abandoned channel on RB inside of bend that could be rewatered in a flood recommend moving crossing upstream approximately 80m to more stable location.

### FDIS Site Card

CHANNEL

RBT observed and escaped.

	DIS SITE Ca ach #	aru									IL	.P Map #	ŧ ILP	<b>)</b> #			Site			
	Watershed Code:	000-000000	-00000-00	000-000	0-0000-0	000-00	-000-00	00-000-	000			0		104G	.026		118		118	8
							PR	OJE	СТ											
	Project Stream Name Project Watershe		KINE RIV	ER				00-000-	000-00	0-000		F	roject (	Code:			157	753		
							WAT	ERS	HEI	D										
	Gazetted Name: Watershed Code: ILP Map#: 118			0000-000 LP #:			)-000-00 ap #: 1			NID		cal Name		IB ach #:		.0		Site	#:	
	Field UTM (Z.E.N): GIS UTM (Z.E.N):		348420	M	fethod:						Site Lo Name	g: 100 e:		Me	ethod:	HC	A	ccess:	Н	
	Date:	: 2006/09/0	5 -	Time: 1	1:45		Agency			Cre	w:	KE/RJ		ا	Fish Cr	rd?:		Incor	nplete	e:
	` '	MS 0.90	1.90	width 2.90 1.40	5.40	width 1.90 1.90 0.30	width 2.90 2.90 0.40	Width	NEL nwid	th v	vidth	width	Avg 2.88 1.73 0.35		Metho Metho	od I: 2.	adient 9 0		td C C	Avg 2.00
	Wb Depth:	.7 .6		Avç al: M B	g: 0.60 U		Method:		1)./		je: L	M	Н		No Vis	.Ch.: Dw:	Inte	ermitter Tribs		
	Type: Amount: Loc: P/S/O:	SWD I	N	T	S	DF T		OV D	IV N		1	OWN CL 1 STREAM	-20%		Α	М	V			
	LWD: LB SHP: Texture: RIP: STG:	U F G S	С	B I	S R A									G	С	В	R	А		
	=						W	ATE	ΕR		_									
GE	EMS: Temp: pH:					Methodological Method					С	eq #: ond.: Turb.: T	М		L	С		Method Method		3
GE	Flood Signs:	Alluvial fan				Meth	od: NS	;												
	Bed Material: D95:	Domin D (c			Subdom: Morph:	С	I O R I	P H O			01	В1	B2	В3	D1	D2	D3			
	Pattern: Islands: Coupling: Confinement:	SI N DC	,.		о.р				ATOR		C1	C2	C3	C4	C5	S1	S2	<b>S</b> 3	S4	S5
	FSZ:								Bars:		N	SID	E	DIAC	3	MID	5	SPAN		BR
						НΑ	BITA	AT Q	UAL	.IT	Y									
	Name OverWinter Habitat Rearing Habitat Spawning Habitat	Col and wetland habitat downstream sh. e. COMMENTS				ream	mments													
	Section						COI	41 IVI E	N 1 3		nmen	ts								
	CHANNEL	Stream	am class =	s4.	1															

Reach # ILP Map # ILP # Site

COMMENTS

Section Comments

CHANNEL 1346 EF sec.
SITE CARD No bed size data.

Rea	ach #				ILP Map #	ILP#	Site	
	Watershed Code: 00	000-000000-00000-00000-0000-0	000-000-000-000-000-0	000	.0	104G.026	118	118
			PROJE	СТ				
	Stream Name (	Name: Stikine & Mess River Fish (gaz.): STIKINE RIVER Code: 600-000000-00000-0000		000-000-000	Pr	oject Code:	15753	3
			WATERS	HED				
	Gazetted Name: Watershed Code: 00 ILP Map#: 10 118	000-000000-00000-00000-00000-0 04G.026 ILP #: 118		000	Local Name:	RC4 Reach #:	.0	Site #:
	Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.	. Meth 0.384732.6351387	od:	Site Ref. Na	e Lg: 100 ame:	Method:	GE Acc	ess: H
	Date: 3	2006/07/30 Time: 08:30	Agency: C660		KM/RS	Fish C	rd?:	Incomplete:
	Channel Width (m): N	MS 4.30 3.80 1.00 MS 2.90 2.00 7.00	dth width width width		th width	Avg 3.03 Metho 3.97 Metho 0.27	Gadient % od I: 5.0 3.0 od II:	Mtd Avg C 4.00
		.1 .7 Avg: (	0.40 Method: MS	Stage:	L M	No Vis		nittent: Tribs.:
	Type: S Amount: Loc: P/S/O:	SWD LWD B	U DP OV T S S	N	ROWN CLC 2 21 NSTREAM	-40%	M V	
	LWD: A	DIST: E						
	LB SHP: S Texture: F	F G C B R	A		RB SHP: Texture:	F G C	B R	Α
	RIP: M STG: M				RIP: STG:			
	5140		WATE	R	D "			
GE	EMS: Temp: 10 pH:	0	Method: T3 Method:		Req #: Cond.: 70 Turb.: T	M L		ethod: S3 ethod:
OL	Flood Signs: rat	afted debris	Method: NS					
	Bed Material: D95: 12		MORPHOI  odom: F  Morph: RP DISTUR	L <b>O G Y</b> O RBANCE	1 B1	B2 B3 D1	D2 D3	
	Pattern: IR Islands: O Coupling: DO	) C	INDICA	ATORS C	1 C2	C3 C4 C5	S1 S2 S	S3 S4 S5
	Confinement: UN FSZ:	N	I	Bars: N	SIDE	DIAG	MID SP	AN BR
			HABITAT Q	UALITY				
	Name Spawning Habitat Rearing Habitat Other OverWinter Habitat	Good - lots and lots of spa Good - lots of cover, some Overall - important - perfec Good - lots of cover, a few	deep pools. t RB stream.	Comm	ents			

Section Comments

EF 432s, 100m\*2m, 450V, 50Hz, NID 1028 CHANNEL

Reach # ILP Map # ILP # Site

COMMENTS

Section Comments

CHANNEL Claim stake at upstream end of site (photos 1 and 2).

CHANNEL Bridge should be planned as close to valley wall as possible to ensure that it crosses at stable location.

CHANNEL Stream flows across wide shallow fan with mostly low banks that allow for frequent flooding. Multiple channels spread out

areas, lots

of debris and sediment, lots of wind now.

Rea	ach #											ILP Map #	! ILP	#			Site			
	Watershed Code:	000-000	000-000	00-000	000-000	0-0000-00	00-000-	000-00	0-000-00	00		.0		1040	3.026		119		121	
								PR	OJE	СТ										
	Projec Stream Name Project Watershe	e (gaz.):	STIKINI	E RIVE	R	Fish Colle			0-000-00	00-000-	000	Р	roject (	Code:			1575	53		
							١	NAT	ERSI	HED										
	Gazetted Name:										Lo	ocal Name	e: RC5	C						
	Watershed Code: ILP Map#: 121				.P #: 1				0-000-00 04G.026		NID #:		Rea	ach #:		.0		Site	#:	
	Field UTM (Z.E.N): GIS UTM (Z.E.N):		62.63470	16	M	lethod:				F	Site I Ref. Nan	_g: 100 ne:		Me	ethod:	GE	Ac	cess:	Н	
	Date	: 2006/0	09/06	Т	ime: 10	0:30	A	Agency:	C660		Crew:	KE/MS			Fish C	rd?:		Incom	plete:	:
									ANN											
	Channel Width (m): Wetted Width (m): Pool Depth (m):	MS 2	.30 3.5 2.00	width 20 2.80 0.35	width 2.60 2.10 0.30	5.60	width 1.30 1.30	width 3.50 2.80	width	width	width	width	Avg 3.08 2.47 0.37		Metho Metho	od I:	adient %	(		Avg 0.00
	Wb Depth:	.5	.5	.7	Avg	j: 0.57	М	lethod:	MS	9	Stage: L	_ M	о.о <i>т</i> Н		No Vis	.Ch.: Dw:	Inter	mittent Tribs		
	COVER	CIMP	LWD	Tota			<b>D</b> D		0)/	1) /	0.5	OWN OL	OCUDI	_						
	Type: Amount: Loc: P/S/O:	SWD T	LWD D		B T	U T	DP T	,	OV S	IV N	4	ROWN CL 4 7' ISTREAM	1-90%		Α	М	V			
	LWD:	F		DI	ST: E															
	LB SHP: Texture:	F	G C	;	в і	R A						RB SHP Texture	: F	G	С	В	R	Α		
	RIP: STG:											RIP STG	: S : NA							
	EMS:							W	ATE	R		Dog #:								
GE	Temp: pH:						Metho Metho					Req #: Cond.: Turb.: T	М		L	С		lethod: lethod:		
GL	Flood Signs:	Rafted L	.WD				Metho	d: NS												
							М	ORF	HOL	0 G Y	1									
	Bed Material: D95: Pattern:	30.0	minant: D (cm):			Subdom: Morph:			DISTURI INDICA		O1 : C1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2	S3	S4	S5
	Islands: Coupling:	N PC									0.	02		0.		σ.	02		0.	•
	Confinement: FSZ:	00							В	ars:	N	SID	E	DIA	G	MID	SI	PAN		BR
							HAE	BITA	ΤQU	JALI	ΤY									
	Name Other		Habitat v	– مباد	imnorta	nt					Comme	nts								
	OverWinter Habitat Rearing Habitat	t (	Good - N	umero	us pools	s (small a pools for			.5m in d	epth).										
	Spawning Habitat					ravels do		m of sit	ie. I <b>O T O</b>	s										
	Photo	Foc	La		D	ir		гп		5			Comme	ents						
R: R:	1 F: 494	. 30	.9		N: U	S	CARI	D												

Reach # ILP Map # ILP # Site

104G.026 .0 119 121

PHOTOS

Dir X D Foc Lg Comments

Photo
R: 1 F: 496
R: 1 F: 497 Cross

COMMENTS

Section Comments

CHANNEL Stream class = S6. CHANNEL No fish caught.

CHANNEL 560 s EF at 250 volts, 30 hz 4ms.

Reach #	ŧ											!	ILP Map	# IL	P#			Site			
V	Vatershed Code:	000-0	00000-0	00000-0	000-000	0-0000-0	000-000	-000-0	00-00	00-000			.0		1040	G.026		120		12	2
								Р	ROJ	ECT											
	Projec Stream Namo Project Watershe	e (gaz.	): STIK	INE RIV	'ER	Fish Coll				0-000-0	00-00	00		Project	Code	:		15	5753		
								W A	TER	SHE	D										
	Gazetted Name: Vatershed Code: ILP Map#: 122				0000-000 LP #:		00-000 NID M				NII	Lo D #:	ocal Nar		6 each #	t	.0		Sit	te #:	
	ld UTM (Z.E.N): IS UTM (Z.E.N):		480.634	13175	M	lethod:					Re	Site I f. Nam	_g: 100 ne:		M	lethod:	: MS	•	Access	: Н	
	Date	: 2006	6/09/06		Time: 15	5:30		Agend	y: C6	60	С	rew:	KE/M	S		Fish (	Ord?:		Inco	omplet	e:
								С	HAN	NNEL											
W	annel Width (m): etted Width (m): Pool Depth (m):	Mtd MS MS	width 1.40 1.40	width 4.20 1.10	width 3.80 3.80	width 5.40 4.60	width 5.80 5.40	widt 2.40 2.00	)	dth w	idth	width	width	3.83 3.05 0.00	} ;	Meth Meth	nod I: 3	Gadient 4.0	%	Mtd C	Avg 34.00
					۸۰,۰۰	. 0.00		10th o	d.		C+					No V	is.Ch.:	In	termitte		
	Wb Depth: COVER			To	al: M	g: 0.00	IN	/letho	a:		Sta	age: L	_ M	і н			Dw:		Trib	os.:	
	Type: Amount: Loc: P/S/O:	SWE T		ND S	B D	U N	DF N		OV T	'I 1	<b>N</b>		ROWN C 1 ISTREA	1-20%		A	М	V			
	LWD:	F			DIST: E																
	LB SHP: Texture:		G	С	В	R A							RB SH Textu		G	C	) E	3 F	₹ ,	A	
	RIP: STG:													P: S G: NA							
								,	WAT	ΓER											
NS	EMS: Temp: pH:						Metho Metho	od: od:	NS NS			(	Req #: Cond.: Turb.:	T M	М	L	С		Metho Metho		
110	Flood Signs:	Erode	d banks				Meth	od: N	S												
							N	1 O R	РН	0 L O	GΥ										
	Bed Material: D95		Dominar	nt: B n): 9.0	0	Subdom Morph			DIST	TURBAN	ICF	01	B1	B2	В3	D1	D2	D3			
	Pattern: Islands: Coupling:	SI N CO	, 2 (6	.,. 0.0	•					OICATO		C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
	Confinement: FSZ:	EN								Bars		N	SI	DE	DIA	.G	MI	)	SPAN		BR
								FΕ	AΤU	URES	3										
NID Ma		rpe R	Hgt 1.6	Metho MS			ethod MS	R:	Pho	oto F:	L	:	Air	Photo #:				M (Z/E 480.63		N	lethod GP3
Com	monto. Toom bal	. 101 - V	ratoriali	50 /0 gi	adioiit.		НΑ	віт	ΑТ	QUA	LIT	Υ									
	Name		Llabite	st valua	- marain	-1			- •			• omme	nts								

Other
OverWinter Habitat
Rearing Habitat Habitat value = marginal.
Poor - lack of pools and depth.
Poor - high velocity for juvenile fish.

Reach # ILP Map # ILP# Site

104G.026 120 122

HABITAT QUALITY

Name Comments Spawning Habitat Poor - lack of gravel substrate.

PHOTOS Comments

Photo Dir Foc Lg NS U 507 CARD 508

F: 509 D COMMENTS

Section Comments

CHANNEL Stream class = S5.

CHANNEL

Very steep gradient with many obstructions.

CHANNEL NFC in 2525 EF.

Reach #			ILP Map # ILP #	Site
Watershed Code: 000-	-000000-00000-00000-0000-0000	0-000-000-000-000	.0 104G.036	114 114
		PROJECT		
Stream Name (gaz	me: Stikine & Mess River Fish Collect.z.): STIKINE RIVER ide: 600-000000-00000-00000-00000-0000-0000		Project Code:	15753
		WATERSHED		
Gazetted Name:			Local Name: RC2A	
Watershed Code: 000- ILP Map#: 1040 114	-000000-00000-00000-0000-0000 G.036 ILP #: 114 N	0-000-000-000-000 IID Map #: 104G.036 NID #:	Reach #:	.0 Site #:
Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.38	Method: 85804.6356152	Site Ref. Na	e Lg: 200 Method: ame:	HC Access: H
Date: 200	06/09/05 Time: 15:00	Agency: C660 Crew:	KM/MS Fish 0	Ord?: Incomplete:
		CHANNEL		
Mtd Channel Width (m): GE Wetted Width (m): GE Pool Depth (m): MS	100.00 80.00 12.00 9.50	ridth width width width wid		Gadient % Mtd Avg nod I: 3.0 C 3.00 od II:
. , ,		Method: MS Stage:	No Vi	s.Ch.: Intermittent: Dw: Tribs.:
Wb Depth: 3.0 COVER	Avg: 3.00 Total: T	Method: MS Stage:	L IVI H	Dw. 11lbs
Type: SW Amount: N Loc: P/S/O:	/D LWD B U	S T N	CROWN CLOSURE 0 0% INSTREAM VEG: N A	M V
LWD: N	DIST: NS			
LB SHP: V Texture: F	G C B R A		RB SHP: V Texture: F G C	C B R A
RIP: M STG: MF			RIP: M STG: MF	
		WATER		
EMS: Temp: 8 pH: 8.1		Method: T3 Method: P2	Req #: Cond.: 80 Turb.: T M L	Method: S3 C Method:
GE Flood Signs:		Method:		
		MORPHOLOGY		
Bed Material:	Dominant: B Subdom:		1 B1 B2 B3 D1	D2 D3
D95: 75.0 Pattern: SI Islands: N Coupling: PC	D (cm): 30.00 Morph:	RP DISTURBANCE INDICATORS C	1 C2 C3 C4 C5	S1 S2 S3 S4 S5
Confinement: OC FSZ:		Bars: N	SIDE DIAG	MID SPAN BR
		FEATURES		
NID Map NID Type F Comments: 2 meter high 'b'	Hgt Method Lg Met 2.0 MS 2 M bench' of lava, fish seen upstream.	hod Photo IS R: F: L:	AirPhoto #:	UTM (Z/E/N) Method 9.385770.6356055 GP3
Comments. 2 meter flight t	·	HABITAT QUALITY		
Name Spawning Habitat Rearing Habitat Other	fair - few appropraitely sized grave good - clear water, deep channel, Overall - important.	Comm	nents	

Reach # ILP Map # ILP # Site

104G.036 114 114

HABITAT QUALITY

Name Comments

OverWinter Habitat poor - not enough shelter from flow PHOTOS

Photo R: DIG F: 1 Foc Lg STD Dir U Comments

Short falls

Watershed Code: 000-00000-00000-0000-0000-000-000-000-	9
Project Name: Stikine & Mess River Fish Collections - 2006 Stream Name (gaz.): STIKINE RIVER Project Watershed Code: 600-000000-00000-0000-0000-0000-000-000	
Stream Name (gaz.): STIKINE RIVER Project Code: 15753 Project Watershed Code: 600-000000-0000-0000-0000-000-000-000-0	
WATERSHED	
Gazetted Name: Local Name: RC5A Watershed Code: 000-000000-00000-0000-0000-000-000-000	
Field UTM (Z.E.N): Method: Site Lg: 100 Method: GE Access: H GIS UTM (Z.E.N): 9.383999.6362249 Ref. Name:	
Date: 2006/09/01 Time: 11:10 Agency: C660 Crew: KM/RS Fish Crd?: Incomplete	э:
CHANNEL	
Mtd width Avg Gadient % Mtd Channel Width (m): NS 0.00 Method I: 4.0 6.0 C Wetted Width (m): MS 3.40 5.00 8.00 4.00 5.10 Method II: Pool Depth (m): 0.00	Avg 5.00
No Vis.Ch.: Intermittent:  Wb Depth: .4 .4 Avg: 0.40 Method: MS Stage: L M H Dw: Tribs.:	
COVER Total: A  Type: SWD LWD B U DP OV IV CROWN CLOSURE  Amount: S D S N N S N 4 71-90%  Loc: P/S/O: INSTREAM VEG: N A M V	
LWD: A       DIST: E         LB SHP: S       RB SHP: S         Texture: F G C B R A       Texture: F G C B R A         RIP: C       RIP: M         STG: MF       STG: MF	
WATER	
EMS: Req #: Temp: 8 Method: T3 Cond.: 70 Method: S. pH: Method: Turb.: T M L C Method: GE	3
Flood Signs: Method:	
MORPHOLOGY	
Bed Material:         Dominant:         C         Subdom:         G         O1         B1         B2         B3         D1         D2         D3           D95:         30.0         D (cm):         12.00         Morph:         CP         DISTURBANCE           Pattern:         IR         INDICATORS         C1         C2         C3         C4         C5         S1         S2         S3         S4	S5
Islands: I Coupling: DC Confinement: UN	
FSZ: Bars: N SIDE DIAG MID SPAN	BR
HABITAT QUALITY	
Name Comments  Spawning Habitat fair - some good gravel, but mostly cobble under fast water.  Rearing Habitat fair - mostly fast water, with a few plunge pools.  OverWinter Habitat poor - no deep pools, turbid fast water.	
Spawning Habitat fair - some good gravel, but mostly cobble under fast water.  Rearing Habitat fair - some good gravel, but mostly cobble under fast water.  GoverWinter Habitat fair - some good gravel, but mostly cobble under fast water.  Fair - some good gravel, but mostly cobble under fast water.  For M M E N T S	
Spawning Habitat fair - some good gravel, but mostly cobble under fast water.  Rearing Habitat fair - mostly fast water, with a few plunge pools.  OverWinter Habitat poor - no deep pools, turbid fast water.	

Reach # ILP Map # ILP # Site

#### COMMENTS

Section Comments

CHANNEL Multiple channels - easiest to bridge close to valley wall where its confined.

CHANNEL Stream flows out of confined canyon onto alluvial plan amongst cottonwood and alder.

CHANNEL No values for channel width.

CHANNEL

Rea	ach #											I	LP Map #	ILF	#			Site		
	Watershed Code:	000-00	0000-00	0000-00	000-000	0-0000-0	00-000	-000-0	00-000	0-000			.0		104G	.036		150		150
								PR	OJ	ECT										
	Project Stream Name Project Watershe	e (gaz.):	STIKI	NE RIV	ER	Fish Coll			00-000	)-000-0	00-00	0	Р	roject (	Code:			157	753	
								WAT	ER	SHE	D									
	Gazetted Name: Watershed Code: ILP Map#: 150				0000-000 LP #:		00-000 NID Ma				NID		ocal Name		BB ach #:		.0		Site	#:
	Field UTM (Z.E.N): GIS UTM (Z.E.N):		34.6354	4565	ľ	Method:						Site L Nam	.g: 200 ie:		Me	ethod:	GE	A	ccess:	Н
	Date	: 2006/	09/06		Time: 0	9:40	,	Agency <b>C</b> F		60 <b>NEL</b>		ew:	KM/RS			Fish C	rd?:		Incon	nplete:
	Channel Width (m): Wetted Width (m): Pool Depth (m):	T 5	width 5.10 3.10 0.34	width 4.00 3.60 0.73	width 5.60 2.90 0.17	width 6.90 1.70 0.26	width 6.10 3.50	width 4.40 3.10				width	width	Avg 5.35 2.98 0.38		Metho Metho	od I: 8.	adient 9.		td Avg C 8.50
	Wb Depth:	.3	.3	.3		g: 0.30	N	/lethod:	: MS	3	Sta	ge: L	. M	Н		No Vis	.Ch.: Dw:	Inte	ermitten Tribs	
		SWD S	LW	/D	B N	U S	DP N	•	OV S	IV N		2	OWN CLO 21 STREAM	I-40%		А	М	V		
	LWD:	Α			IST: E															
	LB SHP: Texture:		G	С	В	R A							RB SHP: Texture:		G	С	В	R	Α	
	RIP: STG:												RIP: STG:							
								٧	V A T	ΕR										
GE	EMS: Temp: pH:						Metho Metho					(	Req #: Cond.: 11 Turb.: T	0 M	l	L	С		Method Method	
GE	Flood Signs:	Dry ove	rland flo	ow			Metho	od: N	S											
							N	OR	РНС	LO	3 Y									
	Bed Material:	28.0	ominan	t: G ): 14.0	ın	Subdom Morph			DISTI	JRBAN	CE	01	B1	B2	ВЗ	D1	D2	D3		
	Pattern: Islands: Coupling:	SI O DC	D (om)	<i>,</i> . 14.0		WOIPH	. 01			CATOR		C1	C2	C3	C4	C5	S1	S2	S3	S4 S5
	Confinement: FSZ:	UN								Bars:		N	SIDI	E	DIA	3	MID	8	SPAN	BR
							на	BITA	AT (	Q U A	LIT	Υ								
	Name Spawning Habitat Rearing Habitat Other OverWinter Habitat		good- le Critical	ots of c		an gravel. ear water. pools.					Co	mmei	nts							
			-		•			CO	ММЕ	ENTS										
	Section		<b>D</b> 1 1								Co	mmer	nts							

Probably died yesterday when water levels dropped overnight.

Reach # ILP Map # ILP # Site

COMMENTS

Section Comments

CHANNEL Stream dries up approximately 50m from outlet - evidence of flashy flow and quick decreases found RB recently dead in dry

area approximately 20m downstream of current flow.

Reach #			ILP Map #	ILP#	Site
Watershed Code: 000-00	00000-00000-00000-0000-00	00-000-000-000-000	.0	1041.034	116 116
		PROJECT	•		
Stream Name (gaz.):	e: Stikine & Mess River Fish Collection STIKINE RIVER e: 600-000000-00000-00000-00000			roject Code:	15753
		WATERSHE	D		
Gazetted Name: Watershed Code: 000-00 ILP Map#: 104I.03 116	00000-00000-00000-0000-0000-00 34 ILP #: 116 I	00-000-000-000-000 NID Map #: 104I.034	Local Name NID #: 1023	: Reach #:	.0 Site #:
Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.3851	Method: 129.6347762		Site Lg: 100 Ref. Name:	Method: GE	Access: H
Date: 2006/	5/07/29 Time: 12:30	Agency: C660	Crew: KM/RS	Fish Crd?	: Incomplete:
	width width width width v 15.60 12.60 10.10 6.30	-	- vidth width width	Avg 14.10 Method I 8.20 Method II 0.00	
Wb Depth: 1.7	2.0 Avg: 1.85 Total: T	Method: MS	Stage: L M	No Vis.Ch H D	
Type: SWD Amount: T Loc: P/S/O:			V CROWN CLO N 0 INSTREAM	0%	M V
LWD: N	DIST: NS				
LB SHP: S Texture: F	G C B R A		RB SHP: Texture:		B R A
RIP: M STG: MF			RIP: STG:		
		WATER			
EMS: Temp: 9 pH: GE		Method: T3 Method:	Req #: Cond.: 80 Turb.: T	M L C	Method: S3 Method:
Flood Signs: Rafted	debris	Method: NS			
		MORPHOLO	_		
Bed Material: D D95: 45.0 Pattern: SI Islands: N Coupling: PC	Dominant: C Subdom: D (cm): 30.00 Morph:				D2 D3 S1 S2 S3 S4 S5
Confinement: OC FSZ:		Bars	: N SIDI	DIAG	MID SPAN BR
		COMMENT	s		
Section CHANNEL	EF 356s, 100m, 4m wide, 500V,	50Hz, NID 1024	Comments		

Reach #			ILP Map #	ILP#	Site
Watershed Code: 000-00	000000-00000-00000-0000-0000	0-000-000-000-000	.0	1041.034	117 117
		PROJECT			
Stream Name (gaz.)	e: Stikine & Mess River Fish Collec .): STIKINE RIVER e: 600-000000-00000-00000-0000-			roject Code:	15753
		WATERSHE	D		
Gazetted Name: Watershed Code: 000-00 ILP Map#: 1041.0 117	000000-00000-00000-0000-0000 034 ILP #: 117 N	0-000-000-000-000 IID Map #: 104I.034	Local Name NID #: 1025		0 Site #:
Field UTM (Z.E.N): GIS UTM (Z.E.N): 9.3838	Method: 8877.6337424		Site Lg: 200 Ref. Name:	Method: GE	Access: H
Date: 2006	6/07/29 Time: 14:20	Agency: C660  CHANNEL	Crew: KM/RS	Fish Crd?:	Incomplete:
Mtd Channel Width (m): T Wetted Width (m): T Pool Depth (m):	width width width w 9.80 14.00 7.90 13.50		idth width width	Avg 11.90 Method I: 10.70 Method II: 0.00	
Wb Depth: .5 COVER	.7 Avg: 0.60 Total: A	Method: NS	Stage: L M	No Vis.Ch.: H Dw:	
Type: SWD Amount: T Loc: P/S/O:	D LWD B U S S N		V CROWN CLO N 1 1 INSTREAM	-20%	M V
LWD: F LB SHP: S Texture: F	DIST: E  G C B R A		RB SHP: Texture:		B R A
RIP: C STG: MF			RIP: STG:		
		WATER			
EMS: Temp: 10 pH: GE		Method: T3 Method:	Req #: Cond.: 60 Turb.: T	M L C	Method: S3 Method:
Flood Signs: Rafted	d debris	Method: NS			
B 111		MORPHOLO		Do Do D4 D6	
D95: 47.0 Pattern: SI Islands: O Coupling: PC	Dominant: C Subdom: D (cm): 33.00 Morph:			B2 B3 D1 D2 C3 C4 C5 S1	
Confinement: OC FSZ:		Bars	: N SIDI	E DIAG M	IID SPAN BR
		COMMENT	S		
Section CHANNEL	EF-580s, 400V, 50Hz, 100+4m, 14	4:45-15:15	Comments		

each #											IL	P Map #	ILP	#			Site	Э		
Watershed Code:	000-00	00000-0	0000-0	0000-0	000-000	00-000	-000-000-	000-000-0	00			0		104	1.034		11	9		120
							Р	ROJE	СТ											
Project Stream Nam Project Watershe	e (gaz.)	: STIKI	INE RI\	/ER			ons - 200		00-000	0-000		Р	roject (	Code	:			15753		
							W A	TERS	HED	)										
Gazetted Name: Watershed Code: ILP Map#: 120				0000-0 ILP #:				000-000-0 104G.016		NID #:		al Name		B ach#	ŧ:	.(	)		Site #:	
Field UTM (Z.E.N): GIS UTM (Z.E.N):		985.636	2269		Method	d:				Sit Ref. N		g: 200 e:		M	1ethod:	GE		Acce	ss: H	
Date	: 2006	/09/05		Time:	11:30		Agend	cy: C660		Crew	:	KM/MS			Fish (	Ord?:		Ir	ncompl	ete:
							С	HANN	ΕL											
Channel Width (m): Wetted Width (m): Pool Depth (m):	Mtd NS GE MS	width 5.00 0.40	width 6.00 0.25	widt 66.5		h wi	dth widt	h width	widt	h wid	dth	width	Avg 0.00 25.83 0.33			nod I: od II:		nt % 5.0	Mtd NS NS	Avg 4.83
Wb Depth:	IVIO	0.40	0.23	Д	.vg: 0.0	00	Metho	d:		Stage	: L	М	0.55 H		No V	is.Ch.: Dw:		ntermi	ittent: ribs.:	
COVER			To	tal: M																
Type: Amount: Loc: P/S/O:	SWD T	LV [		B T	U N		DP S	OV S	IV N		2	OWN CLO 21 TREAM	I-40%	N	А	M	,	V		
LWD:			[	DIST:																
LB SHP: Texture:	F	G	С	В	R	Α						RB SHP Texture		G	C	) I	3	R	Α	
RIP: STG:												RIP STG								
							,	WATE	R											
EMS: Temp: pH: Flood Signs:						N	Method: Method: Method:				C	eq #: ond.: urb.: T	М		L	С			hod: hod:	
							MOR	PHOL	. O G											
Bed Material: D95: Pattern: Islands: Coupling: Confinement:	C	ominan D (cm			Subd Mo	lom: rph:		DISTUR INDICA		E	D1 D1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2		3 S	4 S5
FSZ:								Е	Bars:	1	٧	SIDI	E	DIA	AG	MI	D	SPA	.N	BR

Reach #											IL	.P Map #	ILP	' #			Site			
Watershed Code:	000-0	00000	-00000-00	000-000	00-0000-	000-000	0-000-0	000-000-0	000			0		1040	G.036		115		11	5
							P	ROJE	СТ											
Projec Stream Nam Project Watershe	e (gaz.	): ME		K					00-000	-000		Р	roject (	Code	:		15	753		
							W A	TERS	HED											
Gazetted Name: Watershed Code:	000.0	00000	00000 00	0000 000	20,000	000 000	000 (	000 000 (	000		Loc	cal Name	: RC1							
ILP Map#: 115	104G			LP #:				104G.03		NID #:			Rea	ach #	:	.0		Site	#:	
Field UTM (Z.E.N): GIS UTM (Z.E.N):		758.63	356048	N	Method:				ı	Sit Ref. N		g: 200 e:		M	ethod:	GE	F	Access:	Н	
Date	e: 2006	6/07/29	9	Time: 10	0:10		•	cy: C660 <b>HANN</b>	ΕI	Crew	:	KM/RS			Fish (	Crd?:		Incor	nplet	e:
Channel Width (m): Wetted Width (m):		width 12.00 9.00	14.00	width 14.00 5.00	width 16.00 10.00	width		h width		n wic	ith	width	Avg 14.00 8.00		Meth Meth	nod I: 4	adient .0		td C	Avg 4.00
Pool Depth (m): Wb Depth:					g: 0.00	I	Method	d: MS		Stage:	L	М	0.00 H		No Vi	s.Ch.: Dw:	Int	ermitter Tribs		
COVER	SWE	١ ،	Tot _WD	al: M B	U	DI	D	OV	IV		CDC	OWN CLO	SCLIDE	=						
Amount: Loc: P/S/O:	T	, ,	S	D	N	T		S	N	,	1		-20%		Α	М	V			
LWD:				IST: E																
LB SHP: Texture:	F	G	С	В	R A	A						RB SHP: Texture:	F	G	C	В	R	. A		
RIP: STG:												RIP: STG:								
							,	WATE	R											
EMS: Temp: pH:	7					Meth Meth	od:	Т3			C	eq #: ond.: 50 urb.: T	M		L	С		Method Method		3
Flood Signs:	dry ch	nl onw	idefldpl			Meth	od: G	iΕ												
							и o r	РНОІ	O G	Y										
Bed Material: D95: Pattern:	85.0		ant: B m): 30.0	0	Subdor Morp	n: C h: CP		DISTUR		Ē	)1 )1	B1 C2	B2 C3	B3 C4	D1 C5	D2 S1	D3 S2	S3	S4	S5
Islands: Coupling:	N PC																			
Confinement: FSZ:	OC							I	Bars:	١	1	SIDE	≣	DIA	.G	MIC	)	SPAN		BR
							FΕ	ATUF	RES											
	/pe C scade ·	Hgt 1.3 not a	Metho MS barrier.	od L	_g N 3	Method MS	R:	Photo 100 F:	1025	L:		AirPh	noto #:				M (Z/E) 758.635		M	lethod GP3
	/pe C scade ·	Hgt 1.3 not a	Metho MS barrier.	od L	_g N 3	Method MS	R:	Photo 100 F:	1024	L:		AirPh	noto #:				M (Z/E) 758.635			lethod GP3
						ΗА	віт	AT Q	UAL	ΙΤΥ										
Name										Comr	nent	ts								

Reach # ILP Map # ILP # Site

HABITAT QUALITY

Name Comments

Spawning Habitat Fair - mostly larger substrate, but some shallower riffle areas where spawning may occur. Clear water.

Rearing Habitat Good - clearwater, some deep areas, glides.

Other Overall - important.

OverWinter Habitat Fair - no real pools, but some deeper areas.

PHOTOS

Photo Foc Lg Dir Comments R: 100 F: 1206 STD U At RB floodplain and channel.

R: 100 F: 1207 STD D At top of cascade feature C O M M E N T S

Section Comments

CHANNEL Fish occupying small plunge pools.

CHANNEL Bridge site is at a slight constriction between floodplains, but should be moved upstream to where valley walls come together

and limit lateral migration of channel.

CHANNEL Moderate V clear largish stream with extensive dry floodplain and abandoned channels. At vey high flood, could re-occupy

channels.

# APPENDIX 8 STREAM CROSSING FISH COLLECTION FORM



117 EF 1 1 RB

Reach #		ILP Map # ILP #
Watershed Code: 117	000-000000-00000-00000-0000-0000-000-000-000-000-000	.0 104G.016
	WATERBODY	
Gazetted Name:	Local: RC3A	
	00-0000-0000-0000-000-000-000-000-000-	
Waterbody ID: Project ID: 15753	ILP Map #: 104G.016 II Lake/Stream: S	LP #: 117 Reach #: 0 - Lake From Date:
Fish Permit #:	Date: 2006/07/29 To: 2006/07/29 Agency: C660	O Crew: KM/RS Resample:
	SITE / METHOD	
Site# NID Map NID # 117 104I.034 1026	UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid EF 1	Comment
	A. GEAR SETTINGS	
	Date In Time In Date Out Time Out 06/07/29 14:45 2006/07/29 15:15	Comment
	C. ELECTROFISHER SPECIFICATIO	N S
Site# MTD/NO 117 EF 1	H/P Encl Sec Length Width Voltage Fre	equency Pulse Make Model 50 SMITH- 12B ROOT
	FISH SUMMARY	NOO1
	I/P Species Stage Age Total # Lgth (Min/Max) Fish. 1 RB NS 1 140 140 R	
O'L II MATRIMO LUD O	INDIVIDUAL FISH DATA	D. II. II
·	ecies Length Weight Sex Mat Age Vch# Genetic Str/Smpl#/Age Str/Smpl#	

140 38.7 U U

WATERBODY

rest downstream.

Reach #	ŧ												ILP M	ap#	ILP#	
V	Vatersh		de: 20		000-0000	000-0000	0-00000	)-0000-000	00-000	)-000-000	-000-000-	000	.0	10	4G.016	
								W A	TEF	RBOD	Υ					
	WS Waterbo	Code: Code: ody ID:	600-	000000-00 000000-00				00-000-00	0-000			il: RC5l	ILP#:	120 Lake F	Reach #: rom Date:	0 -
I	Fish Pe	rmit #:			D	ate: 2006	6/09/05	To	o: 200	06/09/05	Age	ncy: C	660 (	Crew:	Res	sample:
								SITE	/ N	/ ETH	O D					
Site# 120		Map 3.016	NIE	)# L	JTM:Zone	e/East/No		EF	)/NO 2 <b>A R</b> \$	Temp 6 <b>S E T T</b> I	Cond 90 I <b>N G S</b>	Turbid T		Co	omment	
Site# 120	MTI EF	D/NO 2	H/P 1	Date I 2006/09	0/05 1		Date O 2006/09 E C T F		Out :45 <b>HE</b>	R SPE	CIFI	CATI		mment		
Site# 120	EF	MTD/N	10 2	H/P 1	End O		Sec 596	Length 200.0		Width 4.0	Volta 75		Frequency 50	Pulse 24	Make SMITH- ROOT	Model 12B
								FISH	S U	ММА	RY					
Site# 120	I EF	MTD/N	10 2	H/P 1	Specie: RB	s Stag	Š	Age	Tota	7 ]		38	shAct R		Comment	
Site#	MTD/	/NO	H/P	Species	Length	Weight		OIVID ( Mat		FISF Age	I DAT Vch#	A Gene	tic Roll	# Frame#	Co	mment
Oiton	IVI I D/	110	, .	Openics	Longin	Weight	OCX			npl#/Age	VOIII	Str/Sm		# Tranic#	00	mmont
120	EF	2	1	RB	238		U	U								
120	EF	2	1	RB	99	13.6	U	U								
120	EF	2	1	RB	132	33.0	U	U								
120	EF	2	1	RB	104	12.4	U	U								
120 120	EF EF	2	1 1	RB RB	127 200	32.2 106.6	U U	U U								
120	EF	2	1	RB	108	22.1	IJ	U								
120	LF	2	'	ΝD	100	۷۷.۱	J	-	мм	ENTS						
	0	ction									-	onto				
	260	LION									Comme	ะแร				

Shocked approximately 100m upstream and downstream of feature; caught 1 RB upstream of jam and

Rea	ch #								ILP N	Иар #	ILP#	
	Watershed Co	de: 151		000-0000	00-00000-00000	)-0000-0000-	-000-000-000	0-000-000-00	0. 0	104	G.016	
						WAT	ERBOD	Υ				
		: 600-00 : 000-00	00000-00		00-0000-0000-00 00-0000-0000-00	0-000-000-0			ILP#:		Reach #: 0 om Date:	) -
	Fish Permit #	:		Da	ate: 2006/09/06	To:	2006/09/06	Agenc	y: C660	Crew: KM/RS	S Resan	nple:
						SITE	/ METH	O D				
Sit 15		NID #	# U	JTM:Zone	/East/North/Mth	EF	IO Temp 1 7 <b>R SETT</b>	90	urbid C	Con	nment	
Sit 15		H/P 1	Date I 2006/09	/06 14	ne In Date O 4:15 2006/09 . ELECT F	/06 14:45	5	ECIFIC/		omment		
Sit 1	re# MTD/N 51 EF	NO 1	H/P 1	Enc O	Sec 474	Length 200.0	Width 8.0	Voltage 500	e Frequency 50	Pulse 2.4	Make SMITH- ROOT	Mode 12B
						FISH	SUMMA	RY				
Sit 1	e# MTD/N 51 EF	NO 1	H/P 1	Species RB	J	J -	2 1	th (Min/Max) 151 171	FishAct R		Comment	
Site	# MTD/NO	H/P	Species	Length	Weight Sex	Mat	AL FISH Age r/Smpl#/Age	Vch#	i Genetic Rol str/Smpl#	I# Frame#	Comn	nent
4 -	4 55 4	4	חח	474	740 11							

Reach #	!										I	LP Map	#	ILP#	
V	Vatersh		de: 16		000-0000	000-0000	0-0000	0-0000-	0000-000-000-00	0-000-000-0	00	.0	104	G.026	
								W	ATERBOD	Y					
	WS Waterbo	Code:	600- 600-	000000-0				00-000	-000-000-000-000 -000-000-000-000 _P Map #: 104G.0		RC2B ILP# am: S	<del>t</del> : 1		Reach #: 0 om Date:	-
	Fish Pe	rmit #:			D	ate: 2006	6/07/29		To: 2006/07/29	Agen	cy: C660	Crev	w: KM/RS	S Resan	nple:
								SIT	ГЕ / МЕТН	O D					
Site# 116		Мар I.034	NIE 102		JTM:Zone	e/East/No	rth/Mth	E	MTD/NO Temp EF 1 <b>EAR SETT</b>		Turbid		Cor	nment	
Site# 116	MTI EF	D/NO 1	H/P 1	Date 2006/07	7/29 1:	2:00 2	Date C 2006/07 E <b>C T</b> I	/29	ime Out 12:01 ISHER SP	ECIFIC	ATIONS	Comm	ent		
Site# 116	EF	MTD/N F	IO 1	H/P 1	End O		Sec 356	Len 10	igth Width 0.0 4.0	Voltaç 500		,	Pulse	Make SMITH- ROOT	Mode 12B
								FIS	SH SUMMA	RY					
Site# 116	I EF	MTD/N F	IO 1	H/P 1	Species RB	s Stag	5	Age	7	th (Min/Max) 113 177	Ź R			Comment	
Site#	MTD	/NO	H/P	Species	Length	Weight	IN I	Mat	DUAL FIS   Age Str/Smpl#/Age	Vch#	A Genetic Str/Smpl#	Roll #	Frame#	Comm	nent
116 116 116 116 116	EF EF EF EF	1 1 1 1	1 1 1 1	RB RB RB RB	177 131 152 135 118	76.7 33.3 43.6 26.1 24.2	U U U U	U U U U			·				
116	EF	1	1	RB	113	18.3	Ü	Ü							

Reach #	ŧ											ILP M	ap#	ILP#	
V	Vatershed (	Code: 118		000-0000	000-0000	0-0000	0-0000-00	000-000-0	000-000-	-000-000-	-000	.0	10-	4G.026	
							W	ATER	BOD	Y					
	azetted Nar Project Co WS Co Waterbody Project	de: 600 de: 000 ID:	-000000-0				00-000-0		00-000 104G.02		al: RC4 eam: S	ILP#:	118 Lake Fı	Reach #: rom Date:	0 -
	Fish Permit	#:		D	ate: 200	6/07/30		To: 2006			ency: C6	660 (	Crew: KM/R	S Re	sample:
							SIT	-	ETH						
Site# 118	NID Ma 1041.03		D# l 28	JTM:Zone	e/East/No	rth/Mth	d MT EF		Temp	Cond	Turbid		Co	mment	
	A. GEAR SETTINGS														
Site# 118	MTD/NO EF 1		Date 2006/07	7/30 1:		Date C 2006/07 E <b>C T</b> I	7/30 1	ne Out 2:01 <b>S H E R</b>	SPE	CIFI	CATI		mment		
Site# 118	MTC EF	D/NO 1	H/P 1	End O		Sec 432	Leng 100.		Width 2.0	Volta 45		Frequency 50	Pulse	Make SMITH- ROOT	Model - 12B
							FIS	H SU	M M A	RY					
Site# 118	MTC EF	)/NO 1	H/P 1	Specie: RB	s Sta	Š	Age	Total # 8 U A L	10		78 <sup>°</sup>	shAct R		Comment	
Site#	MTD/NO	H/P	Species	Length	Weight		Mat	Ag Str/Smp	je	Vch#	Gene Str/Sm		# Frame#	Co	omment
118 118 118 118 118 118 118 118	EF 1	1 1 1 1 1 1 1	RB RB RB RB RB RB RB	117 178 103 160 125 119 149 137	19.4 79.5 15.3 57.0 24.5 25.6 42.2 34.7	U U U U U U	U U U U U U U	22	97		J 311				

Reach #					ILP Map	# ILP#	
Watershed Co	ode: 000-0000	000-00000-00000-0	0000-0000-000-000-00	00-000-000-000	.0	104G.036	
			WATERBO	DΥ			
	: 600-000000-00000-000 : 000-000000-00000-000 :			)	ILP #:	114 Reach #: Lake From Date:	0 -
Fish Permit #	: D	ate: 2006/09/05	To: 2006/09/05	Agency:	C660 Cre	ew: KM/MS	Resample:
			SITE / METH	1 O D			
Site# NID Map 114	NID # UTM:Zone 9	e/East/North/Mthd <b>A</b> .	MTD/NO Temp EF 2 8 GEAR SET	80 C	id	Comment	
Site# MTD/NO 114 EF 2	1 2006/09/05 1	me In Date Out 5:30 2006/09/0		ECIFICAT	Comr	nent	
Site# MTD/f 114 EF	NO H/P End 2 1 O		Length Width 100.0 8.0	Voltage 550	Frequency 40	Pulse Mak 2.3 SMIT ROC	TH- LR2
			FISH SUMM	ARY			-
Site# MTD/t 114 EF	NO H/P Species 2 1 RB	NŠ	Age Total# L 4 I <b>VIDUAL FIS</b>	gth (Min/Max) 102 165 <b>H DATA</b>	FishAct R	Comme	nt
Site# MTD/NO	H/P Species Length	Weight Sex I	Mat Age Str/Smpl#/Ag		netic Roll # Smpl#	Frame#	Comment
114 EF 2 114 EF 2 114 EF 2 114 EF 2	1 RB 115 1 RB 102 1 RB 165 1 RB 128		U U U U		•		

Reach #					ILP Map #	ILP#
Watershed Co	de: 15	000-000000-00000-00000	-0000-0000-000-000	-000-000-000	.0 104	4G.036
			WATERBOD	Υ		
	600-000000-0 000-000000-0	00000-00000-0000-0000-00 00000-00000-0000-0000-00		Local: RC1 36 ILP Lake/Stream: S		Reach #: 0 - rom Date:
Fish Permit #:		Date: 2006/07/29	To: 2006/07/29	Agency: C660	Crew: KM/R	S Resample:
			SITE / METH	O D		
Site# NID Map 115 104I.034	NID # 1023	UTM:Zone/East/North/Mtho	d MTD/NO Temp EF 1 GEAR SETTI	Cond Turbid NS I <b>N G S</b>	Со	mment
Site# MTD/NO 115 EF 1	H/P Date 1 2006/0	7/29 10:30 2006/07		CIFICATION	Comment S	
Site# MTD/N 115 EF	O H/P 1 1	Encl Sec O 443	Length Width 100.0 2.0	550 5	uency Pulse 0	Make Mode SMITH- 12B ROOT
			FISH SUMMA			
Site# MTD/N 115 EF	O H/P 1 1	Species Stage RB NS	5 1	h (Min/Max) FishAct 01 185 R	t	Comment
Site# MTD/NO	H/P Species	s Length Weight Sex	Mat Age Str/Smpl#/Age	I DATA Vch# Genetic Str/Smpl#	Roll # Frame#	Comment
115 EF 1 115 EF 1 115 EF 1 115 EF 1 115 EF 1	1 RB 1 RB 1 RB 1 RB 1 RB	117 19.7 U 143 45.3 U 185 83.9 U 101 15.3 U 125 26.3 U	U U U U	·		

Reach #		ILP Map # ILP #	
Watershed Code: 119	000-00000-00000-0000-0000-0000-000-000	0-000-000-000 .0 104G.036	
	WATERBOD	Υ	
	0-00000-00000-0000-0000-000-000-000-00	Local: RC5A  36 ILP #: 119 Reach #: Lake/Stream: S Lake From Date:	0 -
Fish Permit #:	Date: 2006/07/30 To: 2006/07/30	Agency: C660 Crew: KM/RS R	Resample:
	SITE / METH	O D	
Site# NID Map NID # 119 104G.036 1030	UTM:Zone/East/North/Mthd MTD/NO Temp EF 1 A. GEAR SETT	Cond Turbid Comment	
	te In Time In Date Out Time Out 5/07/30 11:45 2006/07/30 12:15 C. ELECTROFISHER SPI	Comment ECIFICATIONS	
Site# MTD/NO H, 119 EF 1	P Encl Sec Length Width 1 O 593 100.0 3.0	Voltage Frequency Pulse Mak 550 50 SMITI ROO	H- 12B
	FISH SUMMA		
Site# MTD/NO H/F 119 EF 1 1	-1	th (Min/Max) FishAct Commen 91 174 R H DATA	it
Site# MTD/NO H/P Spec	ies Length Weight Sex Mat Age Str/Smpl#/Age		Comment
119 EF 1 1 RE	3 174 72.5 U U U U U U U U U U U U U U U U U U U	Stronger	
119 EF 1 1 RE	91 11.2 U U SC 7	Dead	

150 EF

RB

131

1

Reach # ILP Map # ILP #									
Watershed Code: 000-000000-00000-00000-0000-0000-0000									
WATERBODY									
Gazetted Name: Local: RC3B  Project Code: 600-000000-00000-00000-0000-000-000-000									
Fish Permit #: Date: 2006/09/06 To: 2006/09/06 Agency: C660 Crew: KM/RS Resample:									
SITE / METHOD	SITE / METHOD								
Site# NID Map NID # UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment 150 EF 1 7 110 C A. GEAR SETTINGS									
Site# MTD/NO H/P Date In Time In Date Out Time Out Comment 150 EF 1 1 2006/09/06 10:50 2006/09/06 11:20 C. ELECTROFISHER SPECIFICATIONS									
	odel 2B								
FISH SUMMARY									
Site# MTD/NO H/P Species Stage Age Total # Lgth (Min/Max) FishAct Comment 150 EF 1 1 RB NS 1 131 R INDIVIDUAL FISH DATA									
Site# MTD/NO H/P Species Length Weight Sex Mat Age Vch# Genetic Roll# Frame# Comment Str/Smpl#/Age Str/Smpl#									

27.8 U U SC

Section

WATERBODY

3 RB observed but not captured

Reach # ILP Map # ILP# Watershed Code: 000-00000-00000-0000-0000-000-000-000-000-000-000 .0 104G.026 118 WATERBODY Local: RC4B Gazetted Name: ILP Map #: 104G.026 ILP #: 118 Reach #: Waterbody ID: 0 -Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/05 To: 2006/09/05 Agency: C660 Crew: KE/RS Resample: SITE / METHOD MTD/NO Temp Cond Turbid Comme
C 3 RB observed visually but Site# NID Map UTM:Zone/East/North/Mthd Comment 118 104G.026 not captured A. GEAR SETTINGS Time In Date Out Time Out 11:45 2006/09/05 13:12 Date In Site# MTD/NO H/P Time In Comment 2006/09/05 118 EF 1 1 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 118 1346 100.0 2.0 4 SMITHROOT LR24 FISH SUMMARY Site# MTD/NO H/P Species Stage Age Total # Lgth (Min/Max) FishAct Comment NFC 118 1 COMMENTS

Comments

Reach #		ILP Map # ILP #								
Watershed Code: 119	000-000000-00000-00000-0000-0000-000-000-000-000-000	.0 104G.026								
	WATERBODY									
-,	Local: RC5C 00-00000-00000-0000-0000-000-000-000-0	#: 119 Reach #: 0 - Lake From Date:								
Fish Permit #:	Date: 2006/09/06 To: 2006/09/06 Agency: C660	Crew: KE/RS Resample:								
	SITE / METHOD									
Site# NID Map NID # 121 104G.026	UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid EF 1 6.5 C  A. GEAR SETTINGS	Comment								
Site# MTD/NO F 121 EF 1	H/P Encl Sec Length Width Voltage Frequent O 560 150.0 2.0 250 3	,								
	FISH SUMMARY									
Site# MTD/NO H 121 EF 1	1 0 0 ,	t Comment								

Section

WATERBODY

WATERBODY

Reach # ILP Map # ILP# Watershed Code: 000-00000-00000-0000-0000-000-000-000-000-000-000 .0 104G.026 120 WATERBODY Local: RC6 Gazetted Name: ILP Map #: 104G.026 120 Reach #: Waterbody ID: ILP#: 0 -Project ID: 15753 Lake/Stream: S Lake From Date: Fish Permit #: Date: 2006/09/06 To: 2006/09/06 Agency: C660 Crew: KE/RS Resample: SITE / METHOD Site# NID Map UTM:Zone/East/North/Mthd MTD/NO Temp Cond Turbid Comment 122 104G.026 A. GEAR SETTINGS Date Out Time Out Site# MTD/NO H/P Date In Time In Comment 122 2006/09/06 15:35 2006/09/06 16:20 C. ELECTROFISHER SPECIFICATIONS Site# MTD/NO H/P Encl Sec Length Width Voltage Frequency Pulse Make Model 0 252 200.0 350 30 4 **SMITHROOT** LR24 122 2.0 1 FISH SUMMARY Site# MTD/NO H/P Species Stage Total # Lgth (Min/Max) Comment 122 NFC 0 COMMENTS

EF'd above and below 165cm barrier

very steep gradient with only small localized habitat units.

Comments