

3251 / WP#T-T1219

Reconnaissance (1:20,000)
Fish and Fish Habitat Inventory
of Unnamed Tributaries to the
Southwest Shore of Babine Lake,
South of Topley Landing
(South Fulton Planning Area)

WSC 480-705800 to 480-776600
Volume 2 of 2

Prepared for:

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Prepared by:

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APPENDIX I

Reach Cards/Site Cards/Fish Collection Forms and Photographs

(Sites 366 to 953)

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-704490-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #
3.0 093L.080 10127

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-704490-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10127		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.684766.6074145				Sample Type: Biased			
Length (km): 1.65		Coupling: Decoupled		Magnitude: 3		BGC Zone: SBS			
Gradient (%): 2.1		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 757		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 366		Field UTM ..		Agency: C172		Crew: JA/SH		Date: 2001/10/04	
Site Length (m): 100		GIS UTM 9.684788.6074838		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.30		1.100		1.5	
Stage: Low ☒				Wetted Width (m): 0.00		0		0	
Med ☐				Bankfull Depth (m): 0.60		0.5		0.7	
High ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☐	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 19.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 3.00						Mid-channel ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined				C1		C2		C3	
Morphology: RP Riffle Pool				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: None		Amount: S		T		N		S	
LWD Dist:		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: V - shape		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: V - shape		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-704490-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # 093L.080 ILP # 10127 Site 366

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Local Name: None
Watershed Code: 480-704490-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093L.080 ILP #: 10127 NID Map #: 093L.080 NID #: 30066 Reach #: 3.0 Site #: 366
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.684788.6074838 Ref. Name:
Date: 2001/10/04 Time: 14:30 Agency: C172 Crew: JA/SH Fish Crd?: ☐ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.50	1.10	1.30	1.40	1.20	1.30					1.30
Wetted Width (m):	MS											0.00
Pool Depth (m):	MS											0.00

	Gadient %		Mtd	Avg
Method I:	3.0	6.0	C	4.25
Method II:	3.0	5.0	C	

Wb Depth: .5 .6 .7 Avg: 0.60 Method: MS Stage: L ☒ M ☐ H ☐

COVER Total: M

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: N

DIST:

LB SHP: V

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: V

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

WATER

EMS:
Temp:
pH:
Flood Signs: None

Method: T4
Method: P2
Method: GE

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

MORPHOLOGY

Bed Material: Dominant: C Subdom: G
D95: 19.0 D (cm): 3.00 Morph: RP
Pattern: IR
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

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

HABITAT QUALITY

Name	Comments
Rearing Habitat	Low - Dry/Int
Spawning Habitat	Moderate - associated with clean patches of gravel, limited by Dry/Int
OverWinter Habitat	Low - Dry/Int channel

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 91 F: 13 STD		U	upstream photo of typical habitat within site
R: 91 F: 14 STD		D	downstream photo of typical habitat within site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-704490-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093L.080	10127	366

COMMENTS	
Section	Comments
CHANNEL	S4 by default



Site #366, upstream photo of typical habitat within site.
Roll #91, Frame #13, Date: 2001/10/04



Site #366, downstream photo of typical habitat within site.
Roll #91, Frame #14, Date: 2001/10/04

1.0 093L.080 10118

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-18048-00000-0000-0000-000-000-000-000-000

Reach #1.0

ILP Map #093L.080

ILP #10118

Site367

COMMENTS	
Section	Comments
WATER	No Fish Caught
CHANNEL	S4 by default



Site #367, upstream photo of overhanging vegetation observed within sample site.
Roll #91, Frame #11, Date: 2001/10/04



Site #367, downstream photo of typical channel observed within sample site.
Roll #91, Frame #12, Date: 2001/10/04

South Fulton Study Area

10118

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-718600-18048-00000-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #:		10118		Reach #: 1 -	
Project ID: 3496								Lake/Stream: S		Lake From Date:			
Fish Permit #: 145085K				Date: 2001/10/04		To: 2001/10/04		Agency: C172		Crew: JA/SH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
367	093L.080	30067				GPU EF 1	10	235	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
367	EF	1	1	2001/10/04	13:30	2001/10/04	14:05						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
367	EF	1	1	O	63	100.0	0.8	200	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
367	EF	1	1	NFC		0							

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-719689-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10125

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-719689-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10125		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.687246.6072332			Sample Type: Biased				
Length (km): 1.07		Coupling: Partially Couple		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 6.9		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 787		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 368		Field UTM ..		Agency: C172		Crew: JA/SH		Date: 2001/10/04	
Site Length (m): 300		GIS UTM 9.687529.6073176		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 0.00		0		0	
Stage: Low ☐				Wetted Width (m): 0.00		0		0	
Med ☐				Bankfull Depth (m): 0.00		0		0	
High ☐									
Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☐	
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):				Mid-channel ☐		Span ☐	
Channel Pattern:		Islands:		DISTURBANCE		O1		B1	
Coupling:				INDICATORS		B2		B3	
Confinement:				C1		C2		C3	
Morphology:				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover:		Type:		SWD		LWD		B	
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:							
		Instream Veg: None ☐		Algae ☐		Moss ☐		Vascular ☐	

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-719689-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10125 Site 368

PROJECT																																																																													
Project Name: Smithers Landing Fish Inventory - 2000																																																																													
Stream Name (gaz.): BABINE RIVER										Project Code: 3496																																																																			
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																																													
WATERSHED																																																																													
Gazetted Name:										Local Name: None																																																																			
Watershed Code: 480-719689-00000-00000-0000-000-000-000-000-000-000																																																																													
ILP Map#: 093L.080				ILP #: 10125		NID Map #: 093L.080		NID #: 30068		Reach #: 1.0		Site #: 368																																																																	
Field UTM (Z.E.N): ..				Method:				Site Lg: 300		Method: HC		Access: V2																																																																	
GIS UTM (Z.E.N): 9.687529.6073176				Ref. Name:																																																																									
Date: 2001/10/04				Time: 13:00		Agency: C172		Crew: JA/SH		Fish Crd?: ☐		Incomplete: ☐																																																																	
CHANNEL																																																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>0.00</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>0.00</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>0.00</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS											0.00	Wetted Width (m):	MS											0.00	Pool Depth (m):	MS											0.00	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>7.0 4.0</td> <td>C</td> <td>3.75</td> </tr> <tr> <td>Method II:</td> <td>1.0 3.0</td> <td>C</td> <td></td> </tr> </tbody> </table>			Gadient %	Mtd	Avg	Method I:	7.0 4.0	C	3.75	Method II:	1.0 3.0	C	
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																	
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Method II:	1.0 3.0	C																																																																											
Wb Depth:				Avg: 0.00		Method: MS		Stage: L ☐ M ☐ H ☐		No Vis.Ch.: ☒		Intermittent: ☐																																																																	
										Dw: ☐		Trib.: ☐																																																																	
COVER <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Loc: P/S/O:</td> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </tbody> </table> Total:														Type:	SWD	LWD	B	U	DP	OV	IV	Amount:								Loc: P/S/O:	☐	☐	☐	☐	☐	☐	☐																																								
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Loc: P/S/O:	☐	☐	☐	☐	☐	☐	☐																																																																						
LWD: LB SHP: Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: STG: DIST: RB SHP: Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: STG:																																																																													
CROWN CLOSURE 1 1-20% INSTREAM VEG: N ☐ A ☐ M ☐ V ☐																																																																													
WATER																																																																													
EMS:				Method: T4				Req #:																																																																					
Temp:				Method: P2				Cond.:				Method: S3																																																																	
pH:				Method: GE				Turb.: T ☐ M ☐ L ☐ C ☐				Method: GE																																																																	
Flood Signs:																																																																													
MORPHOLOGY																																																																													
Bed Material:		Dominant:		Subdom:		Morph:		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>O1</th> <th>B1</th> <th>B2</th> <th>B3</th> <th>D1</th> <th>D2</th> <th>D3</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>						O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐																																																		
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D95:		D (cm):						<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>C5</th> <th>S1</th> <th>S2</th> <th>S3</th> <th>S4</th> <th>S5</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>						C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																												
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																																																				
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																																																				
Pattern:																																																																													
Islands:																																																																													
Coupling:																																																																													
Confinement:																																																																													
FSZ:								Bars: N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																																																					
HABITAT QUALITY																																																																													
Name		Comments																																																																											
Over/Winter Habitat		None - associated to No Visible Channel																																																																											
Rearing Habitat		None - associated to No Visible Channel																																																																											
Spawning Habitat		None - associated to No Visible Channel																																																																											
PHOTOS																																																																													
Photo		Foc Lg		Dir		Comments																																																																							
R:	91	F:	09	STD		U		upstream photo of vegetated depression within site																																																																					
R:	91	F:	10	STD		D		downstream photo of typical vegetation observed within sample site																																																																					

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-719689-00000-00000-0000-0000-000-000-000-000-000-000

Reach #1.0

ILP Map #093L.080

ILP #10125

Site368

COMMENTS	
Section	Comments
CHANNEL	alder swirls were observed



Site #368, upstream photo of vegetated depression within site.
Roll #91, Frame #09, Date: 2001/10/04



Site #368, downstream photo of typical vegetation observed within sample site.
Roll #91, Frame #10, Date: 2001/10/04

South Fulton Study Area

Reach #	ILP Map #	ILP #
1.0	093L080	10124

STREAM REFERENCING									
Gazetted Name:				Local Name:					
Watershed Code: 480-722721-00000-00000-0000-000-000-000-000-000-000				ILP Map #: 093L.080			ILP #: 10124		
REACH									
Reach #: 1.0	UTM(Zone/East/North): 9.687630.6072416				Sample Type: Biased				
Length (km): .47	Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS				
Gradient (%): 17.2	Confinement: Frequently Confin			Order: 1		Open water: Absent			
US Elev (m): 794	Islands: NONE			Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 369		Field UTM ..		Agency: C172		Crew: JA/SH		Date: 2001/10/04	
Site Length (m): 200		GIS UTM 9.688027.6072456		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒		Intermittent: ☐							
Dewatered: ☐		Tribs.: ☐							
Stage: Low ☐									
Med ☐									
High ☐									
Temp (C):		pH:		Conductivity:		Turbidity.: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☐	
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):						Mid-channel ☐	
								Span ☐	
Channel Pattern:		Islands:		DISTURBANCE INDICATORS		O1 ☐ B1 ☐ B2 ☐ B3 ☐ D1 ☐ D2 ☐ D3 ☐			
Coupling:									
Confinement:									
Morphology:									
COVER									
Total Cover:		Type: SWD LWD B U DP OV IV							
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		Crown Closure					
Left Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		1-20%					
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐					

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
1.0	093L.080	10124	369

PROJECT

Project Code: 3496

WATERSHED	
-----------	--

Gazetted Name:			Local Name: None		
Watershed Code: 480-722721-00000-00000-0000-000-000-000-000-000					
ILP Map#: 093L.080	ILP #: 10124	NID Map #: 093L.080	NID #: 30069	Reach #: 1.0	Site #: 369
Field UTM (Z.E.N): ..	Method:	Site Lg: 200	Method: HC	Access: V2	
GIS UTM (Z.E.N): 9.688027.6072456		Ref. Name:			
Date: 2001/10/04	Time: 12:13	Agency: C172	Crew: JA/SH	Fish Crd?: ☐	Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS											0.00
Wetted Width (m):	MS											0.00
Pool Depth (m):	MS											0.00

	Gadient %		Mtd	Avg
Method I:	27.0	20.0	C	18.25
Method II:	10.0	16.0	C	

Wb Depth: Avg: 0.00 Method: MS Stage: L ☐ M ☐ H ☐ Dw: ☐ No Vis.Ch.: ☒ Intermittent: ☐ Tribs.: ☐

COVER		Total:					
Type:	SWD	LWD	B	U	DP	OV	IV
Amount:							
Loc: P/S/O:							

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☐

LWD:	DIST:	
LB SHP:		RB SHP:

Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: _____ RIP: _____

STG: STG:

WATER

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

MORPHOLOGY

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

HABITAT QUALITY

Name	Comments
OverWinter Habitat	None - associated with No Visible Channel / vegetated depression
Rearing Habitat	None - associated with No Visible Channel / vegetated depression
Spawning Habitat	None - associated with No Visible Channel / vegetated depression

PHOTOS

Photo				Foc Lg	Dir	Comments
R:	91	F:	07	STD	U	upstream photo of vegetated depression
R:	91	F:	08	STD	D	downstream photo of vegetated depression

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-722721-00000-00000-0000-0000-000-000-000-000-000

Reach #1.0

ILP Map #093L.080

ILP #10124

Site369

COMMENTS	
Section	Comments
CHANNEL	depression cuts through an old logging block
CHANNEL	immature pine, alder and twisted stalk was observed within depression



Site #369, upstream photo of vegetated depression.
Roll #91, Frame #07, Date: 2001/10/04



Site #369, downstream photo of vegetated depression.
Roll #91, Frame #08, Date: 2001/10/04

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-725288-00000-00000-0000-000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10110

STREAM REFERENCING										
Gazetted Name:					Local Name:					
Watershed Code: 480-725288-00000-00000-0000-000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10110			
REACH										
Reach #: 1.0		UTM(Zone/East/North): 9.687836.6071912				Sample Type: Biased				
Length (km): .40		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS				
Gradient (%): 18.0		Confinement: Confined		Order: 1		Open water: Absent				
US Elev (m): 785		Islands: NONE		Riparian Vegetation: Shrubs						
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified										
SITE										
Site #: 370		Field UTM ..		Agency: C172		Crew: JA/SH		Date: 2001/10/04		
Site Length (m): 100		GIS UTM 9.688069.6071927		Agency Name: Triton Environmental Consultants (Terrace)						
CHANNEL										
No Vis.Ch.: ☒ Intermittent: ☐										
Dewatered: ☐ Tribs.: ☐										
Stage: Low ☐										
Med ☐										
High ☐										
Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐				
						Moderate ☐ Clear ☐				
MORPHOLOGY										
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐						
Subdominant:		D (cm):		Braid ☐						
Channel Pattern:		Islands:		DISTURBANCE INDICATORS						
Coupling:				O1 B1 B2 B3 D1 D2 D3						
Confinement:				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5						
Morphology:										
COVER										
Total Cover:		Type: SWD LWD B U DP OV IV								
LWD:		Amount:								
LWD Dist:		Location: P/S/O:							FSZ: ☐	
Right Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐							Crown Closure	
Left Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐							1-20%	
Right Bank: Rip.Veg:		Stage:								
Left Bank: Rip.Veg:		Stage:							Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐	

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-725288-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10110 Site 370

PROJECT																																																																														
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																				
Stream Name (gaz.): BABINE RIVER																																																																														
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																																														
WATERSHED																																																																														
Gazetted Name:										Local Name: None																																																																				
Watershed Code: 480-725288-00000-00000-0000-000-000-000-000-000-000																																																																														
ILP Map#: 093L.080			ILP #: 10110			NID Map #: 093L.080			NID #: 30070			Reach #: 1.0		Site #: 370																																																																
Field UTM (Z.E.N): ..					Method:					Site Lg: 100		Method: HC		Access: V2																																																																
GIS UTM (Z.E.N): 9.688069.6071927					Ref. Name:																																																																									
Date: 2001/10/04			Time: 11:00			Agency: C172			Crew: JA/SH			Fish Crd?: ☐		Incomplete: ☐																																																																
CHANNEL																																																																														
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	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																		
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Method II:	15.0 13.0	C																																																																												
Wb Depth:				Avg: 0.00		Method: MS		Stage: L ☐ M ☐ H ☐		No Vis.Ch.: ☒		Intermittent: ☐		Dw: ☐ Tribs.: ☐																																																																
COVER																																																																														
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Amount:																																																																														
Loc: P/S/O:	☐	☐	☐	☐	☐	☐	☐																																																																							
								1 1-20%																																																																						
								INSTREAM VEG: N ☐ A ☐ M ☐ V ☐																																																																						
LWD: DIST:																																																																														
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Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐																																																																														
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Cond.:																																																																														
Turb.: T ☐ M ☐ L ☐ C ☐																																																																														
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MORPHOLOGY																																																																														
Bed Material: Dominant: Subdom: O1 B1 B2 B3 D1 D2 D3																																																																														
D95: D (cm): Morph: DISTURBANCE INDICATORS																																																																														
Pattern: C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																																																														
Islands: ☐																																																																														
Coupling: ☐																																																																														
Confinement: Bars: N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																																																														
FSZ: ☐																																																																														
HABITAT QUALITY																																																																														
Name																																																																														
Comments																																																																														
Rearing Habitat: None - associated with no water, vegetated depression																																																																														
OverWinter Habitat: None - associated with vegetated depression, no water, and devil's club																																																																														
Spawning Habitat: None - associated with vegetated depression																																																																														
PHOTOS																																																																														
Photo																																																																														
Foc Lg																																																																														
Dir																																																																														
Comments																																																																														
R: 91	F: 05	STD	U	upstream photo of typical vegetated depression found within site																																																																										
R: 91	F: 06	STD	D	downstream photo of typical vegetated depression found within site																																																																										

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-725288-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093L.080	10110	370

COMMENTS	
Section	Comments
CHANNEL	Heavily vegetated depression with devil's club, twisted stalk found in abundance
CHANNEL	No Visible Channel



Site #370, upstream photo of typical vegetated depression found within site.
Roll #91, Frame #05, Date: 2001/10/04



Site #370, downstream photo of typical vegetated depression found within site.
Roll #91, Frame #06, Date: 2001/10/04

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-718600-59500-00000-00000-000-000-000-000-000

Reach # ILP Map # ILP #

2.0 093L.080 10079

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-718600-59500-00000-00000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10079		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 9.680473.6067919				Sample Type: Biased			
Length (km): 1.00		Coupling: Decoupled		Magnitude: 43		BGC Zone: ESSF			
Gradient (%): 0.1		Confinement: Frequently Confin		Order: 4		Open water: Absent			
US Elev (m): 981		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 371		Field UTM ..		Agency: C172		Crew: JA/SH		Date: 2001/10/05	
Site Length (m): 100		GIS UTM 9.680498.6068011		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		3.70		1.5		6	
Stage: Low ☒		Channel Width (m):		3.70		1.5		6	
Med ☐		Wetted Width (m):		3.88		1.3		7	
High ☐		Bankfull Depth (m):		0.73		0.4		1.1	
Temp (C): 11		pH: 7.8		Conductivity: 100					
				Avg		Min		Max	
				1.75		1		3	
				0.33		0.200		0.400	
				Turbidity: Turbid ☐		Low ☐			
				Moderate ☐		Clear ☒			
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 21.00		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00				Mid-channel ☐		Span ☒	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		☒		☐	
Confinement: Unconfined				C1		C2		C3	
Morphology: RP Riffle Pool				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		S		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Sloping (g		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Young forest		Rock ☐		Manmade ☐		Crown Closure	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☒	
				Vascular ☒					
FEATURES									
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)
093L.080	88500	BD	2.0	GE	10	GE	R: 91 F: 21 L:	#:	9.680477.6067
Comments: located 80m upstream of road crossing									
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
371	EF	1	100	220 sec	500	RB	4	60	124

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
2.0	093L.080	10079	371

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-59500-00000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
2.0	093L.080	10079	371

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	91	F:	21	STD	D	photo towards beaver dam
R:	91	F:	22	STD	U	upstream photo of typical channel found within site
R:	91	F:	23	STD	D	downstream photo includes typical riparian vegetation within sample site
COMMENTS						
Section				Comments		
SITE CARD				Beaver dam 80m above road		
CHANNEL				S3, RB caught		

South Fulton Study Area

Reach #	ILP Map #	ILP #
2.0	093L.080	10079

Triton Environmental Consultants Ltd.



Site #371, photo towards beaver dam.
Roll #91, Frame #21, Date: 2001/10/05



Site #371, upstream photo of typical channel found within site.
Roll #91, Frame #22, Date: 2001/10/05



Site #371, downstream photo includes typical riparian vegetation within sample site.
Roll #91, Frame #23, Date: 2001/10/05

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000

Reach # ILP Map # ILP #

3.0 093L.080 10055

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10055		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.683250.6067051				Sample Type: Biased			
Length (km): .71		Coupling: Coupled		Magnitude: 1		BGC Zone: ESSF			
Gradient (%): 5.5		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 1124		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 501		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/07/31	
Site Length (m): 200		GIS UTM 9.683656.6066911		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis. Ch.: ☒		Intermittent: ☐							
Dewatered: ☐		Tribes.: ☐							
Stage: Low ☐									
Med ☐									
High ☐									
Temp (C):		pH:		Conductivity:					
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):				Mid-channel ☐		Span ☐	
Channel Pattern:		Islands:		DISTURBANCE		O1 B1 B2 B3 D1 D2 D3			
Coupling:				INDICATORS					
Confinement:				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5					
Morphology:									
COVER									
Total Cover:		Type:		SWD		LWD		B U DP OV IV	
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:							
				Instream Veg: None ☐		Algae ☐		Moss ☐	
								Vascular ☐	

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
3.0	093L.080	10055	501

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0	093L.080	10055	501

COMMENTS	
Section	Comments
CHANNEL	First site, dropped off by helicopter, bead chain, discontinued pockets and puddles
CHANNEL	NVC



Site #501, upstream photo of typical habitat within site.
Roll #21, Frame #01, Date: 2001/07/31



Site #501, downstream photo of typical habitat within site.
Roll #21, Frame #02, Date: 2001/07/31

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-4112-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10056

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-742900-26000-72510-4112-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10056		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.683020.6066869				Sample Type: Biased			
Length (km): .82		Coupling: Partially Couple		Magnitude: 1		BGC Zone: ESSF			
Gradient (%): 11.6		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 1176		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 502		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/07/31	
Site Length (m): 150		GIS UTM 9.683694.6066737		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes: ☐		#					
Stage: Low ☐		Channel Width (m): 0.00		0		0		0	
Med ☐		Wetted Width (m): 0.00		0		0		0	
High ☐		Bankfull Depth (m): 0.00		0		0		0	
Temp (C):		pH:		Conductivity:		Avg		Min	
						16.67		12	
						0.00		0	
						0		0	
						Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☐	
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):				Mid-channel ☐		Span ☐	
Channel Pattern:		Islands:		DISTURBANCE		O1		B1	
Coupling:				INDICATORS		B2		B3	
Confinement:				C1		C2		C3	
Morphology:				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover:		Type:		SWD		LWD		B	
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:							
				Instream Veg: None ☐		Algae ☐		Moss ☐	
								Vascular ☐	

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
1.0	093L.080	10056	502

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-4112-0000-000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	1.0	093L.080	10056	502

COMMENTS	
Section	Comments
CHANNEL	No Visible Channel



Site #502, upstream photo taken of No Visible Channel.
Roll #21, Frame #03, Date: 2001/07/31



Site #502, downstream photo taken of No Visible Channel.
Roll #21, Frame #04, Date: 2001/07/31

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10055

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10055		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.684358.6066826				Sample Type: Random			
Length (km): .52		Coupling: Decoupled		Magnitude: 2		BGC Zone: ESSF			
Gradient (%): 9.8		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 1069		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 503		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/07/31	
Site Length (m): 300		GIS UTM 9.684645.6066773		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 0.94		0.600		1.230	
Stage: Low ☒				Wetted Width (m): 0.64		0.45		0.9	
Med ☐				Bankfull Depth (m): 0.47		0.4		0.5	
High ☐									
Temp (C): 6		pH: 7.7		Conductivity: 60		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Fines		D95 (cm): 15.00		Bars: Non ☐		Side ☒		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00						Mid-channel ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Trace		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		S		N		T	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☐		☐		☐	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
503	EF	1	300	173 sec	500	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10055 Site 503

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000
ILP Map#: 093L.080 ILP #: 10055 NID Map #: 093L.080 NID #: 50003 Reach #: 1.0 Site #: 503
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: HC Access: H
GIS UTM (Z.E.N): 9.684645.6066773 Ref. Name:
Date: 2001/07/31 Time: 11:13 Agency: C172 Crew: JAJH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	0.80	0.91	0.60	1.23	1.11	1.01					0.94
Wetted Width (m):	MS	0.61	0.90	0.60			0.45					0.64
Pool Depth (m):	MS	0.09	0.15	0.13								0.12

	Gadient %		Mtd	Avg
Method I:	20.0	16.0	C	15.75
Method II:	14.0	13.0	C	

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

COVER Total: T

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☒

LWD: F DIST: E

LB SHP: S

Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: S

Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

WATER

EMS: Temp: 6 pH: 7.7 Flood Signs: None Method: T4 Method: P2 Method: GE Req #: Cond.: 60 Turb.: T ☐ M ☐ L ☐ C ☒ Method: S3 Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: G D95: 15.0 D (cm): 2.00 Morph: RP DISTURBANCE INDICATORS O1 B1 B2 B3 D1 D2 D3 C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Pattern: SI Islands: N Coupling: DC Confinement: UN FSZ: ☐ Bars: N ☐ SIDE ☒ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Poor-no clean patches of gravel observed
Rearing Habitat	Poor-intermittent flow, limited stream cover
OverWinter Habitat	Poor-limited by intermittent flow and lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 21 F: 05	STD	U	upstream photo of typical habitat
R: 21 F: 06	STD	D	downstream photo
R: 21 F: 07	STD	U	upstream photo

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	1.0	093L.080	10055	503

PHOTOS				
Photo		Foc Lg	Dir	Comments
R:	21	F:	08	STD D downstream photo

COMMENTS	
Section	Comments
CHANNEL	Intermittent channel, discontinues. Channel gradient at stream junction was 28% for approx. 30 m. S6 upstream of confluence with downstream mainstem. Mainstem is non fish bearing.
CHANNEL	S6 Stream

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000

Reach # 1.0
ILP Map # 093L.080
ILP # 10055

WATERBODY													
Gazetted Name: Local: None													
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000													
Waterbody ID: ILP Map #: 093L.080 ILP #: 10055 Reach #: 1 -													
Project ID: 3496 Lake/Stream: S Lake From Date:													
Fish Permit #: 145085K Date: 2001/07/31 To: 2001/07/31 Agency: C172 Crew: JA/JH Resample: ☐													
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mtd			MTD/NO	Temp	Cond	Turbid	Comment			
503	093L.080	50003				GPU EF 1	6	60	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
503	EF	1	1	2001/07/31	10:40	2001/07/31	11:30						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
503	EF	1	1	O	173	300.0	1.1	500	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
503	EF	1	1	NFC		0							



Site #503, upstream photo of typical habitat.
Roll #21, Frame #05, Date: 2001/07/31



Site #503, downstream photo.
Roll #21, Frame #06, Date: 2001/07/31



Site #503, upstream photo.
Roll #21, Frame #07, Date: 2001/07/31



Site #503, downstream photo.
Roll #21, Frame #08, Date: 2001/07/31

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000

Reach # 4.0 ILP Map # ILP #

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000									
ILP Map #:		ILP #:		Reach #: 4.0		NID Map #: 093L.080		NID #: 50180	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC97158		Gaz.:				9.683475.6065948		GIS	
#: 69		Local:				Sample Type: B		Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06				Agency: C172			Crew: SH		
ATTRIBUTES									
Length (km): 1.09		Gradient: 2.57		Setting: VW		DISTURBANCE INDICATORS			
DS Elev.: 1070		Order: 2		Open water: A		☐ O1 ☐ B1 ☐ B2 ☐ B3 ☐ D1 ☐ D2 ☐ D3			
US Elev: 1098		Magnitude: 2		Confinement: OC		☐ C1 ☐ C2 ☐ C3 ☐ C4 ☐ C5 ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5			
		BGC Zone: ESSF		Coupling: PC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: N		C/D:		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR					
Channel Pattern: SI				Mass Movement: L		Exposed/Eroded: NS			
				Riparian Veg.: M		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.080	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000

4.0

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-0													
WS Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000													
Waterbody ID:					ILP Map #:			ILP #:		Reach #: 4 -			
Project ID: 3496					Lake/Stream: S			Lake From Date:					
Fish Permit #: 145085K			Date: 2001/07/31			To: 2001/07/31			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM: Zone/East/North/Mtd			MTD/NO		Temp	Cond	Turbid	Comment		
504	093L.080	50004				GPU	EF	1	6	40	C		
A. GEAR SETTINGS													
Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment					
504	EF	1	1	2001/07/31	12:00	2001/07/31	12:30						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
504	EF	1	1	O	150	150.0	2.1	600	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment			
504	EF	1	1	NFC			0						

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-26000-00000-0000-000-000-000-000-000

3.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-742900-26000-00000-0000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 3.0		UTM(Zone/East/North): 9.684376.6066520				Sample Type: Biased			
Length (km): 1.37		Coupling: Decoupled		Magnitude: 4		BGC Zone: ESSF			
Gradient (%): 7.3		Confinement: Occasionally Conf		Order: 3		Open water: Absent			
US Elev (m): 1070		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 505		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/07/31	
Site Length (m): 400		GIS UTM 9.684947.6066995		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.72		2.400	
Stage: Low ☐				Wetted Width (m):		2.58		2	
Med ☒				Bankfull Depth (m):		0.57		0.5	
High ☐		Temp (C): 6		pH: 7.4		Conductivity: 40			
								Turbidity.: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 40.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 10.00						Mid-channel ☐	
Channel Pattern: Irregular Meanders		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: CP Cascade Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		D		T		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest						Manmade ☐	
Left Bank: Rip.Veg:		Stage: Mature forest						Crown Closure 1-20%	
								Instream Veg: None ☐ Algae ☐ Moss ☒ Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
505	EF	1	400	300 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-00000-00000-000-000-000-000-000-000

Reach # 3.0 ILP Map # ILP # 505 Site 505

PROJECT																																																
Project Name: Smithers Landing Fish Inventory - 2000 Stream Name (gaz.): BABINE RIVER Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																
Project Code: 3496																																																
WATERSHED																																																
Gazetted Name: _____ Local Name: _____ Watershed Code: 480-742900-26000-00000-00000-000-000-000-000-000-000-000																																																
ILP Map#:		ILP #:		NID Map #: 093L.080		NID #: 50005		Reach #: 3.0		Site #: 505																																						
Field UTM (Z.E.N): ..				Method:		Site Lg: 400		Method: HC		Access: H																																						
GIS UTM (Z.E.N): 9.684947.6066995				Ref. Name:																																												
Date: 2001/07/31				Time: 13:19		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																				
CHANNEL																																																
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																				
Channel Width (m):	MS	3.00	2.40	2.60	2.50	3.10	2.70					2.72																																				
Wetted Width (m):	MS	2.80	2.20	2.80	2.70	3.00	2.00					2.58																																				
Pool Depth (m):	MS	0.18	0.28	0.21	0.15	0.30	0.17					0.22																																				
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>7.0</td> <td>10.0</td> <td>C</td> <td>7.50</td> <td></td> </tr> <tr> <td>Method II:</td> <td>8.0</td> <td>5.0</td> <td>C</td> <td></td> <td></td> </tr> </tbody> </table>																Gadient %		Mtd	Avg	Method I:	7.0	10.0	C	7.50		Method II:	8.0	5.0	C																			
		Gadient %		Mtd	Avg																																											
Method I:	7.0	10.0	C	7.50																																												
Method II:	8.0	5.0	C																																													
Wb Depth:		.5	.7	.5	Avg: 0.57		Method: MS		Stage: L ☐ M ☒ H ☐		No Vis.Ch.: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">COVER</th> <th colspan="6">Total: A</th> </tr> </thead> <tbody> <tr> <td>Type:</td> <td>SWD</td> <td>LWD</td> <td>B</td> <td>U</td> <td>DP</td> <td>OV</td> <td>IV</td> <td></td> </tr> <tr> <td>Amount:</td> <td>S</td> <td>D</td> <td>T</td> <td>S</td> <td>T</td> <td>S</td> <td>T</td> <td></td> </tr> <tr> <td>Loc: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> <td></td> </tr> </tbody> </table>														COVER		Total: A						Type:	SWD	LWD	B	U	DP	OV	IV		Amount:	S	D	T	S	T	S	T		Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☒	
COVER		Total: A																																														
Type:	SWD	LWD	B	U	DP	OV	IV																																									
Amount:	S	D	T	S	T	S	T																																									
Loc: P/S/O:	☒	☒	☒	☒	☒	☒	☒																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">CROWN CLOSURE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1-20%</td> </tr> </tbody> </table>														CROWN CLOSURE		1	1-20%																															
CROWN CLOSURE																																																
1	1-20%																																															
INSTREAM VEG: N ☐ A ☐ M ☒ V ☐																																																
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LWD: F		DIST: E																																														
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RIP: S		RIP: S																																														
STG: MF		STG: MF																																														
WATER																																																
EMS: _____ Req #: _____ Temp: 6 Method: T4 Cond.: 40 Method: S3 pH: 7.4 Method: P2 Method: GE Flood Signs: Rafted debris Method: GE																																																
Turb.: T ☐ M ☐ L ☐ C ☒																																																
MORPHOLOGY																																																
Bed Material: _____ Dominant: C Subdom: G D95: 40.0 D (cm): 10.00 Morph: CP																																																
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FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0			505

COMMENTS	
Section	Comments
CHANNEL	No Fish Caught
CHANNEL	Downstream barrier on mainstem
CHANNEL	S6 Stream

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000

3.0

WATERBODY												
Gazetted Name:						Local:						
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0												
WS Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000												
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 3 -		
Project ID: 3496				Lake/Stream: S				Lake From Date:				
Fish Permit #:		145085K		Date: 2001/07/31		To: 2001/07/31		Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD												
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment	
505	093L.080	50005				GPU	EF	1	6	40	C	
A. GEAR SETTINGS												
Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment				
505	EF	1	1	2001/07/31	12:30	2001/07/31	13:40					
C. ELECTROFISHER SPECIFICATIONS												
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model
505	EF	1	1	O	300	400.0	2.3	600	1	5	SMITH ROOT	12B
FISH SUMMARY												
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment		
505	EF	1	1	NFC			0					



Site #505, upstream photo of cobble/gravel substrates typical within sample site.
Roll #21, Frame #09, Date: 2001/07/31



Site #505, downstream photo.
Roll #21, Frame #10, Date: 2001/07/31

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10052

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10052		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.685809.6066267				Sample Type: Biased			
Length (km): 1.15		Coupling: Decoupled		Magnitude: 7		BGC Zone: SBS			
Gradient (%): 4.8		Confinement: Occasionally Conf		Order: 3		Open water: Absent			
US Elev (m): 1012		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 506		Field UTM ..		Agency: C172		Crew: JAJH		Date: 2001/07/31	
Site Length (m): 360		GIS UTM 9.685750.6067053		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.13		1.4	
Stage: Low ☐				Wetted Width (m):		1.89		1.5	
Med ☒				Bankfull Depth (m):		0.57		0.4	
High ☐						0.7		3	
Temp (C): 8		pH: 7.6		Conductivity: 90		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 33.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 3.00				Mid-channel ☐		Span ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		D		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest				Vascular ☐			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
506	EF	1	360	263 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10052 Site 506

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER Project Code: 3496
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000

WATERSHED

Gazetted Name: Local Name: None
Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000
ILP Map#: 093L.080 ILP #: 10052 NID Map #: 093L.080 NID #: 50006 Reach #: 1.0 Site #: 506
Field UTM (Z.E.N): .. Method: Site Lg: 360 Method: HC Access: H
GIS UTM (Z.E.N): 9.685750.6067053 Ref. Name:
Date: 2001/07/31 Time: 13:57 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	2.40	3.10	1.40	1.70	2.20	2.00					2.13
Wetted Width (m):	MS	2.20	2.00	1.70	1.50	2.00	1.95					1.89
Pool Depth (m):	MS	0.40	0.26	0.15	0.17	0.13	0.31					0.24

	Gadient %		Mtd	Avg
Method I:	5.0	7.0	C	6.75
Method II:	8.0	7.0	C	

Wb Depth: .7 .6 .4 Avg: 0.57 Method: MS Stage: L ☐ M ☒ H ☐ No Vis.Ch.: ☐ Intermittent: ☐
Dw: ☐ Tribs.: ☐

COVER Total: A
Type: SWD LWD B U DP OV IV CROWN CLOSURE
Amount: S D N S T S T 1 1-20%
Loc: P/S/O: ☒ ☒ ☐ ☒ ☒ ☒ ☒ INSTREAM VEG: N ☐ A ☐ M ☒ V ☐
LWD: F DIST: E
LB SHP: U RB SHP: U
Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐
RIP: M RIP: S
STG: MF STG: MF

WATER

EMS: Req #: Temp: 8 Method: T4 Cond.: 90 Method: S3
pH: 7.6 Method: P2 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 33.0 D (cm): 3.00 Morph: RP DISTURBANCE INDICATORS C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Pattern: IR
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Moderate spawning habitat-associated with clear patches of gravel
Rearing Habitat	Moderate rearing habitat- associated with an abundance of cover (LWD, Overstream Veg., Undercut banks)
OverWinter Habitat	Poor overwintering habitat-limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 21 F: 11	STD	U	upstream photo within sample site
R: 21 F: 12	STD	D	downstream photo within sample site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000

Reach #1.0

ILP Map #093L.080

ILP #10052

Site506

COMMENTS	
Section	Comments
CHANNEL	No Fish Caught
CHANNEL	S6

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000 Reach # 1.0 ILP Map # 093L.080 ILP # 10052

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-742900-26000-49569-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #: 10052		Reach #: 1 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #:		145085K		Date: 2001/07/31		To: 2001/07/31		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
506	093L.080	50006				GPU EF 1	8	90	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
506	EF 1	1	2001/07/31	13:57	2001/07/31	15:35							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
506	EF 1	1	O	263	360.0	2.0	600	1	5	SMITH ROOT	12B		
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
506	EF 1	1	NFC			0							



Site #506, upstream photo within sample site.
Roll #21, Frame #11, Date: 2001/07/31



Site #506, downstream photo within sample site.
Roll #21, Frame #12, Date: 2001/07/31

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000

Reach # ILP Map # ILP #
2.0

PROJECT			
Project Name: Smithers Landing Fish Inventory - 2000		Project Code: 3496	
Stream Name (gaz.): BABINE RIVER			
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000			
WATERSHED			
Reach Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000			
ILP Map #:	ILP #:	Reach #:	NID Map #:
		2.0	093L.080
Air Photos		Names	
LINE: 30BCC97158		UTM(Zone/East/North/Method)	
#: 127	Gaz.:	9.685600.6067198	
Local:		GIS	
		Sample Type: B Wetland: ☐	
SURVEY INFO			
Date: 1900/07/06		Agency: C172	
		Crew: SH	
ATTRIBUTES			
Length (km): 1.77	Gradient: 1.41	Setting: VF	DISTURBANCE
DS Elev.: 945	Order: 4	Open water: A	INDICATORS
US Elev: 970	Magnitude: 12	Confinement: UN	
	BGC Zone: ESSF	Coupling: DC	
Valley Flat: L	C/D: C	Islands: N	
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR	
Channel Pattern: IR		Mass Movement: L	Exposed/Eroded: NS
		Riparian Veg.: S	Landuse: NS

MAPS		
Map Type	Map #	Year
TRIM	093L.080	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000

2.0

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-0													
WS Code: 480-742900-26000-00000-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 2 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/07/31			To: 2001/07/31			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment		
507	093L.080	50007				GPU	EF	1	6	40	C		
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
507	EF	1	1	2001/07/31	15:40	2001/07/31	16:20						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
507	EF	1	1	O	340	200.0	2.0	600	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
507	EF	1	1	NFC		0							

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000

4.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	4.0	NID Map #:	093L.080	NID #: 50200			
Air Photos		Names			UTM(Zone/East/North/Method)				
LINE: 30BCC97158	Gaz.:				9.688094.6066615				
#: 72	Local:				Sample Type: B Wetland: ☐				
GIS									
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): 1.84	Gradient: 3.97	Setting: VW	DISTURBANCE INDICATORS						
DS Elev.: 893	Order: 4	Open water: A	O1	B1	B2	B3	D1	D2	D3
US Elev: 966	Magnitude: 53	Confinement: CO	C1	C2	C3	C4	C5	S1	S2
BGC Zone: SBS	Coupling: PC								
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: IR		Mass Movement: M	Exposed/Eroded: NS						
		Riparian Veg.: M	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093L.080	

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-00000-00000-0000-0000-000-000-000-000-000

4.0

WATERBODY													
Gazetted Name:						Local: Sockeye Creek							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-742900-00000-00000-0000-000-000-000-000-000													
Waterbody ID:			ILP Map #:			ILP #:			Reach #: 4 -				
Project ID: 3496						Lake/Stream: S			Lake From Date:				
Fish Permit #:		145085K		Date: 2001/08/01		To: 2001/08/01		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
508	093L.080	50008				GPU EF 1	9	50	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
508	EF 1	1	2001/08/01	09:00	2001/08/01	09:30							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
508	EF	1	1	O	200	400.0	8.5	700	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
508	EF	1	1	NFC		0							

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

3.0

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000						ILP Map #:			ILP #:		
REACH											
Reach #: 3.0		UTM(Zone/East/North): 9.688614.6067651				Sample Type: Random					
Length (km): 2.45		Coupling: Partially Couple		Magnitude: 72		BGC Zone: SBS					
Gradient (%): 2.9		Confinement: Confined		Order: 5		Open water: Absent					
US Elev (m): 893		Islands: NONE		Riparian Vegetation: Mixed C/D							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 9		Field UTM ..		Agency: C172		Crew: EL/JD		Date: 2001/08/01			
Site Length (m): 400		GIS UTM 9.690286.6068424		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		10.35		7.5		14.10 6	
Stage: Low ☒				Wetted Width (m):		4.52		3.5		6.2 6	
Med ☐				Bankfull Depth (m):		0.73		0.7		0.8 3	
High ☐		Temp (C): 8		pH: 7.8		Conductivity: 40					
								Turbidity.: Turbid ☐		Low ☐	
								Moderate ☐		Clear ☒	
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 65.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Boulders		D (cm): 15.00								Braid ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Coupled				INDICATORS		☐		☐		☐	
Confinement: Confined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐		☐		☐	
Morphology: RP Riffle Pool						☐		☐		☐	
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP OV IV	
LWD: Abundant		Amount: T		D		S		N		S T N	
LWD Dist: Clumped		Location: P/S/O:		☒		☒		☒		☐	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐		Rock ☐ Manmade ☐ Crown Closure	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☒		Boulder ☐		Rock ☐ Manmade ☐ 1-20%	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest									
Left Bank: Rip.Veg:		Stage: Mature forest						Instream Veg: None ☒		Algae ☐ Moss ☐ Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo		AirPhoto		UTM (Z/E/N)
093L.080	88003	F	7.0	GE	2	GE	R: 1	F: 22	L:	#:	9.690318.6068
Comments: Barrier to upstream fish migration											

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

3.0

SITE																	
Site #: 509		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/01									
Site Length (m): 1000		GIS UTM 9.689080.6067715		Agency Name: Triton Environmental Consultants (Terrace)													
CHANNEL																	
No Vis.Ch.: ☐	Intermittent: ☐			Avg	Min	Max	#										
Dewatered: ☐	Tribs.: ☐						<table border="1" style="display: inline-table; width: 100%;"> <tr> <td>Avg</td> <td>Min</td> <td>Max</td> <td>#</td> </tr> <tr> <td>3.75</td> <td>2</td> <td>5</td> <td>4</td> </tr> </table>			Avg	Min	Max	#	3.75	2	5	4
Avg	Min	Max	#														
3.75	2	5	4														
Stage: Low ☐			Channel Width (m):	7.83	5.300	10.2	6										
Med ☒			Wetted Width (m):	5.03	2.5	8.100	6										
High ☐			Bankfull Depth (m):	0.63	0.5	0.7	3										
Temp (C): 8		pH: 7.7		Conductivity: 40		Turbidity: ☐ Turbid ☐ Low ☐ Moderate ☐ Clear ☒											
MORPHOLOGY																	
Bed Material: Dominant: Cobble		D95 (cm): 181.00		Bars: Non ☐		Side ☐		Diagonal ☒									
Subdominant: Boulders		D (cm): 15.00						Mid-channel ☒									
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1 B1 B2 B3 D1 D2 D3		Span ☐									
Coupling: Decoupled				INDICATORS				Braid ☐									
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5													
Morphology: RP Riffle Pool																	
COVER																	
Total Cover: Abundant		Type: SWD LWD B U DP OV IV															
LWD: Few		Amount: S S S S D T T															
LWD Dist: Evenly Distributed		Location: P/S/O: ☒ ☒ ☒ ☒ ☒ ☒ ☒						FSZ: ☐									
Right Bank:	Shape: V - shape	Texture: Fines ☐	Gravel ☒	Cobble ☐	Boulder ☐	Rock ☐	Manmade ☐	Crown Closure									
Left Bank:	Shape: Sloping (g)	Texture: Fines ☐	Gravel ☒	Cobble ☐	Boulder ☐	Rock ☐	Manmade ☐	1-20%									
Right Bank:	Rip.Veg: Shrubs	Stage: Mature forest															
Left Bank:	Rip.Veg:	Stage: Mature forest				Instream Veg: None ☐ Algae ☐ Moss ☒ Vascular ☐											
FISH																	
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)								
9	EF	1	400	416 sec	800	NFC	0										
509	EF	1	700	500 sec	700	NFC	0										

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0 ILP Map # ILP # Site 509

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Local Name: Sockeye Creek
Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000
ILP Map#: ILP #: NID Map #: 093L.080 NID #: 50009 Reach #: 3.0 Site #: 509
Field UTM (Z.E.N): .. Method: Site Lg: 1000 Method: GE Access: H
GIS UTM (Z.E.N): 9.689080.6067715 Ref. Name:
Date: 2001/08/01 Time: 09:30 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	5.30	10.20	8.00	7.10	9.50	6.90					7.83	Method I:	5.0	2.0	C
Wetted Width (m):	MS	2.50	8.10	7.10	3.10	5.20	4.20					5.03	Method II:	4.0	4.0	C
Pool Depth (m):	MS	0.52	0.41	0.33	0.21	0.46	0.22					0.36				

Wb Depth: .7 .5 .7 Avg: 0.63 Method: MS Stage: L ☐ M ☒ H ☐

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

COVER Total: A

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: F DIST: E

LB SHP: S

Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: V

Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

WATER

EMS:
Temp: 8
pH: 7.7
Flood Signs: Braided channel

Method: T4
Method: P2
Method: GE

Req #: Cond.: 40 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: B
D95: 181.0 D (cm): 15.00 Morph: RP
Pattern: SI
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Bars: N ☐ SIDE ☐ DIAG ☒ MID ☒ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Moderate spawning habitat-associated with clean patches of gravel, limited by falls downstream
Rearing Habitat	High rearing habitat-associated with good cover limited by falls lower downstream
OverWinter Habitat	High overwintering habitat-associated with deep pools, perennial flow, limited by falls in Reach 2

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 21 F: 13 STD		U	upstream photo of habitat within site
R: 21 F: 14 STD		D	downstream photo of typical habitat within site
R: 21 F: 15 STD		U	photo of waterfall

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0			509

PHOTOS						
Photo			Foc Lg	Dir	Comments	
R:	21	F:	16	STD	D	photo over waterfall
R:	21	F:	17	STD	U	photo of waterfall
COMMENTS						
Section			Comments			
CHANNEL			No Fish Caught			
CHANNEL			Strong % of invertebrates in stream, pictures 15-17 are of waterfalls in Reach 3			
CHANNEL			S5 Stream			

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
3.0			509

PHOTOS						
Photo				Foc Lg	Dir	Comments
R:	21	F:	16	STD	D	photo over waterfall
R:	21	F:	17	STD	U	photo of waterfall
COMMENTS						
Section				Comments		
CHANNEL				No Fish Caught		
CHANNEL				Strong % of invertebrates in stream, pictures 15-17 are of waterfalls in Reach 3		
CHANNEL				S5 Stream		

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-742900-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0
ILP Map #
ILP #

WATERBODY															
Gazetted Name:										Local: Sockeye Creek					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0															
WS Code: 480-742900-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 3 -	
Project ID: 3496										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145085K				Date: 2001/08/01				To: 2001/08/01		Agency: C172		Crew: JA/JH EL/J		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment				
509	093L.080	50009				GPU	EF	1	8	40	C				
9	093L.080	10009				GPU	EF	1	8	40	C				
A. GEAR SETTINGS															
Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment							
9	EF	1	1	2001/08/01	08:30	2001/08/01	09:45								
509	EF	1	1	2001/08/01	09:30	2001/08/01	11:50								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model			
9	EF	1	1	O	416	400.0	4.0	800	60	6	SMITH ROOT	12B			
509	EF	1	1	O	500	700.0	8.0	700	1	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment					
9	EF	1	1	NFC			0								
509	EF	1	1	NFC			0								



Site #509, upstream photo of habitat within site.
Roll #21, Frame #13, Date: 2001/08/01



Site #509, downstream photo of typical habitat within site.
Roll #21, Frame #14, Date: 2001/08/01



Site #509, photo of waterfall.
Roll #21, Frame #15, Date: 2001/08/01



Site #509, photo over waterfall.
Roll #21, Frame #16, Date: 2001/08/01



Site #509, photo of waterfall.
Roll #21, Frame #17, Date: 2001/08/01

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000

Reach # 8.0 ILP Map # 093L.080 ILP # 10220

STREAM REFERENCING									
Gazetted Name: DEASY CREEK					Local Name:				
Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10220		
REACH									
Reach #: 8.0		UTM(Zone/East/North): 9.684141.6068636				Sample Type: Random			
Length (km): 1.39		Coupling: Decoupled		Magnitude: 6		BGC Zone: SBS			
Gradient (%): 3.5		Confinement: Frequently Confin		Order: 2		Open water: Absent			
US Elev (m): 964		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 510		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/01	
Site Length (m): 505		GIS UTM 9.684360.6068604		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐							
Dewatered: ☐		Tribes.: ☐							
Stage: Low ☒									
Med ☐									
High ☐									
Temp (C): 9		pH: 7.8		Conductivity: 70		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☐		Side ☒		Diagonal ☐	
Subdominant: Fines		D (cm): 1.00						Mid-channel ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		S		T		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
510	EF	1	750	300 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000

Reach # 8.0 ILP Map # 093L.080 ILP # 10220 Site 510

PROJECT																																																																														
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																				
Stream Name (gaz.): BABINE RIVER										Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																																				
WATERSHED																																																																														
Gazetted Name: DEASY CREEK										Local Name: None																																																																				
Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000										NID #: 50010 Reach #: 8.0 Site #: 510																																																																				
ILP Map#: 093L.080			ILP #: 10220			NID Map #: 093L.080			Site Lg: 505			Method: HC Access: H																																																																		
Field UTM (Z.E.N): ..					Method:					Ref. Name:																																																																				
GIS UTM (Z.E.N): 9.684360.6068604																																																																														
Date: 2001/08/01			Time: 13:40			Agency: C172			Crew: JA/JH			Fish Crd?: ☒ Incomplete: ☐																																																																		
CHANNEL																																																																														
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Channel Width (m):	MS	2.20	1.90	2.40	1.80	2.00	1.50					1.97																																																																		
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INSTREAM VEG: N ☐ A ☐ M ☒ V ☐																																																																														
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Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐																																																																														
RIP: M STG: MF																																																																														
WATER																																																																														
EMS: Temp: 9 pH: 7.8 Flood Signs: None																																																																														
Method: T4 Method: P2 Method: GE																																																																														
Req #: Cond.: 70 Turb.: T ☐ M ☐ L ☐ C ☒ Method: S3 Method: GE																																																																														
MORPHOLOGY																																																																														
Bed Material: Dominant: G Subdom: F D95: 15.0 D (cm): 1.00 Morph: RP																																																																														
Pattern: SI Islands: N Coupling: DC Confinement: UN FSZ: ☐																																																																														
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O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																																														
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																																														
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FDIS Site Card

South Fulton Study Area

		Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000		8.0	093L.080	10220	510
COMMENTS					
Section	Comments				
CHANNEL	No fish caught with extensive electroshocking. Habitat below lake should contain fish. No fish were observed in lake.				
CHANNEL	S6 Stream				

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000

Reach # 8.0 ILP Map # 093L.080 ILP # 10220

WATERBODY													
Gazetted Name: DEASY CREEK										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-729600-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #: 10220		Reach #: 8 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #:		145085K		Date: 2001/08/01		To: 2001/08/01		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
510	093L.080	50010				GPU EF 1	9	70	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
510	EF 1	1	2001/08/01	13:40	2001/08/01	14:30							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
510	EF	1	1	O	300	750.0	1.9	600	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
510	EF	1	1	NFC		0							



Site #510, upstream photo of habitat within site.
Roll #21, Frame #18, Date: 2001/08/01



Site #510, downstream photo of habitat within site.
Roll #21, Frame #19, Date: 2001/08/01

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-729600-73466-41727-2864-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10084

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-729600-73466-41727-2864-0000-000-000-000-000-000-000									
ILP Map #: 093L.080		ILP #: 10084		Reach #: 1.0		NID Map #: 093L.080		NID #: 50147	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC96154		Gaz.:				9.683840.6068271		GIS	
#: 86		Local:				Sample Type: B		Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): .53		Gradient: 3.21		Setting: VF		DISTURBANCE			
DS Elev.: 958		Order: 1		Open water: A		INDICATORS			
US Elev: 975		Magnitude: 1		Confinement: UN		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5			
BGC Zone: SBS				Coupling: DC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: B		C/D: C				Islands: N			
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR					
Channel Pattern: SI				Mass Movement: L		Exposed/Eroded: NS			
				Riparian Veg.: M		Landuse: NS			
MAPS									
Map Type		Map #		Year					
TRIM		093L.080							

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-729600-73466-41727-2864-0000-000-000-000-000-000

Reach # 1.0
ILP Map #
ILP #

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-729600-73466-41727-2864-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 1 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/01			To: 2001/08/01			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
511	093L.080	50011				GPU EF 1	9	70	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
511	EF	1	1	2001/08/01	12:15	2001/08/01	12:50						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
511	EF	1	1	O	320	100.0	1.0	600	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
511	EF	1	1	NFC		0							

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-729600-73466-41727-0000-0000-000-000-000-000-000

Reach # 2.0
ILP Map # 093L.080
ILP # 10141

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000

Project Code: 3496

WATERSHED

Reach Watershed Code: 480-729600-73466-41727-0000-0000-000-000-000-000-000
ILP Map #: 093L.080
ILP #: 10141
Reach #: 2.0
NID Map #: 093L.080
NID #: 50150
Air Photos
LINE: 30BCC97158
#: 130
Gaz.:
Local:
Names
UTM(Zone/East/North/Method)
9.685041.6067911
GIS
Sample Type: R
Wetland: ☐

SURVEY INFO

Date: 1900/07/06
Agency: C172
Crew: SH

ATTRIBUTES

Length (km): 1.01
DS Elev.: 919
US Elev: 970
Gradient: 5.05
Order: 2
Magnitude: 2
BGC Zone: SBS
Setting: VF
Open water: A
Confinement: OC
Coupling: DC
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Valley Flat: B
Active Floodplain Visible: ☐
Channel Pattern: IR
C/D: C
Est. Width:
Islands: N
Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR
Mass Movement: L
Riparian Veg.: M
Exposed/Eroded: NS
Landuse: NS

MAPS

Map Type	Map #	Year
TRIM	093L.080	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-729600-73466-41727-0000-0000-000-000-000-000-000

2.0

WATERBODY															
Gazetted Name:										Local: None					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0															
WS Code: 480-729600-73466-41727-0000-0000-000-000-000-000-000															
Waterbody ID:					ILP Map #:					ILP #:		Reach #: 2 -			
Project ID: 3496					Lake/Stream: S					Lake From Date:					
Fish Permit #: 145085K				Date: 2001/08/01				To: 2001/08/01		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
512	093L.080	50012				GPU EF 1	6	60	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
512	EF 1	1	2001/08/01	15:00	2001/08/01	16:20									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
512	EF 1	1	O	190	100.0	1.0	600	I	5	SMITH ROOT	12B				
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
512	EF 1	1	NFC			0									

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-705800-57200-00000-0000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0

STREAM REFERENCING									
Gazetted Name: STRIMBOLDH CREEK					Local Name:				
Watershed Code: 480-705800-57200-00000-0000-0000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 1.0		UTM (Zone/East/North): 9.676563.6061406				Sample Type: Biased			
Length (km): 2.31		Coupling: Decoupled		Magnitude: 33		BGC Zone: SBS			
Gradient (%): 2.0		Confinement: Occasionally Conf		Order: 4		Open water: Present			
US Elev (m): 1075		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 513		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/02	
Site Length (m): 100		GIS UTM 9.675861.6062022		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 2.72		2.1		3.3	
Stage: Low ☐				Wetted Width (m): 2.40		2.1		3.1	
Med ☒				Bankfull Depth (m): 0.47		0.4		0.5	
High ☐									
Temp (C): 7		pH: 7.8		Conductivity: 40		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 30.00		Bars: Non ☐		Side ☒		Diagonal ☐	
Subdominant: Gravels		D (cm): 3.00						Mid-channel ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		D		T		S	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☒		☒	
		☒		☒		☒		☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
513	EF	1	100	170 sec	600	RB	11	45	200

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
1.0			513

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-57200-00000-0000-0000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0			513

COMMENTS	
Section	Comments
CHANNEL	RB caught, 3 age classes of fish were captured, fry, juveniles, adults
CHANNEL	S3 Stream

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-705800-57200-00000-0000-0000-000-000-000-000-000

1.0

WATERBODY															
Gazetted Name: STRIMBOLDH CREEK										Local: None					
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0															
WS Code: 480-705800-57200-00000-0000-0000-000-000-000-000-000															
Waterbody ID:					ILP Map #:					ILP #:		Reach #: 1 -			
Project ID: 3496					Lake/Stream: S					Lake From Date:					
Fish Permit #: 145085K		Date: 2001/08/02			To: 2001/08/02			Agency: C172		Crew: JA/JH		Resample: ☐			
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment				
513	093L.069	50013				GPU	EF 1	7	40	C					
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
513	EF	1	1	2001/08/02	13:10	2001/08/02	14:00								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
513	EF	1	1	O	170	100.0	3.0	600	I	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
513	EF	1	1	RB	A	3	175 200	R							
513	EF	1	1	RB	J	5	70 85	R							
513	EF	1	1	RB	F	3	45 55	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#				
513	EF	1	1	RB	45		U	U							
513	EF	1	1	RB	50		U	U							
513	EF	1	1	RB	55		U	U							
513	EF	1	1	RB	70		U	U							
513	EF	1	1	RB	80		U	U							
513	EF	1	1	RB	85		U	U							
513	EF	1	1	RB	75		U	U							
513	EF	1	1	RB	75		U	U							
513	EF	1	1	RB	175		U	U							
513	EF	1	1	RB	200		U	U							
513	EF	1	1	RB	190		U	U							
COMMENTS															
Section					Comments										
WATERBODY					Rainbow caught. Fry, Juvenile and Adult age class										



Site #513, downstream photo of typical habitat within site.
Roll #22, Frame #0, Date: 2001/08/02



Site #513, upstream photo of typical habitat within site - riffle pool morphology.
Roll #22, Frame #X, Date: 2001/08/02

1.0 093L.069 10164

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-70123-61560-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.069 ILP # 10164 Site 514

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-705800-70123-61560-0000-0000-000-000-000-000-000
ILP Map#: 093L.069 ILP #: 10164 NID Map #: 093L.069 NID #: 50014 Reach #: 1.0 Site #: 514
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.675385.6056989 Ref. Name:
Date: 2001/08/02 Time: 15:00 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	2.40	3.30	2.60	1.90	1.60	1.90					2.28
Wetted Width (m):	MS	2.40	3.30	2.60	1.90	1.60	1.90					2.28
Pool Depth (m):	MS	0.71	0.50	0.43	0.35	0.45	0.51					0.49

	Gadient %	Mtd	Avg
Method I:	3.0 4.0	C	3.00
Method II:	3.0 2.0	C	

Wb Depth: .4 .5 .5 Avg: 0.47 Method: MS Stage: L ☒ M ☐ H ☐

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

COVER Total: M

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

LWD: N

DIST: NA

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

RIP: S

STG: SHR

STG: SHR

WATER

EMS:
Temp: 9
pH: 7.1
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #:
Cond.: 30
Turb.: T ☐ M ☐ L ☐ C ☒
Method: S3
Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: G
D95: 2.00 D (cm): 2.00 Morph: RP
Pattern: IR
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

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

HABITAT QUALITY

Name	Comments
Spawning Habitat	Low spawning habitat-limited by no clean patches of gravel available
Rearing Habitat	Moderate rearing habitat-associated with undercut banks and deep pools
OverWinter Habitat	Moderate overwintering habitat-associated with deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 22 F: 01	STD	U	upstream photo of habitat typical within sample site
R: 22 F: 03	STD	D	downstream photo of habitat typical within sample site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-70123-61560-0000-0000-000-000-000-000-000

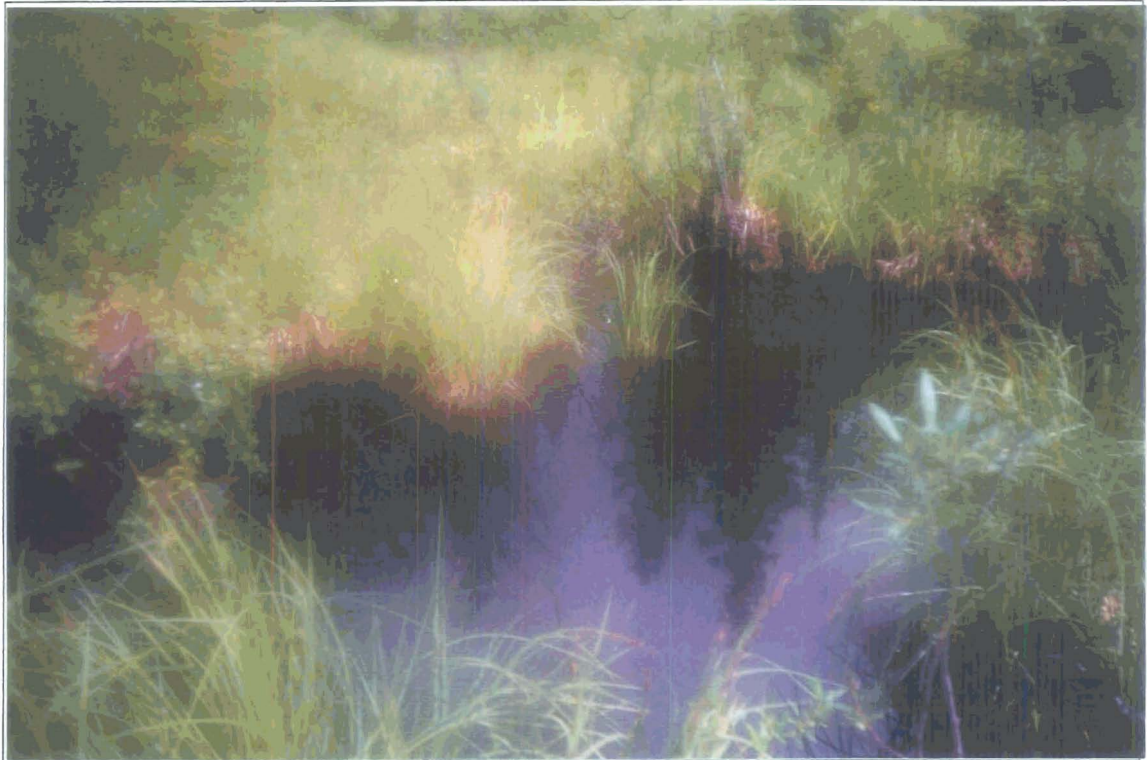
Reach #	ILP Map #	ILP #	Site
1.0	093L.069	10164	514

COMMENTS	
Section	Comments
CHANNEL	Sample site under power line. No fish caught. Ponded area
CHANNEL	S3 Inferred

South Fulton Study Area

ILP #
10164

WATERBODY													
Gazetted Name: Local: None													
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-705800-70123-61560-0000-0000-000-000-000-000-000													
Waterbody ID: ILP Map #: 093L.069 ILP #: 10164 Reach #: 1 -													
Project ID: 3496 Lake/Stream: S Lake From Date:													
Fish Permit #: 145085K Date: 2001/08/02 To: 2001/08/02 Agency: C172 Crew: JA/JH Resample: ☐													
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
514	093L.069	50014				GPU EF 1	9	30	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
514	EF	1	1	2001/08/02	14:45	2001/08/02	15:15						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
514	EF	1	1	O	110	100.0	2.2	600	J	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
514	EF	1	1	NFC		0							



Site #514, upstream photo of habitat typical within sample site.
Roll #22, Frame #01, Date: 2001/08/02



Site #514, downstream photo of habitat typical within sample site.
Roll #22, Frame #03, Date: 2001/08/02

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000

7.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	7.0	NID Map #:	093L.080	NID #:	50115		
Air Photos		Names		UTM(Zone/East/North/Method)					
LINE: 30BCC96154	Gaz.:			9.682210.6069282					
#: 87	Local:			Sample Type: B Wetland: ☐					
GIS									
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): .78	Gradient: 3.46	Setting: VW	DISTURBANCE						
DS Elev.: 923	Order: 1	Open water: A	INDICATORS						
US Elev.: 950	Magnitude: 1	Confinement: OC	C1	C2	C3	C4	C5	S1	S2
BGC Zone: SBS	Coupling: PC		☐	☐	☐	☐	☐	☐	☐
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE	☐ DIAG	☐ MID	☐ SPAN	☐ BR			
Channel Pattern: SI		Mass Movement: M	Exposed/Eroded: NS						
		Riparian Veg.: M	Landuse: NS						
MAPS									
Map Type	Map #	Year							
TRIM	093L.080								

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000-000

7.0

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-718600-00000-00000-0000-000-000-000-000-000													
Waterbody ID:					ILP Map #:			ILP #:		Reach #: 7 -			
Project ID: 3496					Lake/Stream: S			Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/02			To: 2001/08/02			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
515	093L.080	50015				GPU EF 1	9	40	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
515	EF	1	1	2001/08/02	16:50	2001/08/02	17:37						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
515	EF	1	1	0	173	150.0	1.0	600	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
515	EF	1	1	NFC		0							

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000

2.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 9.684935.6071822				Sample Type: Biased			
Length (km): 2.18		Coupling: Decoupled		Magnitude: 12		BGC Zone: SBS			
Gradient (%): 4.1		Confinement: Frequently Confin		Order: 3		Open water: Absent			
US Elev (m): 828		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 516		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/03	
Site Length (m): 100		GIS UTM 9.685892.6072563		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		1.20		0.7	
Stage: Low ☒				Wetted Width (m):		0.87		0.600	
Med ☐				Bankfull Depth (m):		0.60		0.5	
High ☐									
Temp (C): 8		pH: 7.3		Conductivity: 40					
						Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Fines		D (cm): 1.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP		Riffle Pool				S1		S2	
						S3		S4	
						S5			
COVER									
Total Cover: Moderate		Type:		SWD		LWD		B	
LWD: Few		Amount:		S		S		N	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☐	
				☐		☐		☐	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: V - shape		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
516	EF	1	100	100 sec	600	CT	4	90	105

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # ILP # 516 Site

PROJECT																																																																															
Project Name: Smithers Landing Fish Inventory - 2000 Stream Name (gaz.): BABINE RIVER Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000 Project Code: 3496																																																																															
WATERSHED																																																																															
Gazetted Name: Watershed Code: 480-718600-00000-00000-00000-000-000-000-000-000-000 ILP Map#: ILP #: NID Map #: 093L.080 Field UTM (Z.E.N): .. Method: GIS UTM (Z.E.N): 9.685892.6072563 Local Name: None NID #: 50016 Reach #: 2.0 Site #: 516 Site Lg: 100 Method: HC Access: V2 Ref. Name: Date: 2001/08/03 Time: 14:20 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐																																																																															
CHANNEL																																																																															
<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>1.40</td> <td>0.70</td> <td>1.40</td> <td>1.40</td> <td>1.10</td> <td>1.20</td> <td></td> <td></td> <td></td> <td></td> <td>1.20</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td>1.20</td> <td>0.80</td> <td>1.00</td> <td>0.70</td> <td>0.60</td> <td>0.90</td> <td></td> <td></td> <td></td> <td></td> <td>0.87</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td>0.20</td> <td>0.18</td> <td>0.15</td> <td>0.26</td> <td>0.14</td> <td>0.27</td> <td></td> <td></td> <td></td> <td></td> <td>0.20</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	1.40	0.70	1.40	1.40	1.10	1.20					1.20	Wetted Width (m):	MS	1.20	0.80	1.00	0.70	0.60	0.90					0.87	Pool Depth (m):	MS	0.20	0.18	0.15	0.26	0.14	0.27					0.20	<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>4.0</td> <td>5.0</td> <td>C</td> <td>5.25</td> </tr> <tr> <td>Method II:</td> <td>5.0</td> <td>7.0</td> <td>C</td> <td></td> </tr> </tbody> </table>			Gadient %	Mtd	Avg	Method I:	4.0	5.0	C	5.25	Method II:	5.0	7.0	C	
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LWD: F LB SHP: V Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐ RIP: S STG: MF DIST: E RB SHP: U Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: S STG: MF																																																																															
WATER																																																																															
EMS: Temp: 8 pH: 7.3 Flood Signs: None Method: T4 Method: P2 Method: GE Req #: Cond.: 40 Turb.: T ☐ M ☐ L ☐ C ☒ Method: S3 Method: GE																																																																															
MORPHOLOGY																																																																															
Bed Material: Dominant: G Subdom: F D95: 15.0 D (cm): 1.00 Morph: RP Pattern: SI Islands: N Coupling: DC Confinement: UN FSZ: ☐ DISTURBANCE INDICATORS <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>O1</th> <th>B1</th> <th>B2</th> <th>B3</th> <th>D1</th> <th>D2</th> <th>D3</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table> <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>C5</th> <th>S1</th> <th>S2</th> <th>S3</th> <th>S4</th> <th>S5</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table> Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐														O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																
O1	B1	B2	B3	D1	D2	D3																																																																									
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C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																																																						
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FDIS Site Card

South Fulton Study Area

		Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000-000		2.0			516
Section	Comments				
CHANNEL	CT captured				
CHANNEL	S4 Stream				

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
2.0

WATERBODY																
Gazetted Name:										Local: None						
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0																
WS Code: 480-718600-00000-00000-0000-000-000-000-000-000-000																
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 2 -		
Project ID: 3496										Lake/Stream: S		Lake From Date:				
Fish Permit #: 145085K				Date: 2001/08/03				To: 2001/08/03		Agency: C172		Crew: JA/JH		Resample: ☐		
SITE / METHOD																
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment						
516	093L.080	50016				GPU EF 1	8	20	C							
A. GEAR SETTINGS																
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment									
516	EF 1	1	2001/08/03	14:25	2001/08/03	15:00										
C. ELECTROFISHER SPECIFICATIONS																
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
516	EF	1	1	O	100	100.0	1.1	600	J	5	SMITH	12B				
										ROOT						
FISH SUMMARY																
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
516	EF	1	1	CT	J	4	90 105	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#					
516	EF	1	1	CT	90		U	U								
516	EF	1	1	CT	100		U	U								
516	EF	1	1	CT	100		U	U								
516	EF	1	1	CT	105		U	U								



Site #516, upstream photo of typical morphology within site.
Roll #22, Frame #05, Date: 2001/08/03

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #
1.0	093L.080	10099

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10099		
REACH									
Reach #: 1.0		UTM (Zone/East/North): 9.684925.6070837				Sample Type: Biased			
Length (km): 1.05		Coupling: Decoupled		Magnitude: 6		BGC Zone: SBS			
Gradient (%): 2.0		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 846		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 517		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/03	
Site Length (m): 100		GIS UTM 9.684884.6071557		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.73		1.600		1.9	
Stage: Low ☐				Wetted Width (m): 1.67		1.4		1.9	
Med ☒				Bankfull Depth (m): 0.53		0.4		0.7	
High ☐									
		Temp (C): 8		pH: 7.3		Conductivity: 30			
								Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00						Mid-channel ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE INDICATORS		O1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
		Amount: T		S		N		S	
LWD: Few		Location: P/S/O: ☒		☒		☐		☒	
LWD Dist: Evenly Distributed								☒	
Right Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest							
Left Bank: Rip.Veg:		Stage: Mature forest							
						Instream Veg: None ☐		Algae ☐	
								Moss ☒	
								Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
517	EF	1	100	110 sec	600	CT	3	90	115

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10099 Site 517

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000
ILP Map#: 093L.080 ILP #: 10099 NID Map #: 093L.080 NID #: 50017 Reach #: 1.0 Site #: 517
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: V2
GIS UTM (Z.E.N): 9.684884.6071557 Ref. Name:
Date: 2001/08/03 Time: 15:00 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.77	1.60	1.90	1.70	1.80	1.60					1.73
Wetted Width (m):	MS	1.50	1.40	1.80	1.70	1.90	1.70					1.67
Pool Depth (m):	MS	0.15	0.18	0.21	0.20	0.10	0.13					0.16

	Gadient %	Mtd	Avg
Method I:	7.0	6.0	C
Method II:	5.0	6.0	C

Wb Depth: .4 .5 .7 Avg: 0.53 Method: MS Stage: L ☐ M ☒ H ☐

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

COVER Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: F

DIST: E

LB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

RIP: S

STG: MF

STG: MF

WATER

EMS:
Temp: 8
pH: 7.3
Flood Signs: none

Method: T4
Method: P2
Method: GE

Req #: Cond.: 30 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: C
D95: 15.0 D (cm): 2.00

Subdom: G
Morph: RP

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3
☐	☐	☐	☐	☐	☐	☐

Pattern: IR
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Moderate - associated with clean patches of gravel
Rearing Habitat	Moderate - associated with overhanging vegetation, LWD and undercut banks for cover, possible perennial flow
OverWinter Habitat	Low - limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 22 F: 06	STD	U	upstream photo of riffle pool habitat
R: 22 F: 08	STD	D	downstream photo of riffle pool habitat

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000

Reach #1.0ILP Map #093L.080ILP #10099Site517

COMMENTS	
Section	Comments
CHANNEL	CT caught
CHANNEL	S3 Stream

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-00000-0000-000-000-000-000-000 Reach # 1.0 ILP Map # 093L.080 ILP # 10099

WATERBODY																
Gazetted Name:										Local: None						
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0																
WS Code: 480-718600-21400-00000-0000-0000-000-000-000-000-000																
Waterbody ID:					ILP Map #: 093L.080					ILP #: 10099		Reach #: 1 -				
Project ID: 3496					Lake/Stream: S					Lake From Date:						
Fish Permit #: 145085K				Date: 2001/08/03				To: 2001/08/03		Agency: C172		Crew: JA/JH		Resample: ☐		
SITE / METHOD																
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment						
517	093L.080	50017				GPU EF 1	8	30	C							
A. GEAR SETTINGS																
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment									
517	EF	1	2001/08/01	15:00	2001/08/01	15:35										
C. ELECTROFISHER SPECIFICATIONS																
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
517	EF	1	1	O	110	100.0	1.7	600	I	5	SMITH	12B				
										ROOT						
FISH SUMMARY																
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
517	EF	1	1	CT	J	2+	3	90	115	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#					
517	EF	1	1	CT	50		U	IM								
517	EF	1	1	CT	110		U	IM								
517	EF	1	1	CT	116		U	IM								



Site #517, upstream photo of riffle pool habitat.
Roll #22, Frame #06, Date: 2001/08/03



Site #517, downstream photo of riffle pool habitat.
Roll #22, Frame #08, Date: 2001/08/03

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-718600-21906-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10094

STREAM REFERENCING																																	
Gazetted Name:					Local Name:																												
Watershed Code: 480-718600-21906-00000-0000-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10094																										
REACH																																	
Reach #: 1.0		UTM(Zone/East/North): 9.684544.6071890				Sample Type: Random																											
Length (km): .37		Coupling: Decoupled		Magnitude: 2		BGC Zone: SBS																											
Gradient (%): 6.5		Confinement: Frequently Confin		Order: 2		Open water: Absent																											
US Elev (m): 853		Islands: NONE		Riparian Vegetation: Shrubs																													
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																	
SITE																																	
Site #: 518		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/03																									
Site Length (m): 170		GIS UTM 9.684735.6071837		Agency Name: Triton Environmental Consultants (Terrace)																													
CHANNEL																																	
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max																									
Dewatered: ☐		Tribes: ☐		Channel Width (m):		0.89		0.600																									
Stage: Low ☒				Wetted Width (m):		0.88		0.7																									
Med ☐				Bankfull Depth (m):		0.33		0.3																									
High ☐		Temp (C): 7		pH: 7.3		Conductivity: 40																											
								Turbidity: Turbid ☐ Low ☐																									
								Moderate ☐ Clear ☒																									
MORPHOLOGY																																	
Bed Material: Dominant: Fines		D95 (cm): 8.00		Bars: Non ☒		Side ☐		Diagonal ☐																									
Subdominant: Not Applicable		D (cm): 1.00				Mid-channel ☐		Span ☐																									
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS																													
Coupling: Decoupled				O1 B1 B2 B3 D1 D2 D3																													
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																													
Morphology: RP Riffle Pool																																	
COVER																																	
Total Cover: Moderate		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td>S</td> <td>S</td> <td>N</td> <td>S</td> <td>N</td> <td>D</td> <td>S</td> </tr> <tr> <td>Location: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☒</td> </tr> </tbody> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	S	S	N	S	N	D	S	Location: P/S/O:	☒	☒	☐	☒	☐	☒	☒
Type:	SWD	LWD	B	U	DP	OV	IV																										
Amount:	S	S	N	S	N	D	S																										
Location: P/S/O:	☒	☒	☐	☒	☐	☒	☒																										
LWD: Few		FSZ: ☐																															
LWD Dist: Evenly Distributed																																	
Right Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐																									
Left Bank: Shape: Sloping (g)		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐																									
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Rock ☐		Manmade ☐		Crown Closure																									
Left Bank: Rip.Veg:		Stage: Mature forest		Rock ☐		Manmade ☐		1-20%																									
				Instream Veg: None ☐		Algae ☒		Moss ☒																									
								Vascular ☐																									
FISH																																	
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																								
518	EF	1	170	310 sec	600	NFC	0																										

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-21906-00000-00000-00000-00000-00000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10094 Site 518

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-00000-00000-00000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-718600-21906-00000-00000-00000-00000-00000-000
ILP Map#: 093L.080 ILP #: 10094 NID Map #: 093L.080 NID #: 50018 Reach #: 1.0 Site #: 518
Field UTM (Z.E.N): .. Method: Site Lg: 170 Method: HC Access: V2
GIS UTM (Z.E.N): 9.684735.6071837 Ref. Name:
Date: 2001/08/03 Time: 15:40 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.10	0.90	0.70	0.90	1.20	0.81	0.60				0.89
Wetted Width (m):	MS	1.10	0.90	0.70	0.90	0.90	0.81					0.88
Pool Depth (m):	MS	0.10	0.08	0.15	0.04	0.07	0.11					0.09

	Gadient %	Mtd	Avg
Method I:	10.0	8.0	C
Method II:	5.0	5.0	C

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

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

COVER Total: M

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☒ M ☒ V ☐

LWD: F DIST: E

LB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: S

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

WATER

EMS:
Temp: 7
pH: 7.3
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #: Cond.: 40 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: F Subdom: NA
D95: 8.00 D (cm): 1.00 Morph: RP
Pattern: SI
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

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

HABITAT QUALITY

Name	Comments
Spawning Habitat	No clean patches of gravel observed
Rearing Habitat	Low - limited by highly ephemeral flows, organic barriers
OverWinter Habitat	No overwintering

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 22 F: 10	STD	D	downstream photo of typical habitat within site

COMMENTS

Section	Comments
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FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-21906-00000-0000-0000-000-000-000-000-000		Reach #	ILP Map #	ILP #	Site
		1.0	093L.080	10094	518
Section	Comments				
CHANNEL	electro fishing efforts resulted in no fish caught				
CHANNEL	downstream beaver dam may block upstream fish access				
CHANNEL	piped channel less than 2 m				
CHANNEL	highly ephemeral stream, numerous organic barriers				

South Fulton Study Area

WATERBODY

Fish Permit #:	145085K	Date:	2001/08/03	To:	2001/08/03	Agency:	C172	Crew:	JA/JH	Resample:	☐
----------------	---------	-------	------------	-----	------------	---------	------	-------	-------	-----------	--------------------------

Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO			Temp	Cond	Turbid	Comment
518	093L.080	50018			GPU	EF	1	7	40	C		

Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment
518	EF	1	1	2001/08/03	15:40	2001/08/03	16:00

Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
518	EF	1	1	O	310	170.0	1.0	600	1	5	SMITH ROOT	12B

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



Site #518, downstream photo of typical habitat within site.
Roll #22, Frame #10, Date: 2001/08/03

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-718600-21906-21838-0000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0 093L.080 10093

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 480-718600-21906-21838-0000-0000-000-000-000-000-000						ILP Map #: 093L.080		ILP #: 10093			
REACH											
Reach #: 1.0		UTM(Zone/East/North): 9.684152.6072118				Sample Type: Random					
Length (km): .55		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS					
Gradient (%): 1.3		Confinement: Unconfined		Order: 1		Open water: Absent					
US Elev (m): 848		Islands: NONE		Riparian Vegetation: Shrubs							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 519		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/03			
Site Length (m): 100		GIS UTM 9.684376.6071885		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max		#	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 0.60		0.400		1		6	
Stage: Low ☒				Wetted Width (m): 0.58		0.400		1		6	
Med ☐				Bankfull Depth (m): 0.53		0.5		0.6		3	
High ☐				Temp (C): 10		pH: 7.8		Conductivity: 30			
								Turbidity: Turbid ☐		Low ☒	
										Moderate ☐ Clear ☐	
MORPHOLOGY											
Bed Material: Dominant: Fines		D95 (cm): 1.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐ Span ☐	
Subdominant: Not Applicable		D (cm): 1.00								Braid ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1		B2 B3 D1 D2 D3	
Coupling: Decoupled				INDICATORS		☒		☐		☐	
Confinement: Unconfined				C1		C2		C3		C4 C5 S1 S2 S3 S4 S5	
Morphology: RP Riffle Pool				☐		☐		☐		☐	
COVER											
Total Cover: Moderate		Type: SWD		LWD		B		U		DP OV IV	
LWD: Few		Amount: T		S		N		T		D T T	
LWD Dist: Clumped		Location: P/S/O:		☒		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐ Crown Closure	
Left Bank: Shape: Undercut		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐		Rock ☐ Manmade ☐ 1-20%	
Right Bank: Rip.Veg: Shrubs		Stage: Shrub/herb stage									
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒							
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)		
093L.080	50501	BD	1.0	GE	5	GE	R: F: L: #:		9.684487.6071		
Comments: beaver dam											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
519	EF	1	100	110 sec	600	NFC	0				

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
1.0	093L.080	10093	519

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-21906-21838-0000-0000-000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	1.0	093L.080	10093	519

HABITAT QUALITY						
Name		Comments				
Other		684000/6067000				
PHOTOS						
Photo		Foc Lg	Dir	Comments		
R:	22	F:	12	STD	D	downstream photo from wetland
COMMENTS						
Section		Comments				
CHANNEL		fish bearing by default, beaver dams and organic obstructions likely block upstream access.				
CHANNEL		possible seepage area				
CHANNEL		questionable whether stream existed prior to beaver dam activity				
CHANNEL		numerous beaver dams have back-flooded area to create numerous pools (isolated)				

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-21906-21838-0000-0000-000-000-000-000-000-000 Reach # 1.0 ILP Map # 093L.080 ILP # 10093

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-718600-21906-21838-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #: 10093		Reach #: 1 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/03			To: 2001/08/03			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
519	093L.080	50019				GPU EF 1	10	30	L				
A GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
519	EF 1	1	2001/08/06	16:30	2001/08/06	16:55							
C ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
519	EF 1	1	O	110	100.0	0.6	600	J	7	SMITH ROOT	12B		
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
519	EF 1	1	NFC			0							



Site #519, downstream photo from wetland.
Roll #22, Frame #12, Date: 2001/08/03

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-718600-00000-00000-0000-000-000-000-000-000-000

3.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-718600-00000-00000-00000-0000-000-000-000-000-000-000									
ILP Map #:		ILP #:		Reach #:		3.0		NID Map #: 093L.080	
								NID #: 50111	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC96154			Gaz.:			9.684052.6071234			
#: 46			Local:			Sample Type: B Wetland: ☐			
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): 1.21		Gradient: 3.22		Setting: VF		DISTURBANCE		O1 B1 B2 B3 D1 D2 D3	
DS Elev.: 828		Order: 2		Open water: A		INDICATORS		☐ ☐ ☐ ☐ ☐ ☐ ☐	
US Elev: 867		Magnitude: 3		Confinement: FC		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
		BGC Zone: SBS		Coupling: DC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: B		C/D: C		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE		☐ DIAG ☐ MID ☐ SPAN ☐ BR			
Channel Pattern: SI				Mass Movement: L		Exposed/Eroded: NS			
				Riparian Veg.: S		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.080	

South Fulton Study Area

Watershed Code: 480-718600-00000-00000-0000-0000-000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Triton Environmental Consultants Ltd.

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000

1.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.694482.6060981				Sample Type: Biased			
Length (km): .92		Coupling: Decoupled		Magnitude: 12		BGC Zone: SBS			
Gradient (%): 4.5		Confinement: Frequently Confin		Order: 3		Open water: Absent			
US Elev (m): 966		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 527		Field UTM ..		Agency: C172		Crew: JAJH		Date: 2001/08/15	
Site Length (m): 260		GIS UTM 9.695098.6061124		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.65		2.400	
Stage: Low ☐				Wetted Width (m):		1.73		0.800	
Med ☒				Bankfull Depth (m):		0.53		0.3	
High ☐		Temp (C): 7		pH: 7.6		Conductivity: 40			
								Turbidity.: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 21.00		Bars: Non ☐		Side ☒		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00						Mid-channel ☒	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		T		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Sloping (g)		Texture: Fines ☐		Gravel ☐		Cobble ☒		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Rock ☐		Manmade ☐		Crown Closure	
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
								Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
527	EF	1	300	810 sec	500	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # ILP # Site 527

PROJECT																																																																														
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																				
Stream Name (gaz.): BABINE RIVER										Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000																																																																				
WATERSHED																																																																														
Gazetted Name:										Local Name: None																																																																				
Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000										NID #: 50027 Reach #: 1.0 Site #: 527																																																																				
ILP Map#:		ILP #:		NID Map #: 093K.061		Site Lg: 260		Method: HC		Access: H																																																																				
Field UTM (Z.E.N): ..										Ref. Name:																																																																				
GIS UTM (Z.E.N): 9.695098.6061124																																																																														
Date: 2001/08/15		Time: 10:43		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																																																				
CHANNEL																																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>2.70</td> <td>2.50</td> <td>2.80</td> <td>2.40</td> <td>2.70</td> <td>2.80</td> <td></td> <td></td> <td></td> <td></td> <td>2.65</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td>2.70</td> <td>2.20</td> <td>1.80</td> <td>1.60</td> <td>1.30</td> <td>0.80</td> <td></td> <td></td> <td></td> <td></td> <td>1.73</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td>0.36</td> <td>0.05</td> <td>0.30</td> <td>0.15</td> <td>0.20</td> <td>0.23</td> <td></td> <td></td> <td></td> <td></td> <td>0.22</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	2.70	2.50	2.80	2.40	2.70	2.80					2.65	Wetted Width (m):	MS	2.70	2.20	1.80	1.60	1.30	0.80					1.73	Pool Depth (m):	MS	0.36	0.05	0.30	0.15	0.20	0.23					0.22	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>2.0</td> <td>2.0</td> <td>AL</td> </tr> <tr> <td>Method II:</td> <td>3.0</td> <td>4.0</td> <td>AL</td> </tr> </tbody> </table>				Gadient %	Mtd	Avg	Method I:	2.0	2.0	AL	Method II:	3.0	4.0	AL
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																		
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Temp: 7					Method: P2					Cond.: 40																																																																				
pH: 7.6					Method: GE					Turb.: T ☐ M ☐ L ☐ C ☒																																																																				
Flood Signs: None										Method: S3																																																																				
										Method: GE																																																																				
MORPHOLOGY																																																																														
Bed Material:		Dominant: C		Subdom: G		O1		B1		B2		B3		D1		D2		D3																																																												
D95: 21.0		D (cm): 2.00		Morph: RP		☐		☐		☐		☐		☐		☐		☐																																																												
Pattern: IR						DISTURBANCE		C1		C2		C3		C4		C5		S1																																																												
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FDIS Site Card

South Fulton Study Area

Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0			527

COMMENTS	
Section	Comments
CHANNEL	No fish caught, S6

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000

1.0

WATERBODY																	
Gazetted Name:										Local: None							
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0																	
WS Code: 480-776600-25000-00000-0000-0000-000-000-000-000-000																	
Waterbody ID:					ILP Map #:					ILP #:		Reach #: 1 -					
Project ID: 3496					Lake/Stream: S					Lake From Date:							
Fish Permit #: 145085K				Date: 2001/08/15				To: 2001/08/15				Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment						
527	093K.061	50027				GPU	EF	1	7	40	C						
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
527	EF	1	1	2001/08/15	10:30	2001/08/15	10:57										
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
527	EF		1	1	O	810	300.0	2.4	500	I	5	SMITH ROOT	12B				
FISH SUMMARY																	
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
527	EF		1	1	NFC		0										



Site #527, upstream photo taken of SWD and overhanging vegetation, typical habitat within sample site.
Roll #23, Frame #11, Date: 2001/08/15



Site #527, downstream photo taken of cobble substrates found within sample site.
Roll #23, Frame #12, Date: 2001/08/15

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000

2.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	2.0	NID Map #:	093K.061	NID #:	50843		
Air Photos		Names		UTM(Zone/East/North/Method)					
LINE: 30BCC98024		Gaz.:		9.695365.6061155					
#: 160		Local:		Sample Type: B Wetland: ☐					
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): 2.18	Gradient: 5.28	Setting: VW	DISTURBANCE INDICATORS						
DS Elev.: 813	Order: 4	Open water: A	O1	B1	B2	B3	D1	D2	D3
US Elev: 928	Magnitude: 35	Confinement: FC	C1	C2	C3	C4	C5	S1	S2
BGC Zone: SBS	Coupling: PC								
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: IR		Mass Movement: M	Exposed/Eroded: NS						
		Riparian Veg.: M	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093K.061	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000

2.0

WATERBODY													
Gazetted Name:						Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-776600-00000-00000-0000-000-000-000-000-000-000													
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 2 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/15			To: 2001/08/15			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
528	093K.061	50028				GPU EF 1	6	40	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
528	EF	1	2001/08/15	11:15	2001/08/15	11:49							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
528	EF	1	1	O	161	100.0	2.8	600	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
528	EF	1	1	NFC		0							

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000

3.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	3.0	NID Map #:	093K.061	NID #:	50844		
Air Photos	Names			UTM(Zone/East/North/Method)					
LINE: 30BCC98024	Gaz.:				9.694863.6059240			GIS	
#: 159	Local:				Sample Type: B			Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): 2.37	Gradient: 4.39	Setting: VW	DISTURBANCE INDICATORS						
DS Elev.: 928	Order: 3	Open water: A	☐ O1 ☐ B1 ☐ B2 ☐ B3 ☐ D1 ☐ D2 ☐ D3						
US Elev: 1032	Magnitude: 23	Confinement: FC	☐ C1 ☐ C2 ☐ C3 ☐ C4 ☐ C5 ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5						
	BGC Zone: SBS	Coupling: PC	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐						
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: IR		Mass Movement: M	Exposed/Eroded: NS			Landuse: NS			
		Riparian Veg.: M							

MAPS		
Map Type	Map #	Year
TRIM	093K.061	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Watershed Code:

480-776600-00000-00000-0000-000-000-000-000-000-000

Reach #

ILP Map #

ILP #

3.0

WATERBODY													
Gazetted Name:										Local:			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-776600-00000-00000-0000-000-000-000-000-000													
Waterbody ID:					ILP Map #:					ILP #:		Reach #: 3 -	
Project ID: 3496					Lake/Stream: S					Lake From Date:			
Fish Permit #:		145085K		Date: 2001/08/15		To: 2001/08/15		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment		
529	093K.061	50029				GPU	EF	1	5	30	C		
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
529	EF	1	1	2001/08/15	11:55	2001/08/15	12:20						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
529	EF	1	1	0	100	75.0	2.7	600	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
529	EF	1	1	NFC		0							

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.070 ILP # 10333

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000					ILP Map #: 093L.070		ILP #: 10333		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.692970.6058023				Sample Type: Biased			
Length (km): .70		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 2.3		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 1122		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 530		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/15	
Site Length (m): 100		GIS UTM 9.693344.6058231		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 3.37		2.900		3.700	
Stage: Low ☐				Wetted Width (m): 1.75		1.600		1.9	
Med ☒				Bankfull Depth (m): 0.53		0.4		0.7	
High ☐									
Temp (C): 6		pH: 7.8		Conductivity: 20		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 15.00		Bars: Non ☐		Side ☒		Diagonal ☒	
Subdominant: Gravels		D (cm): 2.00				Mid-channel ☐		Span ☐	
Channel Pattern: Irregular, Wandering		Islands: Occasional		DISTURBANCE INDICATORS		O1		B1 B2 B3 D1 D2 D3	
Coupling: Decoupled									
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5					
Morphology: RP Riffle Pool									
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		S		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
530	EF	1	210	230 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.070 ILP # 10333 Site 530

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000
ILP Map#: 093L.070 ILP #: 10333 NID Map #: 093L.070 NID #: 50030 Reach #: 1.0 Site #: 530
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: H
GIS UTM (Z.E.N): 9.693344.6058231 Ref. Name:
Date: 2001/08/15 Time: 13:07 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	2.90	3.50	3.50	3.10	3.70	3.50					3.37
Wetted Width (m):	MS	1.60	1.60	1.70	1.90	1.90	1.80					1.75
Pool Depth (m):	MS	0.27	0.50	0.31	0.41	0.30						0.36

	Gadiert %		Mtd	Avg
Method I:	2.0	4.0	AL	2.75
Method II:	3.0	2.0	AL	

Wb Depth: .4 .7 .5 Avg: 0.53 Method: MS Stage: L ☐ M ☒ H ☐ Dw: ☐ Tribs.: ☐

COVER Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: F DIST: E

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

EMS:
Temp: 6
pH: 7.8
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #: Cond.: 20 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: C Subdom: G
D95: 15.0 D (cm): 2.00 Morph: RP
Pattern: IR
Islands: O
Coupling: DC
Confinement: UN
FSZ: ☐

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3				
☐	☐	☐	☐	☐	☐	☐	☐			
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Bars: N ☐ SIDE ☒ DIAG ☒ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Moderate - associated with clean patches of gravel
Rearing Habitat	Moderate - associated with overhanging vegetation, LWD and undercut banks
OverWinter Habitat	Low - limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 23 F: 13	STD	U	upstream photo taken of cobble islands typical within sample site
R: 23 F: 14	STD	D	downstream photo taken of overhanging vegetation typical within sample site

FDIS Site Card

South Fulton Study Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000	1.0	093L.070	10333	530

COMMENTS	
Section	Comments
CHANNEL	S5
CHANNEL	Stream was the largest observed by helicopter RECCI therefore it is most likely to be the mainstem

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000 Reach # 1.0 ILP Map # 093L.070 ILP # 10333

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0													
WS Code: 480-776600-44246-52938-0000-0000-000-000-000-000-000													
Waterbody ID:					ILP Map #: 093L.070			ILP #: 10333		Reach #: 1 -			
Project ID: 3496					Lake/Stream: S			Lake From Date:					
Fish Permit #: 145085K				Date: 2001/08/15		To: 2001/08/15		Agency: C172		Crew: JAJH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment		
530	093L.070	50030				GPU	EF	1	6	20	C		
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
530	EF	1	1	2001/08/15	13:07	2001/08/15	13:40						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
530	EF	1	1	O	230	210.0	3.5	600	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
530	EF	1	1	NFC		0							
COMMENTS													
Section			Comments										
WATERBODY			Stream was the largest observed by helicopter RECCI, therefore it is most likely to be the mainstem										



Site #530, upstream photo taken of cobble islands typical within sample site.
Roll #23, Frame #13, Date: 2001/08/15



Site #530, downstream photo taken of overhanging vegetation typical within sample site.
Roll #23, Frame #14, Date: 2001/08/15

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000

8.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 8.0		UTM(Zone/East/North): 9.689821.6056912				Sample Type: Biased			
Length (km): .82		Coupling: Decoupled		Magnitude: 9		BGC Zone: SBS			
Gradient (%): 2.3		Confinement: Occasionally Conf		Order: 3		Open water: Absent			
US Elev (m): 1287		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 531		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/15	
Site Length (m): 200		GIS UTM 9.690053.6057008		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐				Avg		Min	
Dewatered: ☐		Tribes.: ☐				Max		#	
Stage: Low ☒				Channel Width (m):		3.10		1.8	
Med ☐				Wetted Width (m):		3.10		1.8	
High ☐				Bankfull Depth (m):		0.73		0.5	
						Max		#	
				Gradient %:		2.00		1	
				Pool Depth (m):		0.36		0.280	
						Max		#	
						Turbidity: Turbid ☐		Low ☐	
								Moderate ☐	
								Clear ☒	
Temp (C): 8		pH: 7.6		Conductivity: 40					
MORPHOLOGY									
Bed Material: Dominant: Fines		D95 (cm): 10.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 1.00				Mid-channel ☐		Span ☐	
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		T		N		D	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Shrubs		Stage: Shrub/herb stage		Rock ☐		Manmade ☐		Crown Closure	
Left Bank: Rip.Veg:		Stage: Shrub/herb stage		Instream Veg: None ☐		Algae ☐		Moss ☒	
								Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
531	EF	1	350	600 sec	500	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000

Reach # 8.0 ILP Map # ILP # Site 531

PROJECT																																																																													
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																			
Stream Name (gaz.): BABINE RIVER																																																																													
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000																																																																													
WATERSHED																																																																													
Gazetted Name:										Local Name: None																																																																			
Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000																																																																													
ILP Map#:		ILP #:		NID Map #: 093L.070		NID #: 50031		Reach #: 8.0		Site #: 531																																																																			
Field UTM (Z.E.N): ..				Method:		Site Lg: 200		Method: HC		Access: H																																																																			
GIS UTM (Z.E.N): 9.690053.6057008						Ref. Name:																																																																							
Date: 2001/08/15		Time: 14:25		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																																																			
CHANNEL																																																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>1.80</td> <td>2.10</td> <td>3.60</td> <td>5.10</td> <td>3.10</td> <td>2.90</td> <td></td> <td></td> <td></td> <td></td> <td>3.10</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td>1.80</td> <td>2.10</td> <td>3.60</td> <td>5.10</td> <td>3.10</td> <td>2.90</td> <td></td> <td></td> <td></td> <td></td> <td>3.10</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td>0.31</td> <td>0.28</td> <td>0.44</td> <td>0.50</td> <td>0.30</td> <td>0.35</td> <td></td> <td></td> <td></td> <td></td> <td>0.36</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	1.80	2.10	3.60	5.10	3.10	2.90					3.10	Wetted Width (m):	MS	1.80	2.10	3.60	5.10	3.10	2.90					3.10	Pool Depth (m):	MS	0.31	0.28	0.44	0.50	0.30	0.35					0.36	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>1.0 3.0</td> <td>AL</td> <td>2.00</td> </tr> <tr> <td>Method II:</td> <td>3.0 1.0</td> <td>AL</td> <td></td> </tr> </tbody> </table>			Gadient %	Mtd	Avg	Method I:	1.0 3.0	AL	2.00	Method II:	3.0 1.0	AL	
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																	
Channel Width (m):	MS	1.80	2.10	3.60	5.10	3.10	2.90					3.10																																																																	
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Method II:	3.0 1.0	AL																																																																											
Wb Depth: .5 .9 .8		Avg: 0.73		Method: MS		Stage: L ☒ M ☐ H ☐		No Vis.Ch.: ☐ Intermittent: ☐		Dw: ☐ Tribs.: ☐																																																																			
COVER Total: M <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> </thead> <tbody> <tr> <td>Amount:</td> <td>T</td> <td>T</td> <td>N</td> <td>D</td> <td>S</td> <td>T</td> <td>T</td> </tr> <tr> <td>Loc: P/S/O:</td> <td>☒</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☒</td> <td>☒</td> <td>☒</td> </tr> </tbody> </table> LWD: F DIST: E LB SHP: U Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: G STG: SHR CROWN CLOSURE 1 1-20% INSTREAM VEG: N ☐ A ☐ M ☒ V ☒ RB SHP: U Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐ RIP: S STG: SHR														Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	T	N	D	S	T	T	Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒																																								
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Amount:	T	T	N	D	S	T	T																																																																						
Loc: P/S/O:	☒	☒	☐	☒	☒	☒	☒																																																																						
WATER																																																																													
EMS:				Method: T4				Req #: 40				Method: S3																																																																	
Temp: 8				Method: P2				Turb.: T ☐ M ☐ L ☐ C ☒				Method: GE																																																																	
pH: 7.6				Method: GE																																																																									
Flood Signs: None																																																																													
MORPHOLOGY																																																																													
Bed Material:		Dominant: F		Subdom: G		O1 B1 B2 B3 D1 D2 D3																																																																							
D95: 10.0		D (cm): 1.00		Morph: RP		DISTURBANCE INDICATORS																																																																							
Pattern: IR						C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																																																							
Islands: N																																																																													
Coupling: DC																																																																													
Confinement: UN																																																																													
FSZ: ☐						Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																																																							
HABITAT QUALITY																																																																													
Name		Comments																																																																											
Spawning Habitat		Low - limited by patchy sections of clean gravel																																																																											
Rearing Habitat		Moderate - associated with deep pools and undercut banks																																																																											
OverWinter Habitat		Moderate - associated with deep pools																																																																											
PHOTOS																																																																													
Photo		Foc Lg		Dir		Comments																																																																							
R: 23	F: 15	STD		U		upstream photo of typical habitat within site																																																																							
R: 23	F: 16	STD		D		downstream photo of habitat found within site																																																																							

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-776600-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP # Site
8.0 531

COMMENTS	
Section	Comments
CHANNEL	S5
CHANNEL	ponded areas
CHANNEL	habitat sampled is suitable for DV and RB/CT
CHANNEL	downstream barriers observed in RECCI
CHANNEL	no fish caught
CHANNEL	ephemeral flows
CHANNEL	high amount of invertebrates

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-776600-00000-00000-0000-0000-000-000-000-000-000

Reach # ILP Map # ILP #
8.0

WATERBODY															
Gazetted Name:										Local: None					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0															
WS Code: 480-776600-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 8 -	
Project ID: 3496										Lake/Stream: S		Lake From Date:			
Fish Permit #:		145085K		Date: 2001/08/15		To: 2001/08/15		Agency: C172		Crew: JA/JH		Resample: ☐			
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
531	093L.070	50031				GPU EF 1	8	40	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
531	EF 1	1	2001/08/15	14:25	2001/08/15	14:59									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
531	EF	1	1	O	600	350.0	3.7	500	1	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
531	EF	1	1	NFC		0									



Site #531, upstream photo of typical habitat within site.
Roll #23, Frame #15, Date: 2001/08/15



Site #531, downstream photo of habitat found within site.
Roll #23, Frame #16, Date: 2001/08/15

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-770700-00000-00000-0000-000-000-000-000-000-000

8.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-770700-00000-00000-0000-000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 8.0		UTM(Zone/East/North): 9.690025.6059753				Sample Type: Biased			
Length (km): 1.21		Coupling: Partially Couple		Magnitude: 7		BGC Zone: SBS			
Gradient (%): 9.8		Confinement: Confined		Order: 3		Open water: Absent			
US Elev (m): 1229		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 532		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/15	
Site Length (m): 150		GIS UTM 9.690344.6060009		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribs.: ☐		Channel Width (m):		2.75		2.5	
Stage: Low ☐				Wetted Width (m):		1.92		1.5	
Med ☒				Bankfull Depth (m):		0.27		0.1	
High ☐		Temp (C): 7		pH: 7.8		Conductivity: 20		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 41.00		Bars: Non ☐ Side ☒ Diagonal ☐ Mid-channel ☐ Span ☐		Braid ☐			
Subdominant: Gravels		D (cm): 2.00							
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS					
Coupling: Decoupled				O1 B1 B2 B3 D1 D2 D3					
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5					
Morphology: RP Riffle Pool									
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		D		T		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☒ Boulder ☐ Rock ☐ Manmade ☐		Crown Closure					
Left Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		1-20%					
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Instream Veg: None ☐ Algae ☐ Moss ☒ Vascular ☐					
Left Bank: Rip.Veg:		Stage: Mature forest							
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
532	EF	1	326	650 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-770700-00000-00000-0000-000-000-000-000-000-000

Reach # 8.0 ILP Map # ILP # Site 532

PROJECT																																																																														
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																				
Stream Name (gaz.): BABINE RIVER										Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																																				
WATERSHED																																																																														
Gazetted Name:										Local Name: None																																																																				
Watershed Code: 480-770700-00000-00000-0000-000-000-000-000-000-000										NID #: 50032 Reach #: 8.0 Site #: 532																																																																				
ILP Map#:		ILP #:		NID Map #: 093L.070		Site Lg: 150		Method: HC		Access: H																																																																				
Field UTM (Z.E.N): ..										Ref. Name:																																																																				
GIS UTM (Z.E.N): 9.690344.6060009																																																																														
Date: 2001/08/15		Time: 16:05		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																																																				
CHANNEL																																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>2.70</td> <td>2.60</td> <td>3.00</td> <td>2.60</td> <td>2.50</td> <td>3.10</td> <td></td> <td></td> <td></td> <td></td> <td>2.75</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td>1.60</td> <td>2.00</td> <td>1.70</td> <td>1.50</td> <td>1.60</td> <td>3.10</td> <td></td> <td></td> <td></td> <td></td> <td>1.92</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td>0.25</td> <td>0.05</td> <td>0.30</td> <td>0.18</td> <td>0.19</td> <td>0.10</td> <td></td> <td></td> <td></td> <td></td> <td>0.18</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	2.70	2.60	3.00	2.60	2.50	3.10					2.75	Wetted Width (m):	MS	1.60	2.00	1.70	1.50	1.60	3.10					1.92	Pool Depth (m):	MS	0.25	0.05	0.30	0.18	0.19	0.10					0.18	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>4.0</td> <td>5.0</td> <td>AL</td> </tr> <tr> <td>Method II:</td> <td>7.0</td> <td>6.0</td> <td>AL</td> </tr> </tbody> </table>				Gadient %	Mtd	Avg	Method I:	4.0	5.0	AL	Method II:	7.0	6.0	AL
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																		
Channel Width (m):	MS	2.70	2.60	3.00	2.60	2.50	3.10					2.75																																																																		
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Method I:	4.0	5.0	AL																																																																											
Method II:	7.0	6.0	AL																																																																											
Wb Depth:		.3	.1	.4	Avg: 0.27		Method: MS		Stage: L ☐ M ☒ H ☐		No Vis.Ch: ☐ Intermittent: ☐ Dw: ☐ Tribs.: ☐																																																																			
COVER Total: M																																																																														
Type:		SWD	LWD	B	U	DP	OV	IV	CROWN CLOSURE																																																																					
Amount:		S	D	T	S	T	T	T	1 1-20%																																																																					
Loc: P/S/O:		☒	☒	☒	☒	☒	☒	☒	INSTREAM VEG: N ☐ A ☐ M ☒ V ☐																																																																					
LWD: F		DIST: E																																																																												
LB SHP: U		RB SHP: U																																																																												
Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐		Texture: F ☒ G ☐ C ☒ B ☐ R ☐ A ☐																																																																												
RIP: S		RIP: C																																																																												
STG: MF		STG: MF																																																																												
WATER																																																																														
EMS:					Method: T4					Req #:																																																																				
Temp: 7					Method: P2					Cond.: 20																																																																				
pH: 7.8					Method: GE					Turb.: T ☐ M ☐ L ☐ C ☒																																																																				
Flood Signs: braided channel										Method: S3																																																																				
										Method: GE																																																																				
MORPHOLOGY																																																																														
Bed Material:		Dominant: C		Subdom: G		Morph: RP		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>O1</th> <th>B1</th> <th>B2</th> <th>B3</th> <th>D1</th> <th>D2</th> <th>D3</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>							O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐																																																		
O1	B1	B2	B3	D1	D2	D3																																																																								
☐	☐	☐	☐	☐	☐	☐																																																																								
D95: 41.0		D (cm): 2.00						<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>C1</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>C5</th> <th>S1</th> <th>S2</th> <th>S3</th> <th>S4</th> <th>S5</th> </tr> </thead> <tbody> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>							C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																												
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																																																					
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																																																					
Pattern: SI																																																																														
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FSZ: ☐		Bars: N ☐ SIDE ☒ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																																																												
HABITAT QUALITY																																																																														
Name		Comments																																																																												
Spawning Habitat		Low - limited by low amount of clean gravel patches observed																																																																												
Rearing Habitat		Low - limited by lack of deep pools and lack of adult resting																																																																												
OverWinter Habitat		Low - limited by lack of deep pools																																																																												
PHOTOS																																																																														
Photo		Foc Lg		Dir		Comments																																																																								
R: 23	F: 17	STD		U		upstream photo taken of braided channel within site																																																																								
R: 23	F: 18	STD		D		downstream photo taken of typical LWD within sample site																																																																								

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-770700-00000-00000-0000-0000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Site

8.0

532

COMMENTS	
Section	Comments
CHANNEL	S6
CHANNEL	high % of blowdown overtop of stream
SITE CARD	sampled downstream of confluence
CHANNEL	substrates are highly angular
CHANNEL	falls observed downstream via helicopter are barriers for upstream

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-770700-00000-00000-0000-000-000-000-000-000-000

Reach # 8.0
ILP Map #
ILP #

WATERBODY												
Gazetted Name:						Local: None						
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0												
WS Code: 480-770700-00000-00000-0000-000-000-000-000-000												
Waterbody ID:			ILP Map #:			ILP #:			Reach #: 8 -			
Project ID: 3496						Lake/Stream: S			Lake From Date:			
Fish Permit #:		145085K		Date: 2001/08/15		To: 2001/08/15		Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD												
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment		
532	093L.070	50032				GPU EF 1	7	20	C			
A. GEAR SETTINGS												
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment					
532	EF 1	1	2001/08/15	16:05	2001/08/15	16:40						
C. ELECTROFISHER SPECIFICATIONS												
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
532	EF	1	1	O	650	326.0	2.6	600	I	5	SMITH ROOT	12B
FISH SUMMARY												
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment			
532	EF	1	1	NFC		0						



Site #532, upstream photo taken of braided channel within site.
Roll #23, Frame #17, Date: 2001/08/15



Site #532, downstream photo taken of typical LWD within sample site.
Roll #23, Frame #18, Date: 2001/08/15

FDIS Reach/Site Summary

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000-000

3.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 3.0		UTM (Zone/East/North): 9.694609.6063372				Sample Type: Biased			
Length (km): .94		Coupling: Partially Couple		Magnitude: 16		BGC Zone: SBS			
Gradient (%): 6.1		Confinement: Frequently Confin		Order: 3		Open water: Absent			
US Elev (m): 863		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 533		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/16	
Site Length (m): 260		GIS UTM 9.694848.6063569		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis. Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		2.57		2.1	
Stage: Low ☒				Wetted Width (m):		0.60		0.5	
Med ☐				Bankfull Depth (m):		0.40		0.3	
High ☐		Temp (C): 6		pH: 7.0		Conductivity: 60		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 20.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined				C1		C2		C3	
Morphology: RP Riffle Pool				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip. Veg: Mixed C/D		Stage: Mature forest		Instream Veg: None ☒		Algae ☐		Moss ☐	
Left Bank: Rip. Veg:		Stage: Mature forest				Vascular ☐			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
533	EF	1	400	810 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000

Reach # ILP Map #

ILP #

Site

3.0

533

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000

Stream Name (gaz.): BABINE RIVER

Project Code:

3496

Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000

WATERSHED

Gazetted Name:

Local Name: None

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000

ILP Map#:

ILP #:

NID Map #: 093K.061

NID #: 50033

Reach #:

3.0

Site #: 533

Field UTM (Z.E.N): ..

Method:

Site Lg: 260

Method: HC

Access: H

GIS UTM (Z.E.N): 9.694848.6063569

Ref. Name:

Date: 2001/08/16

Time: 09:22

Agency: C172

Crew: JAJ/JH

Fish Crd?: ☒

Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	2.50	3.10	2.80	2.30	2.60	2.10					2.57
Wetted Width (m):	MS				0.70	0.50	0.61					0.60
Pool Depth (m):	MS				0.08	0.05	0.50					0.21

	Gadient %	Mtd	Avg
Method I:	2.0	2.0	AL
Method II:	3.0	3.0	AL

Wb Depth:	.3	.4	.5
-----------	----	----	----

Avg: 0.40

Method: MS

Stage: L ☒ M ☐ H ☐

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

COVER

Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☒ A ☐ M ☐ V ☐

LWD: F

DIST: E

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

RIP: M

STG: MF

STG: MF

WATER

EMS:

Temp: 6

pH: 7.0

Flood Signs: None

Method: T4

Method: P2

Method: GE

Req #:

Cond.: 60

Turb.: T ☐ M ☐ L ☐ C ☒

Method: S3

Method: GE

MORPHOLOGY

Bed Material:

Dominant: C

Subdom: G

O1 B1 B2 B3 D1 D2 D3

D95: 20.0

D (cm): 2.00

Morph: RP

DISTURBANCE
INDICATORS

C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Pattern: SI

Islands: N

Coupling: DC

Confinement: UN

FSZ: ☐

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name

Comments

Spawning Habitat

Low - Dry/Int

Rearing Habitat

Low - Dry/Int

OverWinter Habitat

None - Dry/Int

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 23 F: 19	STD	U	upstream photo taken of Dry/Int flow typically found within sample site
R: 23 F: 20	STD	D	downstream photo of cobble substrates found within sample site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Site

3.0

533

COMMENTS	
Section	Comments
CHANNEL	S6
CHANNEL	possible downstream barrier
CHANNEL	habitat present was sampled extensively
CHANNEL	highly ephemeral flows

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000-000

Reach # 3.0
ILP Map #
ILP #

WATERBODY												
Gazetted Name:										Local: None		
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0												
WS Code: 480-768300-00000-00000-0000-000-000-000-000-000-000												
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 3 -		
Project ID: 3496				Lake/Stream: S				Lake From Date:				
Fish Permit #: 145085K			Date: 2001/08/16		To: 2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD												
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment		
533	093K.061	50033				GPU EF 1	6	60	C			
A. GEAR SETTINGS												
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment					
533	EF	1	2001/08/16	09:22	2001/08/16	10:15						
C. ELECTROFISHER SPECIFICATIONS												
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
533	EF	1	1	O	810	400.0	2.4	600	I	5	SMITH ROOT	12B
FISH SUMMARY												
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment			
533	EF	1	1	NFC		0						



Site #533, upstream photo taken of Dry/Int flow typically found within sample site.
Roll #23, Frame #19, Date: 2001/08/16



Site #533, downstream photo of cobble substrates found within sample site.
Roll #23, Frame #20, Date: 2001/08/16

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

2.0

STREAM REFERENCING											
Gazetted Name:						Local Name:					
Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000						ILP Map #:			ILP #:		
REACH											
Reach #: 2.0		UTM (Zone/East/North): 9.695350.6063743				Sample Type: Biased					
Length (km): .57		Coupling: Coupled		Magnitude: 16		BGC Zone: SBS					
Gradient (%): 11.8		Confinement: Confined		Order: 3		Open water: Absent					
US Elev (m): 806		Islands: NONE		Riparian Vegetation: Mixed C/D							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 40		Field UTM ..		Agency: C172		Crew: JD/DT		Date: 2001/08/16			
Site Length (m): 400		GIS UTM 9.695640.6064090		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis.Ch.: ☐		Intermittent: ☒				Avg		Min		Max	
Dewatered: ☐		Tribes: ☐				Avg		Min		Max	
Stage: Low ☒				Channel Width (m): 2.32		1.8		3		6	
Med ☐				Wetted Width (m): 0.48		0.39		0.600		3	
High ☐				Bankfull Depth (m): 0.47		0.4		0.5		3	
Temp (C): 10		pH: 8.0		Conductivity: 110		Turbidity: Turbid ☐		Low ☐			
						Moderate ☐		Clear ☒			
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 75.00		Bars: Non ☒		Side ☐		Diagonal ☐		Mid-channel ☐	
Subdominant: Boulders		D (cm): 10.00								Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		O1		B1		B2	
Coupling: Coupled						B3		D1		D2	
Confinement: Confined						D3					
Morphology: CP Cascade Pool						C1		C2		C3	
						C4		C5		S1	
						S2		S3		S4	
						S5					
COVER											
Total Cover: Abundant		Type: SWD		LWD		B		U		DP	
LWD: Few		Amount: T		T		S		T		OV	
LWD Dist: Clumped		Location: P/S/O: ☒		☒		☒		☒		☒	
										FSZ: ☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐		Rock ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:										Vascular ☐	
FEATURES											
NID Map	NID	Type	Hgt	Method	Lg	Method	Photo	AirPhoto	UTM (Z/E/N)		
093K.061	88023	F	1.8	MS			R: 62 F: 24 L:	#:	9.695604.6063		
Comments: Barrier to upstream fish migration											
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
40	EF	1	200	69 sec	600	RB	3	140	180		
41	EF	1	300	402 sec	600	NFC	0				
534	EF	1	450	400 sec	600	NFC	0				

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-768300-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #
2.0

WATERBODY																													
Gazetted Name:										Local: None																			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0																													
WS Code: 480-768300-00000-00000-0000-000-000-000-000-000-000																													
Waterbody ID:					ILP Map #:					ILP #:					Reach #: 2 -														
Project ID: 3496					Lake/Stream: S					Lake From Date:																			
Fish Permit #: 145085K					Date: 2001/08/16					To: 2001/08/16					Agency: C172					Crew: JD/DT					Resample: ☐				
SITE / METHOD																													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment																		
534	093K.061	50034				GPU	EF	1	5	40	C																		
41	093K.061	10041				GPU	EF	1	10	110	C																		
40	093K.061	10040				GPU	EF	1	10	110	C																		
A. GEAR SETTINGS																													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment																						
40	EF	1	1	2001/08/16	09:00	2001/08/16	09:30																						
41	EF	1	1	2001/08/16	09:40	2001/08/16	10:30																						
534	EF	1	1	2001/08/16	10:30	2001/08/16	11:10																						
C. ELECTROFISHER SPECIFICATIONS																													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model																		
40	EF	1	1	O	69	200.0	0.5	600	60	6	SMITH ROOT	12B																	
41	EF	1	1	O	402	300.0	0.5	600	60	6	SMITH ROOT	12B																	
534	EF	1	1	O	400	450.0	2.6	600	1	5	SMITH ROOT	12B																	
FISH SUMMARY																													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment																				
40	EF	1	1	RB	A	3	140 180	R																					
41	EF	1	1	NFC		0																							
534	EF	1	1	NFC		0																							
INDIVIDUAL FISH DATA																													
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment														
								Str/Smpl#	Age		Str/Smpl#																		
40	EF	1	1	RB	180		U	U																					
40	EF	1	1	RB	140		U	U																					
40	EF	1	1	RB	160		U	U																					
COMMENTS																													
Section					Comments																								
WATERBODY					Channel De-watered in lower reach																								

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-764900-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0

STREAM REFERENCING											
Gazetted Name:					Local Name:						
Watershed Code: 480-764900-00000-00000-0000-000-000-000-000-000-000					ILP Map #:		ILP #:				
REACH											
Reach #: 1.0		UTM(Zone/East/North): 9.694746.6064939				Sample Type: Biased					
Length (km): .74		Coupling: Partially Couple		Magnitude: 3		BGC Zone: SBS					
Gradient (%): 3.8		Confinement: Occasionally Conf		Order: 3		Open water: Absent					
US Elev (m): 742		Islands: NONE		Riparian Vegetation: Shrubs							
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified											
SITE											
Site #: 535		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/16			
Site Length (m): 110		GIS UTM 9.695298.6064946		Agency Name: Triton Environmental Consultants (Terrace)							
CHANNEL											
No Vis. Ch.: ☐		Intermittent: ☒									
Dewatered: ☐		Tribes: ☐									
Stage: Low ☒											
Med ☐											
High ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐			
								Moderate ☐ Clear ☐			
MORPHOLOGY											
Bed Material: Dominant: Cobble		D95 (cm): 21.00		Bars: Non ☒		Side ☐		Diagonal ☐ Mid-channel ☐ Span ☐			
Subdominant: Gravels		D (cm): 1.00						Braid ☐			
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1 B2 B3 D1 D2 D3			
Coupling: Decoupled				INDICATORS							
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5							
Morphology: RP Riffle Pool											
COVER											
Total Cover: Abundant											
LWD: Few											
LWD Dist: Evenly Distributed											
		Type: SWD LWD B U DP OV IV									
		Amount: T S N S N D T									
		Location: P/S/O: ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐ ☐ ☒ ☐								FSZ: ☐	
Right Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐								Crown Closure	
Left Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐								1-20%	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest									
Left Bank: Rip.Veg:		Stage: Mature forest								Instream Veg: None ☐ Algae ☐ Moss ☒ Vascular ☐	
FISH											
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)		
535	VO	1		27 min		CO	2	30	40		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-764900-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # ILP # Site 535

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER Project Code: 3496
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

WATERSHED

Gazetted Name: Local Name: None
Watershed Code: 480-764900-00000-00000-0000-000-000-000-000-000-000
ILP Map#: ILP #: NID Map #: 093K.061 NID #: 50035 Reach #: 1.0 Site #: 535
Field UTM (Z.E.N): .. Method: Site Lg: 110 Method: HC Access: H
GIS UTM (Z.E.N): 9.695298.6064946 Ref. Name:
Date: 2001/08/16 Time: 12:13 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.30	1.40	2.00	1.50	1.50	1.60					1.55
Wetted Width (m):	MS	0.40										0.40
Pool Depth (m):	MS											0.00

	Gadient %		Mtd	Avg
Method I:	3.0	4.0	AL	4.00
Method II:	3.0	6.0	AL	

Wb Depth: .3 .2 .5 Avg: 0.33 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: A

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: F DIST: E

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: M

STG: MF

WATER

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

MORPHOLOGY

Bed Material: Dominant: C Subdom: G O1 B1 B2 B3 D1 D2 D3
D95: 21.0 D (cm): 1.00 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Low - Dry/Int
Rearing Habitat	Low - Dry/Int
OverWinter Habitat	None - Dry/Int

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 23 F: 21	STD	U	upstream photo taken shows dominant cover of overhanging vegetation
R: 23 F: 22	STD	D	downstream photo of typical habitat within site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-764900-00000-00000-0000-0000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Site

1.0

535

COMMENTS	
Section	Comments
CHANNEL	S5
CHANNEL	fish observed in small pocket of water approximately 65m from outlet

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-764900-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0

WATERBODY															
Gazetted Name:										Local: None					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0															
WS Code: 480-764900-00000-00000-0000-000-000-000-000-000															
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 1 -	
Project ID: 3496										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145085K				Date: 2001/08/16				To: 2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/NorthVthd			MTD/NO	Temp	Cond	Turbid	Comment					
535	093K.061	50035				GPU	VO	1							
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
535	VO	1	1	2001/08/16	12:13	2001/08/16	12:40								
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
535	VO	1	1	CO	F	0+	2	30	40	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#				
535	VO	1	1	CO	30		U	IM							
535	VO	1	1	CO	40		U	IM							



Site #535, upstream photo taken shows dominant cover of overhanging vegetation.
Roll #23, Frame #21, Date: 2001/08/16



Site #535, downstream photo of typical habitat within site.
Roll #23, Frame #22, Date: 2001/08/16

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-760400-36400-00000-0000-0000-000-000-000-000

Reach # ILP Map # ILP #

2.0

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-760400-36400-00000-0000-0000-000-000-000-000					ILP Map #:		ILP #:		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 9.691284.6064860				Sample Type: Biased			
Length (km): 1.19		Coupling: Partially Couple		Magnitude: 3		BGC Zone: SBS			
Gradient (%): 5.9		Confinement: Confined		Order: 2		Open water: Absent			
US Elev (m): 924		Islands: NONE		Riparian Vegetation: Coniferous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 536		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/16	
Site Length (m): 200		GIS UTM 9.692074.6064909		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribs.: ☐		Channel Width (m): 1.92		1.700		2.1	
Stage: Low ☒				Wetted Width (m): 1.03		0.65		1.600	
Med ☐				Bankfull Depth (m): 0.60		0.5		0.7	
High ☐									
Temp (C): 7		pH: 7.8		Conductivity: 100		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Cobble		D95 (cm): 17.00		Bars: Non ☐		Side ☒		Diagonal ☐	
Subdominant: Gravels		D (cm): 1.00						Mid-channel ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		S		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: Undercut		Texture: Fines ☐		Gravel ☒		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Coniferous		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest						Vascular ☐	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
536	EF	1	150	200 sec	600	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-760400-36400-00000-00000-00000-00000-00000-00000

Reach # 2.0 ILP Map # ILP # 536 Site 536

PROJECT																			
Project Name: Smithers Landing Fish Inventory - 2000																			
Stream Name (gaz.): BABINE RIVER										Project Code: 3496									
Project Watershed Code: 480-000000-00000-00000-00000-00000-00000-00000-00000-00000																			
WATERSHED																			
Gazetted Name:										Local Name: None									
Watershed Code: 480-760400-36400-00000-00000-00000-00000-00000-00000-00000																			
ILP Map#:		ILP #:		NID Map #: 093L.070		NID #: 50036		Reach #: 2.0		Site #: 536									
Field UTM (Z.E.N): ..				Method:		Site Lg: 200		Method: HC		Access: H									
GIS UTM (Z.E.N): 9.692074.6064909						Ref. Name:													
Date: 2001/08/16				Time: 13:24		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐							
CHANNEL																			
												Gadient %		Mtd		Avg			
Channel Width (m):		Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Method I: 9.0 7.0 AL 6.50					
Wetted Width (m):		MS	2.00	1.90	2.00	1.80	1.70	2.10					1.92	Method II: 5.0 5.0 AL					
Pool Depth (m):		MS	0.10		0.15	0.05							0.10						
Wb Depth:		.7	.5	.6	Avg: 0.60		Method: MS		Stage: L ☒ M ☐ H ☐		Dw: ☐		Tribs: ☐						
COVER														Total: A					
Type:		SWD	LWD	B	U	DP	OV	IV	CROWN CLOSURE 1 1-20%										
Amount:		T	S	N	S	N	D	T											
Loc: P/S/O:		☒	☒	☐	☒	☐	☒	☒											
LWD: F		DIST: E																	
LB SHP: U		RB SHP: U																	
Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐		Texture: F ☐ G ☒ C ☐ B ☐ R ☐ A ☐																	
RIP: S		RIP: C																	
STG: MF		STG: MF																	
WATER																			
EMS:						Req #:													
Temp: 7						Method: T4				Cond.: 100									
pH: 7.8						Method: P2				Turb.: T ☐ M ☐ L ☐ C ☒									
Flood Signs: None						Method: GE				Method: S3									
										Method: GE									
MORPHOLOGY																			
Bed Material:		Dominant: C		Subdom: G		O1		B1		B2		B3		D1		D2		D3	
D95: 17.0		D (cm): 1.00		Morph: RP															
Pattern: SI						DISTURBANCE		C1		C2		C3		C4		C5		S1	
Islands: N						INDICATORS													
Coupling: DC																			
Confinement: UN																			
FSZ: ☐																			
						Bars:		N ☐		SIDE ☒		DIAG ☐		MID ☐		SPAN ☐		BR ☐	
HABITAT QUALITY																			
Name		Comments																	
Spawning Habitat		Moderate - associated with clean patches of gravel																	
Rearing Habitat		Moderate - associated with overhanging vegetation																	
OverWinter Habitat		Low - limited by lack of deep pools																	
PHOTOS																			
Photo		Foc Lg		Dir		Comments													
R: 23	F: 23	STD		U		upstream photo of overhanging vegetation above stream typical within site													
R: 23	F: 24	STD		D		downstream photo of gravel side bar													

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-760400-36400-00000-0000-0000-000-000-000-000-000

Reach #

ILP Map #

ILP #

Site

2.0

536

COMMENTS	
Section	Comments
CHANNEL	S3*
CHANNEL	Reach upstream of NID 50818

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

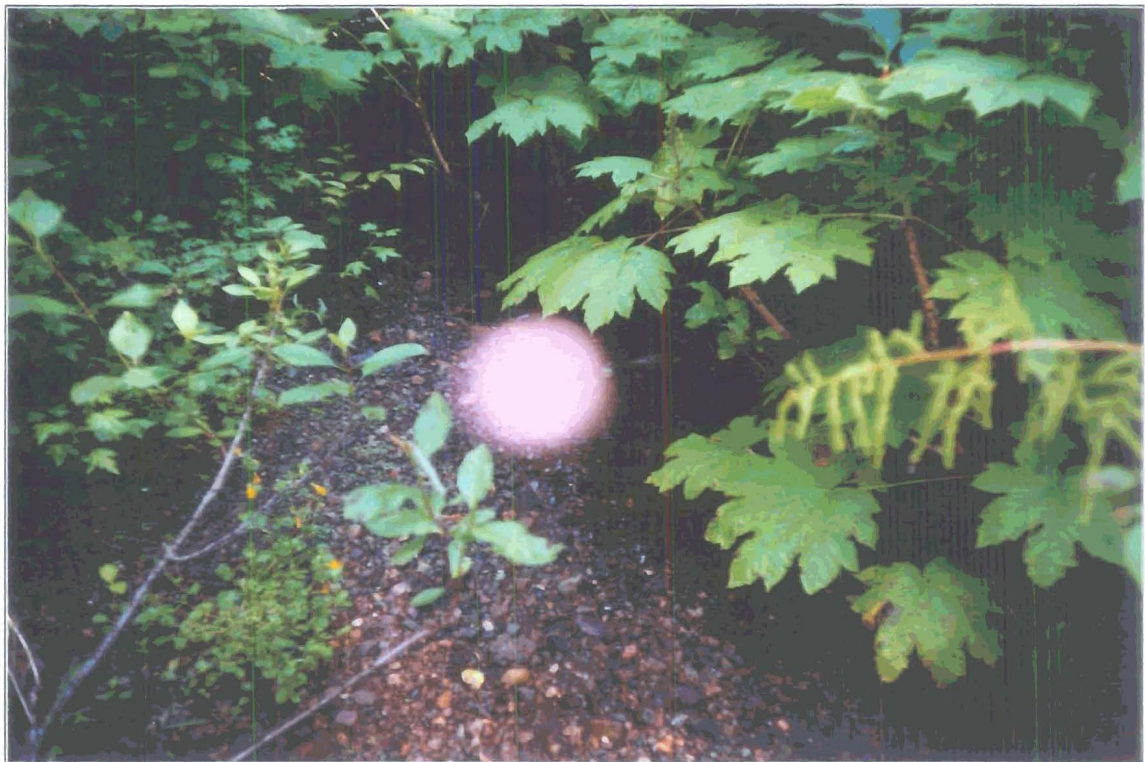
Watershed Code: 480-760400-36400-00000-00000-0000-000-000-000-000-000

2.0

WATERBODY															
Gazetted Name:										Local: None					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0															
WS Code: 480-760400-36400-00000-0000-000-000-000-000-000-000															
Waterbody ID:					ILP Map #:					ILP #:		Reach #: 2 -			
Project ID: 3496					Lake/Stream: S					Lake From Date:					
Fish Permit #: 145085K				Date: 2001/08/16				To: 2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
536	093L.070	50036				GPU EF 1	7	50	C						
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
536	EF	1	2001/08/16	13:15	2001/08/16	13:55									
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
536	EF	1	1	O	200	150.0	1.9	600	1	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
536	EF	1	1	NFC		0									



Site #536, upstream photo of overhanging vegetation above stream typical within site.
Roll #23, Frame #23, Date: 2001/08/16



Site #536, downstream photo of gravel side bar.
Roll #23, Frame #24, Date: 2001/08/16

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-760400-36400-00000-0000-0000-000-000-000-000-000
 Reach # 1.0 ILP Map # ILP #

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-760400-36400-00000-0000-0000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	1.0	NID Map #:	093L.070	NID #:	50818		
Air Photos		Names		UTM(Zone/East/North/Method)					
LINE: 30BCC98027	Gaz.:			9.692305.6065008 GIS					
#: 23	Local:			Sample Type: B Wetland: ☐					
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): 1.46	Gradient: 6.44	Setting: VW	DISTURBANCE INDICATORS						
DS Elev.: 760	Order: 3	Open water: A	O1	B1	B2	B3	D1	D2	D3
US Elev.: 854	Magnitude: 5	Confinement: CO	C1	C2	C3	C4	C5	S1	S2
BGC Zone: SBS	Coupling: PC								
Valley Flat: N	C/D:	Islands: N							
Active Floodplain Visible: ☐	Est. Width:	Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR							
Channel Pattern: SI		Mass Movement: M	Exposed/Eroded: NS						
		Riparian Veg.: M	Landuse: NS						

MAPS		
Map Type	Map #	Year
TRIM	093L.080	
TRIM	093L.070	

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-760400-36400-00000-00000-00000-00000-00000-000

1.0

WATERBODY																
Gazetted Name:										Local:						
Project Code: 480-000000-00000-00000-00000-00000-00000-00000-0																
WS Code: 480-760400-36400-00000-00000-00000-00000-00000-000																
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 1 -						
Project ID: 3496								Lake/Stream: S		Lake From Date:						
Fish Permit #:		145085K		Date: 2001/08/16		To: 2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐				
SITE / METHOD																
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment					
537	093L.070	50037				GPU	EF 1	7	100	C						
A. GEAR SETTINGS																
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment									
537	EF	1	2001/08/16	13:35	2001/08/16	14:15										
C. ELECTROFISHER SPECIFICATIONS																
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
537	EF	1	1	O	800	600.0	2.1	600	1	5	SMITH	12B				
										ROOT						
FISH SUMMARY																
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
537	EF	1	1	CT	J	1+	3	45	71	R						
INDIVIDUAL FISH DATA																
Site#	MTD/NO	H/P	Species	Length	Weight	Sex	Mat	Age		Vch#	Genetic		Roll #	Frame#	Comment	
								Str/Smpl#			Str/Smpl#					
537	EF	1	1	CT	45		U	IM								
537	EF	1	1	CT	63		U	IM								
537	EF	1	1	CT	71		U	IM								

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # ILP # Site 538

PROJECT																																																																													
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																			
Stream Name (gaz.): BABINE RIVER																																																																													
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000																																																																													
WATERSHED																																																																													
Gazetted Name:										Local Name: None																																																																			
Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000-000																																																																													
ILP Map#:		ILP #:		NID Map #: 093K.071		NID #: 50038		Reach #: 2.0		Site #: 538																																																																			
Field UTM (Z.E.N): ..				Method:		Site Lg: 100		Method: HC		Access: H																																																																			
GIS UTM (Z.E.N): 9.693359.6065946						Ref. Name:																																																																							
Date: 2001/08/16		Time: 14:39		Agency: C172		Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																																																			
CHANNEL																																																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>4.10</td> <td>4.30</td> <td>3.60</td> <td>3.30</td> <td>4.70</td> <td>4.20</td> <td></td> <td></td> <td></td> <td></td> <td>4.03</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td>2.90</td> <td>2.60</td> <td>2.40</td> <td>3.00</td> <td>1.30</td> <td>1.70</td> <td></td> <td></td> <td></td> <td></td> <td>2.32</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td>0.30</td> <td>0.41</td> <td>0.10</td> <td>0.25</td> <td>0.33</td> <td>0.15</td> <td></td> <td></td> <td></td> <td></td> <td>0.26</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	4.10	4.30	3.60	3.30	4.70	4.20					4.03	Wetted Width (m):	MS	2.90	2.60	2.40	3.00	1.30	1.70					2.32	Pool Depth (m):	MS	0.30	0.41	0.10	0.25	0.33	0.15					0.26	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>3.0</td> <td>2.0</td> <td>AL</td> </tr> <tr> <td>Method II:</td> <td>3.0</td> <td>6.0</td> <td>AL</td> </tr> </tbody> </table>			Gadient %	Mtd	Avg	Method I:	3.0	2.0	AL	Method II:	3.0	6.0	AL
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																	
Channel Width (m):	MS	4.10	4.30	3.60	3.30	4.70	4.20					4.03																																																																	
Wetted Width (m):	MS	2.90	2.60	2.40	3.00	1.30	1.70					2.32																																																																	
Pool Depth (m):	MS	0.30	0.41	0.10	0.25	0.33	0.15					0.26																																																																	
	Gadient %	Mtd	Avg																																																																										
Method I:	3.0	2.0	AL																																																																										
Method II:	3.0	6.0	AL																																																																										
Wb Depth: .3 .3 .6		Avg: 0.40		Method: MS		Stage: L ☐ M ☒ H ☐		No Vis.Ch.: ☐ Intermittent: ☐		Dw: ☐ Tribs.: ☐																																																																			
COVER				Total: M																																																																									
Type: SWD		LWD		B		U		DP		OV		IV																																																																	
Amount: S		S		N		D		T		S		T																																																																	
Loc: P/S/O: ☒		☒		☐		☒		☒		☒		☒																																																																	
LWD: F				DIST: E				CROWN CLOSURE																																																																					
LB SHP: U								1 1-20%																																																																					
Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐								INSTREAM VEG: N ☐ A ☐ M ☒ V ☐																																																																					
RIP: S								RB SHP: U																																																																					
STG: MF								Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐																																																																					
								RIP: M																																																																					
								STG: MF																																																																					
WATER																																																																													
EMS:				Method: T4				Req #: 40				Method: S3																																																																	
Temp: 5				Method: P2				Cond.: 40				Method: GE																																																																	
pH: 7.6				Method: GE				Turb.: T ☐ M ☐ L ☐ C ☒																																																																					
Flood Signs: None																																																																													
MORPHOLOGY																																																																													
Bed Material:		Dominant: C		Subdom: G		O1		B1		B2		B3																																																																	
D95: 31.0		D (cm): 2.00		Morph: RP		D1		D2		D3																																																																			
Pattern: IR						C1		C2		C3		C4																																																																	
Islands: N						C5		S1		S2		S3																																																																	
Coupling: DC						S4		S5																																																																					
Confinement: UN																																																																													
FSZ: ☐																																																																													
						Bars: N ☐		SIDE ☒		DIAG ☐		MID ☐																																																																	
										SPAN ☐		BR ☐																																																																	
HABITAT QUALITY																																																																													
Name		Comments																																																																											
Spawning Habitat		Moderate - associated with clean patches of gravel																																																																											
Rearing Habitat		Moderate - associated with undercut banks and LWD																																																																											
OverWinter Habitat		Low - limited by lack of deep pools																																																																											
PHOTOS																																																																													
Photo		Foc Lg		Dir		Comments																																																																							
R: 24	F: 01	STD		U		upstream photo of cobble substrates found within site																																																																							
R: 24	F: 02	STD		D		downstream photo of overhanging vegetation found within site																																																																							

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
2.0			538

COMMENTS	
Section	Comments
CHANNEL	S3
CHANNEL	moderate flows, good access from Babine
COVER	habitat suitable for juvenile species

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000-000

2.0

WATERBODY															
Gazetted Name:										Local: None					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0															
WS Code: 480-760400-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 2 -	
Project ID: 3496										Lake/Stream: S		Lake From Date:			
Fish Permit #: 145085K				Date: 2001/08/16				To: 2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd				MTD/NO	Temp	Cond	Turbid	Comment				
538	093K.071	50038				GPU	EF 1	6	30	C					
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
538	EF	1	1	2001/08/16	14:39	2001/08/16	15:26								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
538	EF	1	1	O	350	200.0	3.8	600	I	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
538	EF	1	1	CT	J	1+	5	50	83	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#					
538	EF	1	1	CT	75		U	IM							
538	EF	1	1	CT	83		U	IM							
538	EF	1	1	CT	50		U	IM							
538	EF	1	1	CT	56		U	IM							
538	EF	1	1	CT	65		U	IM							



Site #538, upstream photo of cobble substrates found within site.
Roll #24, Frame #01, Date: 2001/08/16



Site #538, downstream photo of overhanging vegetation found within site.
Roll #24, Frame #02, Date: 2001/08/16

FDIS Reach Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000-000

1.0

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000-000									
ILP Map #:	ILP #:	Reach #:	1.0	NID Map #:	093K.071	NID #:	50331		
Air Photos		Names			UTM(Zone/East/North/Method)				
LINE: 30BCC97158		Gaz.:			9.693429.6065957				
#: 76		Local:			Sample Type: B Wetland: ☐				
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: JA/JH			
ATTRIBUTES									
Length (km): 1.98		Gradient: 2.37		Setting: VW		DISTURBANCE			
DS Elev.: 715		Order: 4		Open water: A		INDICATORS			
US Elev: 762		Magnitude: 20		Confinement: FC		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5			
		BGC Zone: SBS		Coupling: PC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: N		C/D:		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR					
Channel Pattern: SI				Mass Movement: M		Exposed/Eroded: NS			
				Riparian Veg.: M		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093K.071	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-760400-00000-00000-0000-000-000-000-000-000

Reach # ILP Map # ILP #

1.0

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0																	
WS Code: 480-760400-00000-00000-0000-000-000-000-000-000																	
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 1 -			
Project ID: 3496										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145085K		Date:		2001/08/16		To:		2001/08/16		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
539	093K.071	50039				GPU EF 1	7	30	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
539	EF 1	1	2001/08/16	15:26	2001/08/16	16:15											
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
539	EF	1	1	O	400	200.0	3.6	600	I	5	SMITH ROOT 12B						
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
539	EF	1	1	CT	J	1+	6	51	67	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#						
539	EF	1	1	CT	58		U	IM									
539	EF	1	1	CT	51		U	IM									
539	EF	1	1	CT	60		U	IM									
539	EF	1	1	CT	67		U	IM									
539	EF	1	1	CT	55		U	IM									
539	EF	1	1	CT	62		U	IM									

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000-000

Reach # 4.0 ILP Map # 093K.071 ILP # 10227

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093K.071		ILP #: 10227		
REACH									
Reach #: 4.0		UTM(Zone/East/North): 9.690296.6067257				Sample Type: Biased			
Length (km): 1.69		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 3.8		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 893		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 540		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/16	
Site Length (m): 100		GIS UTM 9.691546.6067107		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 0.68		0.41		1	
Stage: Low ☒				Wetted Width (m): 0.43		0.300		0.600	
Med ☐				Bankfull Depth (m): 0.47		0.3		0.6	
High ☐									
Temp (C): 6		pH: 7.8		Conductivity: 140		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 10.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Fines		D (cm): 0.08				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		Q1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Moderate		Type: SWD		LWD		B		U	
LWD: None		Amount: S		T		N		S	
LWD Dist:		Location: P/S/O:		☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Pole-sapling stage						Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
540	EF	1	110	298 sec	500	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000

Reach # 4.0 ILP Map # 093K.071 ILP # 10227 Site 540

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER Project Code: 3496
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000

WATERSHED

Gazetted Name: Local Name: None
Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000
ILP Map#: 093K.071 ILP #: 10227 NID Map #: 093L.080 NID #: 50040 Reach #: 4.0 Site #: 540
Field UTM (Z.E.N): .. Method: Site Lg: 100 Method: HC Access: H
GIS UTM (Z.E.N): 9.691546.6067107 Ref. Name:
Date: 2001/08/16 Time: 08:53 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %	Mtd	Avg
Channel Width (m):	MS	1.00	0.90	0.50	0.70	0.41	0.60					0.68	Method I:	3.0	2.0	2.75
Wetted Width (m):	MS	0.50	0.40	0.50	0.60	0.30	0.30					0.43	Method II:	3.0	3.0	AL
Pool Depth (m):	MS	0.04	0.03	0.05	0.07	0.08	0.12					0.06				

Wb Depth: .3 .5 .6 Avg: 0.47 Method: MS Stage: L ☒ M ☐ H ☐ No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐

COVER Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☒

LWD: N DIST:

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: PS

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: PS

WATER

EMS: Req #: Cond.: 140 Method: S3
Temp: 6 Method: T4 Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE
pH: 7.8 Method: P2
Flood Signs: None Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: F O1 B1 B2 B3 D1 D2 D3
D95: 10.0 D (cm): 0.08 Morph: RP DISTURBANCE INDICATORS
Pattern: SI C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐ Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Low - limited by lack of clean patches of gravel and low flows
Rearing Habitat	Low - associated with overhanging vegetation, limited by low flow
OverWinter Habitat	None - limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 24 F: 03	STD	U	upstream photo of overhanging vegetation within sample site
R: 24 F: 04	STD	D	downstream photo of typical habitat within site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-0000-000-000-000-000-000		Reach #	ILP Map #	ILP #	Site
		4.0	093K.071	10227	540
COMMENTS					
Section	Comments				
CHANNEL	S6 Stream				
CHANNEL	highly ephemeral stream with heavily overgrown sections/patches. Discontinuous channel with heavily vegetated sections.				
CHANNEL	downstream of NID 50321				

South Fulton Study Area

Reach #	ILP Map #	ILP #
4.0	093K.071	10227

WATERBODY																									
Gazetted Name:										Local: None															
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0																									
WS Code: 480-755241-00000-00000-0000-0000-000-000-000-000-000																									
Waterbody ID:										ILP Map #: 093K.071				ILP #:		10227		Reach #:		4 -					
Project ID: 3496										Lake/Stream: S				Lake From Date:											
Fish Permit #:				145085K				Date: 2001/08/11				To: 2001/08/11				Agency: C172		Crew: JA/JH		Resample: ☐					
SITE / METHOD																									
Site#		NID Map		NID #		UTM:Zone/East/North/Mthd				MTD/NO		Temp		Cond		Turbid		Comment							
540		093L.080		50040						GPU		EF 1		6		140		C							
A. GEAR SETTINGS																									
Site#		MTD/NO		H/P		Date In		Time In		Date Out		Time Out		Comment											
540		EF		1		1		2001/08/11		08:55		2001/08/11		09:20											
C. ELECTROFISHER SPECIFICATIONS																									
Site#		MTD/NO		H/P		Encl		Sec		Length		Width		Voltage		Frequency		Pulse		Make		Model			
540		EF		1		1		O		298		110.0		0.9		500		I		5		SMITH ROOT		12B	
FISH SUMMARY																									
Site#		MTD/NO		H/P		Species		Stage		Age		Total #		Lgth (Min/Max)		FishAct		Comment							
540		EF		1		1		NFC				0													



Site #540, upstream photo of overhanging vegetation within sample site.
Roll #24, Frame #03, Date: 2001/08/16



Site #540, downstream photo of typical habitat within site.
Roll #24, Frame #04, Date: 2001/08/16

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-745100-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10024

PROJECT	
Project Name: Smithers Landing Fish Inventory - 2000	Project Code: 3496
Stream Name (gaz.): BABINE RIVER	
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000	

WATERSHED	
Reach Watershed Code: 480-745100-00000-00000-0000-000-000-000-000-000-000	
ILP Map #: 093L.080 ILP #: 10024 Reach #: 1.0 NID Map #: 093L.080 NID #: 50215	
Air Photos	Names
LINE: 30BCC97158	UTM(Zone/East/North/Method)
#: 124	9.692137.6068551 GIS
Gaz.: Local:	Sample Type: R Wetland: ☐

SURVEY INFO	
Date: 1900/07/06	Agency: C172 Crew: SH

ATTRIBUTES												
Length (km): .55	Gradient: 2.18	Setting: VF	DISTURBANCE	O1	B1	B2	B3	D1	D2	D3		
DS Elev.: 713	Order: 2	Open water: A	INDICATORS	☐	☐	☐	☐	☐	☐	☐		
US Elev: 725	Magnitude: 3	Confinement: OC	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
BGC Zone: SBS	Coupling: DC		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Valley Flat: B	C/D: C	Islands: N	Bars: ☒ N	☐ SIDE	☐ DIAG	☐ MID	☐ SPAN	☐ BR				
Active Floodplain Visible: ☐	Est. Width:	Mass Movement: L							Exposed/Eroded: NS			
Channel Pattern: SI		Riparian Veg.: S							Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.080	

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-745100-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0
ILP Map #
ILP #

WATERBODY													
Gazetted Name:						Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-745100-00000-00000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #:				ILP #:		Reach #: 1 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/17		To: 2001/08/17		Agency: C172		Crew: JA/JH		Resample: ☐		
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
541	093L.080	50041				GPU EF 1	7	40	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
541	EF	1	2001/08/17	10:18	2001/08/17	11:00							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
541	EF	1	1	0	100	100.0	2.0	500	1	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
541	EF	1	1	CO	J	1+	4	41	50	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#			
541	EF	1	1	CO	50		U	IM					
541	EF	1	1	CO	41		U	IM					
541	EF	1	1	CO	45		U	IM					
541	EF	1	1	CO	50		U	IM					

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.071 ILP # 10227

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-755241-00000-00000-0000-0000-000-000-000-000					ILP Map #: 093K.071		ILP #: 10227		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.693408.6067254				Sample Type: Biased			
Length (km): .69		Coupling: Partially Couple		Magnitude: 2		BGC Zone: SBS			
Gradient (%): 4.3		Confinement: Frequently Confin		Order: 2		Open water: Absent			
US Elev (m): 745		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 542		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/17	
Site Length (m): 100		GIS UTM 9.693772.6067454		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒ Intermittent: ☐									
Dewatered: ☐ Tribs.: ☐									
Stage: Low ☐									
Med ☐									
High ☐									
Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐			
						Moderate ☐ Clear ☐			
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐					
Subdominant:		D (cm):		Braid ☐					
Channel Pattern:		Islands:		DISTURBANCE INDICATORS					
Coupling:				O1 B1 B2 B3 D1 D2 D3					
Confinement:				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5					
Morphology:									
COVER									
Total Cover:		Type: SWD LWD B U DP OV IV							
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐ Crown Closure							
Left Bank: Shape:		Texture: Fines ☐ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐							
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:							
		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐							

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093K.071 ILP # 10227 Site 542

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Local Name: None
Watershed Code: 480-755241-00000-00000-0000-000-000-000-000-000-000
ILP Map #: 093K.071 ILP #: 10227 NID Map #: 093K.071 NID #: 50042 Reach #: 1.0 Site #: 542
Field UTM (Z.E.N): Method: Site Lg: 100 Method: HC Access: H
GIS UTM (Z.E.N): 9.693772.6067454 Ref. Name:
Date: 2001/08/17 Time: 12:18 Agency: C172 Crew: JA/JH Fish Crd?: Incomplete:

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):												0.00
Wetted Width (m):												0.00
Pool Depth (m):												0.00

	Gadient %	Mtd	Avg
Method I:	4.0	3.0	AL
Method II:	4.0	4.0	AL

Wb Depth: Avg: 0.00 Method: MS Stage: L M H

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

COVER Total:

Type:	SWD	LWD	B	U	DP	OV	IV
Amount:							
Loc: P/S/O:							

CROWN CLOSURE

INSTREAM VEG: N A M V

LWD: DIST:

LB SHP: Texture: F G C B R A

RB SHP: Texture: F G C B R A

RIP:
STG:

RIP:
STG:

WATER

EMS: Req #: Cond.: Method:
Temp: Method: Turb.: T M L C Method: GE
pH: Method:
Flood Signs: Method:

MORPHOLOGY

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

HABITAT QUALITY

Name Comments
Other No Visible Channel

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 24 F: 05	STD	U	upstream photo of vegetated gully
R: 24 F: 06	STD	D	downstream photo of vegetated gully

COMMENTS

Section	Comments
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FDIS Site Card

South Fulton Study Area

Watershed Code: 480-755241-00000-00000-0000-0000-000-000-000-000-000

Reach #	ILP Map #	ILP #	Site
1.0	093K.071	10227	542

COMMENTS	
Section	Comments
CHANNEL	No Visible Channel



Site #542, upstream photo of vegetated gully.
Roll #24, Frame #05, Date: 2001/08/17



Site #542, downstream photo of vegetated gully.
Roll #24, Frame #06, Date: 2001/08/17

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000-000

Reach # ILP Map # ILP #

2.0 093L.080 10152

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10152		
REACH									
Reach #: 2.0		UTM(Zone/East/North): 9.689269.6069244				Sample Type: Random			
Length (km): 1.25		Coupling: Decoupled		Magnitude: 9		BGC Zone: SBS			
Gradient (%): 4.3		Confinement: Occasionally Conf		Order: 3		Open water: Present			
US Elev (m): 826		Islands: NONE		Riparian Vegetation: Shrubs					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 543		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/17	
Site Length (m): 300		GIS UTM 9.690064.6069811		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.92		1.5		2.200	
Stage: Low ☒				Wetted Width (m): 0.93		0.51		1.4	
Med ☐				Bankfull Depth (m): 0.57		0.4		0.7	
High ☐									
Temp (C): 7		pH: 8.1		Conductivity: 130		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Gravels		D95 (cm): 21.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Cobble		D (cm): 0.70				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: Occasional		DISTURBANCE INDICATORS		O1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: S		T		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☒		☒		☒	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Mature forest		Instream Veg: None ☐		Algae ☐		Moss ☒	
Left Bank: Rip.Veg:		Stage: Mature forest				Vascular ☐			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
543	EF	1	400	600 sec	500	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093L.080 ILP # 10152 Site 543

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000-000
ILP Map#: 093L.080 ILP #: 10152 NID Map #: 093L.080 NID #: 50043 Reach #: 2.0 Site #: 543
Field UTM (Z.E.N): .. Method: Site Lg: 300 Method: HC Access: H
GIS UTM (Z.E.N): 9.690064.6069811 Ref. Name:
Date: 2001/08/17 Time: 13:22 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg		Gadient %		Mtd	Avg
Channel Width (m):	MS	1.50	1.90	2.20	2.10	1.80	2.00					1.92	Method I:	9.0	8.0	AL	6.75
Wetted Width (m):	MS	1.30	1.00	0.60	0.75	1.40	0.51					0.93	Method II:	5.0	5.0	AL	
Pool Depth (m):	MS	0.21	0.10	0.08	0.26	0.13						0.16					

Wb Depth: .4 .7 .6 Avg: 0.57 Method: MS Stage: L ☒ M ☐ H ☐

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

COVER Total: A

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

CROWN CLOSURE
1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: F DIST: E

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

STG: MF

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

STG: MF

WATER

EMS:
Temp: 7
pH: 8.1
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #: Cond.: 130 Method: S3
Turb.: T ☐ M ☐ L ☐ C ☒ Method: GE

MORPHOLOGY

Bed Material: Dominant: G Subdom: C
D95: 21.0 D (cm): 0.70 Morph: RP
Pattern: SI
Islands: O
Coupling: DC
Confinement: OC
FSZ: ☐

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3	C1	C2	C3	C4	C5	S1	S2	S3	S4	S5
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Low - limited by lack of clean gravel patches
Rearing Habitat	Moderate - associated with dense overhanging vegetation
OverWinter Habitat	Low - limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 24 F: 07 STD		U	upstream photo of dense overhanging vegetation
R: 24 F: 08 STD		D	downstream photo of typical habitat within site

FDIS Site Card

South Fulton Study Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000-000	2.0	093L.080	10152	543

COMMENTS	
Section	Comments
CHANNEL	coho captured upstream of outlet
CHANNEL	every square inch of stream through confinement was not walked. Potential barrier may exist under dense canopy of devil's club.

South Fulton Study Area

Watershed Code:

480-735600-00000-00000-0000-0000-000-000-000-000-000-000

2.0

093L.080

10152

WATERBODY

Gazetted Name:

Local: None

Project Code: 480-000000-00000-00000-0000-0000-0000-000-000-000-000-000-0

WS Code: 480-735600-00000-00000-0000-0000-000-000-000-000-000-000

Waterbody ID:

ILP Map #: 093L.080

ILP #: 10152

Reach #: 2 -

Project ID: 3496

Lake/Stream: S

Lake From Date:

Fish Permit #: 145085K

Date: 2001/08/17

To: 2001/08/17

Agency: C172

Crew: JA/JH

Resample: ☐

SITE / METHOD

Site#	NID Map	NID #	UTM:Zone/East/North/Mtd			MTD/NO	Temp	Cond	Turbid	Comment
543	093L.080	50043			GPU	EF 1	7	130	C	

A. GEAR SETTINGS

Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment
543	EF	1	1	2001/08/17	13:22	2001/08/17	14:14	

C. ELECTROFISHER SPECIFICATIONS

Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model
543	EF	1	1	O	600	400.0	2.1	500	1	5	SMITH ROOT	12B

FISH SUMMARY

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



Site #543, upstream photo of dense overhanging vegetation.
Roll #24, Frame #07, Date: 2001/08/17



Site #543, downstream photo of typical habitat within site.
Roll #24, Frame #08, Date: 2001/08/17

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10152

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-735600-00000-00000-00000-0000-000-000-000-000-000-000									
ILP Map #: 093L.080		ILP #: 10152		Reach #: 1.0		NID Map #: 093L.080		NID #: 50236	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC96154		Gaz.:				9.690224.6069847		GIS	
#: 83		Local:				Sample Type: B		Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06			Agency: C172			Crew: SH			
ATTRIBUTES									
Length (km): .54		Gradient: 10.93		Setting: VW		DISTURBANCE INDICATORS			
DS Elev.: 713		Order: 3		Open water: P		☐ O1 ☐ B1 ☐ B2 ☐ B3 ☐ D1 ☐ D2 ☐ D3			
US Elev: 772		Magnitude: 9		Confinement: FC		☐ C1 ☐ C2 ☐ C3 ☐ C4 ☐ C5 ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5			
		BGC Zone: SBS		Coupling: PC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: N		C/D:				Islands: N			
Active Floodplain Visible: ☐		Est. Width:				Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR			
Channel Pattern: SI						Mass Movement: M Exposed/Eroded: NS Riparian Veg.: M Landuse: NS			
MAPS									
Map Type		Map #		Year					
TRIM		093L.080							

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-735600-00000-00000-0000-000-000-000-000-000

Reach # 1.0
ILP Map #
ILP #

WATERBODY																	
Gazetted Name:										Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0																	
WS Code: 480-735600-00000-00000-0000-000-000-000-000-000																	
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 1 -			
Project ID: 3496										Lake/Stream: S		Lake From Date:					
Fish Permit #:		145085K		Date:		2001/08/17		To:		2001/08/17		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment							
544	093L.080	50044				GPU EF 1	6	130	C								
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
544	EF	1	2001/08/17	14:22	2001/08/17	15:10											
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model						
544	EF	1	1	O	800	500.0	2.2	600	I	5	SMITH ROOT	12B					
FISH SUMMARY																	
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment								
544	EF	1	1	CO	J	1+	3	30	49	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#							
544	EF	1	1	CO	49		U	IM									
544	EF	1	1	CO	30		U	IM									
544	EF	1	1	CO	38		U	IM									
COMMENTS																	
Section			Comments														
WATERBODY			CO captured upstream of outlet														

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-730049-00000-00000-0000-000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10114

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-730049-00000-00000-0000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10114		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.689079.6070700				Sample Type: Random			
Length (km): .49		Coupling: Coupled		Magnitude: 4		BGC Zone: SBS			
Gradient (%): 23.5		Confinement: Confined		Order: 2		Open water: Absent			
US Elev (m): 828		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 545		Field UTM ..		Agency: C172		Crew: JAJH		Date: 2001/08/17	
Site Length (m): 100		GIS UTM 9.689211.6071061		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		0.00		0	
Stage: Low ☐				Wetted Width (m):		0.00		0	
Med ☐				Bankfull Depth (m):		0.00		0	
High ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☐	
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):				Mid-channel ☐		Span ☐	
Channel Pattern:		Islands:		DISTURBANCE INDICATORS		O1		B1	
Coupling:						B2		B3	
Confinement:						D1		D2	
Morphology:						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover:		Type:		SWD		LWD		B	
LWD:		Amount:							
LWD Dist:		Location: P/S/O:							
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg:		Stage:							
Left Bank: Rip.Veg:		Stage:							
								Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☐	

South Fulton Study Area

Reach #	ILP Map #	ILP #	Site
1.0	093L.080	10114	545

Triton Environmental Consultants Ltd.

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-730049-00000-00000-0000-0000-000-000-000-000-000-000

Reach #1.0

ILP Map #093L.080

ILP #10114

Site545

COMMENTS	
Section	Comments
CHANNEL	UTM's 689196 / 6071049



Site #545, upstream photo of vegetated depression.
Roll #24, Frame #09, Date: 2001/08/17



Site #545, downstream photo of vegetated depression.
Roll #24, Frame #10, Date: 2001/08/17

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-718600-59500-00000-0000-0000-000-000-000-000-000

Reach # 8.0 ILP Map # 093L.080 ILP # 10079

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-718600-59500-00000-0000-0000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10079		
REACH									
Reach #: 8.0		UTM(Zone/East/North): 9.682610.6065589				Sample Type: Biased			
Length (km): 2.17		Coupling: Decoupled		Magnitude: 4		BGC Zone: ESSF			
Gradient (%): 2.2		Confinement: Occasionally Conf		Order: 2		Open water: Absent			
US Elev (m): 1076		Islands: NONE		Riparian Vegetation: Deciduous					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 51		Field UTM ..		Agency: C172		Crew: JD/DT		Date: 2001/08/18	
Site Length (m): 100		GIS UTM 9.682523.6065556		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m): 1.22		1		1.4	
Stage: Low ☒				Wetted Width (m): 0.53		0.400		0.600	
Med ☐				Bankfull Depth (m): 0.40		0.3		0.5	
High ☐									
Temp (C): 10		pH: 8.0		Conductivity: 80		Turbidity: Turbid ☐		Low ☐	
						Moderate ☐		Clear ☒	
MORPHOLOGY									
Bed Material: Dominant: Fines		D95 (cm): 15.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 2.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS		Q1		B1	
Coupling: Decoupled						B2		B3	
Confinement: Occasionally Confine						D1		D2	
Morphology: RP Riffle Pool						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		T		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O: ☒		☒		☐		☒	
		☐		☐		☐		☐	
Right Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: Overhang		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Deciduous		Stage: Young forest		Instream Veg: None ☐		Algae ☐		Moss ☐	
Left Bank: Rip.Veg:		Stage: Young forest				Vascular ☒			
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
51	EF	1	100	98 sec	700	RB	3	62	85
546	EF	1	100	110 sec	600	RB	3	60	70

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-59500-00000-0000-0000-000-000-000-000-000 Reach # 8.0 ILP Map # 093L.080 ILP # 10079

Gazetted Name:												Local: None	
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-718600-59500-00000-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #: 10079		Reach #: 8 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K		Date: 2001/08/18		To: 2001/08/18		Agency: C172		Crew: JD/DT		Resample: ☐			
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
546	093L.080	50046				GPU EF 1	7	60	C				
51	093L.080	10051				GPU EF 1	10	80	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
51	EF 1	1	2001/08/18	09:00	2001/08/18	09:35							
546	EF 1	1	2001/08/18	09:00	2001/08/18	09:30							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
51	EF	1	1	O	98	100.0	1.0	700	60	6	SMITH ROOT 12B		
546	EF	1	1	O	110	100.0	1.0	600	1	5	SMITH ROOT 12B		
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
51	EF	1	1	RB	J	3	62 85	R					
546	EF	1	1	RB	J	1+	3 60 70	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#			
51	EF	1	1	RB	85		U	U					
51	EF	1	1	RB	62		U	U					
51	EF	1	1	RB	70		U	U					
546	EF	1	1	RB	60		U	IM					
546	EF	1	1	RB	70		U	IM					
546	EF	1	1	RB	65		U	IM					
COMMENTS													
Section			Comments										
WATERBODY			Downstream of RB Lake @ ILP 10067 confluence WSC on map is not readable										

FDIS Reach Card

South Fulton Study Area

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

Reach # 1.0 ILP Map # 093L.069 ILP # 10071

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000									
ILP Map #: 093L.069		ILP #: 10071		Reach #: 1.0		NID Map #: 093L.070		NID #: 50638	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC97158			Gaz.:			9.681428.6064800 GIS			
#: 67			Local:			Sample Type: R		Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06				Agency: C172			Crew: SH		
ATTRIBUTES									
Length (km): .75		Gradient: 6		Setting: VF		DISTURBANCE			
DS Elev.: 1032		Order: 2		Open water: A		INDICATORS			
US Elev: 1077		Magnitude: 3		Confinement: FC		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5			
		BGC Zone: ESSF		Coupling: DC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: L		C/D: C		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR					
Channel Pattern: SI				Mass Movement: L		Exposed/Eroded: NS			
				Riparian Veg.: C		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.070	

South Fulton Study Area

Watershed Code:

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

Reach #

ILP Map #

ILP #

1.0

093L.080

10071

WATERBODY														
Gazetted Name:								Local:						
Project Code: 480-000000-00000-00000-000-000-000-000-0														
WS Code: 000-000000-00000-00000-000-000-000-000-000-000														
Waterbody ID:				ILP Map #: 093L.080				ILP #:		10071		Reach #: 1 -		
Project ID: 3496				Lake/Stream: S				Lake From Date:						
Fish Permit #: 145085K			Date: 2001/08/18			To: 2001/08/18			Agency: C172		Crew: JH/DS		Resample: --	
SITE / METHOD														
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment			
547	093L.080	50047				GPU	EF 1	8	90	C				
A. GEAR SETTINGS														
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment							
547	EF 1	1	2001/08/18	10:00	2001/08/18	10:50								
C. ELECTROFISHER SPECIFICATIONS														
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model			
547	EF	1	1	O	160	150.0	1.0	500	I	5	SMITH	12B		
											ROOT			
FISH SUMMARY														
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment					
547	EF	1	1	NFC		0								

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-718600-76300-00000-0000-0000-000-000-000-000

Reach # 6.0 ILP Map # 093L.079 ILP # 10397

STREAM REFERENCING																																												
Gazetted Name:					Local Name:																																							
Watershed Code: 480-718600-76300-00000-0000-0000-000-000-000-000					ILP Map #: 093L.079		ILP #: 10397																																					
REACH																																												
Reach #: 6.0		UTM(Zone/East/North): 9.679452.6063263				Sample Type: Biased																																						
Length (km): 1.16		Coupling: Decoupled		Magnitude: 5		BGC Zone: ESSF																																						
Gradient (%): 5.0		Confinement: Frequently Confin		Order: 2		Open water: Absent																																						
US Elev (m): 1103		Islands: NONE		Riparian Vegetation: Deciduous																																								
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																												
SITE																																												
Site #: 548		Field UTM ..		Agency: C172		Crew: JH/DS		Date: 2001/08/18																																				
Site Length (m): 310		GIS UTM 9.678740.6063773		Agency Name: Triton Environmental Consultants (Terrace)																																								
CHANNEL																																												
No Vis.Ch.: ☐ Intermittent: ☐		<table border="1" style="display: inline-table; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>2.18</td> <td>1</td> <td>3.700</td> <td>6</td> </tr> <tr> <td>Wetted Width (m):</td> <td>1.67</td> <td>0.5</td> <td>3.200</td> <td>6</td> </tr> <tr> <td>Bankfull Depth (m):</td> <td>0.57</td> <td>0.5</td> <td>0.6</td> <td>3</td> </tr> </tbody> </table>					Avg	Min	Max	#	Channel Width (m):	2.18	1	3.700	6	Wetted Width (m):	1.67	0.5	3.200	6	Bankfull Depth (m):	0.57	0.5	0.6	3	<table border="1" style="display: inline-table; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Avg</th> <th>Min</th> <th>Max</th> <th>#</th> </tr> </thead> <tbody> <tr> <td>Gradient %:</td> <td>2.50</td> <td>2</td> <td>3</td> <td>2</td> </tr> <tr> <td>Depth (m):</td> <td>0.33</td> <td>0.200</td> <td>0.5</td> <td>6</td> </tr> </tbody> </table>					Avg	Min	Max	#	Gradient %:	2.50	2	3	2	Depth (m):	0.33	0.200	0.5	6
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Dewatered: ☐ Tribs.: ☐						Turbidity: Turbid ☐ Low ☐																																						
Stage: Low ☐						Moderate ☐ Clear ☒																																						
Med ☒																																												
High ☐																																												
Temp (C): 8		pH: 7.9		Conductivity: 80																																								
MORPHOLOGY																																												
Bed Material: Dominant: Fines		D95 (cm): 5.00		Bars: Non ☒		Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐																																						
Subdominant: Gravels		D (cm): 2.00				Braid ☐																																						
Channel Pattern: Irregular, Wandering		Islands: None		DISTURBANCE INDICATORS																																								
Coupling: Decoupled				<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>O1</td><td>B1</td><td>B2</td><td>B3</td><td>D1</td><td>D2</td><td>D3</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>						O1	B1	B2	B3	D1	D2	D3	☐	☐	☐	☐	☐	☐	☐																					
O1	B1	B2	B3	D1	D2	D3																																						
☐	☐	☐	☐	☐	☐	☐																																						
Confinement: Unconfined				<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5</td> </tr> <tr> <td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td> </tr> </table>						C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐															
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5																																			
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																			
Morphology: RP Riffle Pool																																												
COVER																																												
Total Cover: Moderate		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>Type:</td><td>SWD</td><td>LWD</td><td>B</td><td>U</td><td>DP</td><td>OV</td><td>IV</td> </tr> <tr> <td>Amount:</td><td>T</td><td>D</td><td>N</td><td>T</td><td>T</td><td>S</td><td>-</td> </tr> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	D	N	T	T	S	-																			
Type:	SWD	LWD	B	U	DP	OV	IV																																					
Amount:	T	D	N	T	T	S	-																																					
LWD: Few		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>Location: P/S/O:</td><td>☒</td><td>☐</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td><td>☐</td><td>☒</td><td>☐</td> </tr> </table>								Location: P/S/O:	☒	☐	☐	☐	☒	☐	☐	☒	☐																									
Location: P/S/O:	☒	☐	☐	☐	☒	☐	☐	☒	☐																																			
LWD Dist: Clumped		FSZ: ☐																																										
Right Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		Crown Closure																																								
Left Bank: Shape: Undercut		Texture: Fines ☒ Gravel ☐ Cobble ☐ Boulder ☐ Rock ☐ Manmade ☐		1-20%																																								
Right Bank: Rip.Veg: Deciduous		Stage: Pole-sapling stage																																										
Left Bank: Rip.Veg:		Stage: Pole-sapling stage		Instream Veg: None ☐ Algae ☐ Moss ☐ Vascular ☒																																								
FISH																																												
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																																			
548	EF	1	310	340 sec	600	NFC	0																																					

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-76300-00000-00000-00000-00000-00000-000

Reach # 6.0 ILP Map # 093L.079 ILP # 10397 Site # 548

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-00000-00000-00000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-718600-76300-00000-00000-00000-00000-00000-000
ILP Map #: 093L.079 ILP #: 10397 NID Map #: 093L.069 NID #: 50048 Reach #: 6.0 Site #: 548
Field UTM (Z.E.N): .. Method: Site Lg: 310 Method: MAP Access: H
GIS UTM (Z.E.N): 9.678740.6063773 Ref. Name:
Date: 2001/08/18 Time: 12:10 Agency: C172 Crew: JH/DS Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	1.00	1.20	3.10	2.40	1.70	3.70					2.18
Wetted Width (m):	MS	0.60	1.00	3.10	0.50	1.60	3.20					1.67
Pool Depth (m):	MS	0.40	0.50	0.40	0.30	0.20	0.20					0.33

	Gadient %	Mtd	Avg
Method I:	3.0 2.0	C	2.50
Method II:		C	

Wb Depth:	.6	.6	.5
-----------	----	----	----

Avg: 0.57

Method: MS

Stage: L ☐ M ☒ H ☐

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

COVER

Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☐ V ☒

LWD: F

DIST: C

LB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: D

RIP: D

STG: PS

STG: PS

WATER

EMS:
Temp: 8
pH: 7.9
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #:
Cond.: 80
Turb.: T ☐ M ☐ L ☐ C ☒
Method: S3
Method: GE

MORPHOLOGY

Bed Material: Dominant: F
D95: 5.00 D (cm): 2.00

Subdom: G
Morph: RP

Pattern: IR
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3
☐	☐	☐	☐	☐	☐	☐
C1	C2	C3	C4	C5	S1	S2
☐	☐	☐	☐	☐	☐	☐

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
OverWinter Habitat	Low - potential overhanging vegetation exists in ponded areas downstream of wetland
Rearing Habitat	Moderate - associated with ponded areas, pools/cover present
Spawning Habitat	Low - patches of gravel

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 24 F: 11	STD	U	upstream photo of sloughy area with stagnant water
R: 24 F: 12	STD	D	downstream photo of sloughy area with stagnant water

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-718600-76300-00000-0000-0000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	6.0	093L.079	10397	548

COMMENTS	
Section	Comments
CHANNEL	difficult electro fishing because of sampling conditions - large pools and deep ponds/wetlands
CHANNEL	No fish caught
CHANNEL	access from downstream questionable - braided sections and heavily vegetated areas likely block access

South Fulton Study Area

Reach #	ILP Map #	ILP #
6.0	093L.079	10397

WATERBODY																	
Gazetted Name:										Local: None							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0																	
WS Code: 480-718600-76300-00000-0000-0000-000-000-000-000-0																	
Waterbody ID:					ILP Map #: 093L.079					ILP #:		10397		Reach #: 6 -			
Project ID: 3496					Lake/Stream: S					Lake From Date:							
Fish Permit #:			145085K			Date: 2001/08/18			To: 2001/08/18			Agency: C172		Crew: JH/DS		Resample: ☐	
SITE / METHOD																	
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment						
548	093L.069	50048				GPU	EF	1	8	80	C						
A. GEAR SETTINGS																	
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment										
548	EF	1	1	2001/08/18	12:10	2001/08/18	13:40										
C. ELECTROFISHER SPECIFICATIONS																	
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model					
548	EF	1	1	O	340	310.0	1.5	600	I	5	SMITH ROOT	12B					
FISH SUMMARY																	
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
548	EF	1	1	NFC			0										



Site #548, upstream photo of sloughy area with stagnant water.
Roll #24, Frame #11, Date: 2001/08/18



Site #548, downstream photo of sloughy area with stagnant water.
Roll #24, Frame #12, Date: 2001/08/18

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093L.070 ILP # 10348

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000-000									
ILP Map #: 093L.070		ILP #: 10348		Reach #: 2.0		NID Map #: 093L.070		NID #: 50494	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC98024			Gaz.:			9.682667.6059358 GIS			
#: 145			Local:			Sample Type: B Wetland: ☐			
SURVEY INFO									
Date: 1900/07/06			Agency: C172				Crew: SH		
ATTRIBUTES									
Length (km): 1.48		Gradient: 12.23		Setting: VW		DISTURBANCE			
DS Elev.: 1373		Order: 2		Open water: A		INDICATORS			
US Elev: 1554		Magnitude: 3		Confinement: CO		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5			
		BGC Zone: SBS		Coupling: CO		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: N		C/D:		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE		☐ DIAG ☐ MID ☐ SPAN ☐ BR			
Channel Pattern: SI				Mass Movement: H		Exposed/Eroded: NS			
				Riparian Veg.: M		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.070	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000

2.0

WATERBODY															
Gazetted Name:										Local:					
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0															
WS Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000															
Waterbody ID:										ILP Map #:		ILP #:		Reach #: 2 -	
Project ID: 3496										Lake/Stream: S		Lake From Date:			
Fish Permit #:		145085K		Date: 2001/08/18		To: 2001/08/18		Agency: C172		Crew: JH/DS		Resample: ☐			
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment				
549	093L.070	50045				GPU	EF	1	6	50	C				
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
549	EF	1	1	2001/08/18	14:00	2001/08/18	14:30								
C. ELECTROFISHER SPECIFICATIONS															
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model				
549	EF	1	1	O	240	300.0	1.5	600	I	5	SMITH ROOT	12B			
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
549	EF	1	1	NFC		0									

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.070 ILP # 10348

PROJECT									
Project Name: Smithers Landing Fish Inventory - 2000					Project Code: 3496				
Stream Name (gaz.): BABINE RIVER									
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000									
WATERSHED									
Reach Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000-000									
ILP Map #: 093L.070		ILP #: 10348		Reach #: 1.0		NID Map #: 093L.070		NID #: 50493	
Air Photos			Names			UTM(Zone/East/North/Method)			
LINE: 30BCC98024			Gaz.:			9.681783.6058483			
#: 145			Local:			Sample Type: B		Wetland: ☐	
SURVEY INFO									
Date: 1900/07/06			Agency: C172				Crew: SH		
ATTRIBUTES									
Length (km): .74		Gradient: 8.38		Setting: VW		DISTURBANCE		O1 B1 B2 B3 D1 D2 D3	
DS Elev.: 1311		Order: 2		Open water: A		INDICATORS		☐ ☐ ☐ ☐ ☐ ☐ ☐	
US Elev: 1373		Magnitude: 3		Confinement: OC		C1 C2 C3 C4 C5 S1 S2 S3 S4 S5		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	
		BGC Zone: SBS		Coupling: PC		☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			
Valley Flat: N		C/D:		Islands: N					
Active Floodplain Visible: ☐		Est. Width:		Bars: ☒ N ☐ SIDE		☐ DIAG ☐ MID ☐ SPAN ☐ BR			
Channel Pattern: SI				Mass Movement: M		Exposed/Eroded: NS			
				Riparian Veg.: M		Landuse: NS			

MAPS		
Map Type	Map #	Year
TRIM	093L.070	

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-705800-57200-68352-0000-0000-000-000-000-000-000

1.0

WATERBODY													
Gazetted Name:						Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-705800-57200-68352-0000-0000-000-000-000-000													
Waterbody ID:						ILP Map #:		ILP #:		Reach #: 1 -			
Project ID: 3496						Lake/Stream: S			Lake From Date:				
Fish Permit #: 145085K			Date: 2001/08/18			To: 2001/08/18			Agency: C172		Crew: JH/DS		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment		
550	093L.070	50050				GPU	EF	1	6	50	C		
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
550	EF	1	1	2001/08/18	14:40	2001/08/18	15:30						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
550	EF	1	1	O	210	200.0	1.5	600	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
550	EF	1	1	NFC		0							

South Fulton Study Area

Reach #	ILP Map #	ILP #
4.0	093L.080	10133

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000

Reach # 4.0 ILP Map # 093L.080 ILP # 10133 Site 791

PROJECT																																																																		
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																								
Stream Name (gaz.): BABINE RIVER																																																																		
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000																																																																		
WATERSHED																																																																		
Gazetted Name:										Local Name: None																																																								
Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000																																																																		
ILP Map#: 093L.080		ILP #: 10133		NID Map #: 093L.080		NID #: 70091		Reach #: 4.0		Site #: 791																																																								
Field UTM (Z.E.N): ..				Method:		Site Lg: 100		Method: HC		Access: H																																																								
GIS UTM (Z.E.N): 9.681529.6072562										Ref. Name:																																																								
Date: 2001/08/19			Time: 09:25		Agency: C172		Crew: JA/JH		Fish Crd?: ☐		Incomplete: ☐																																																							
CHANNEL																																																																		
										<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>2.0</td> <td>2.0</td> <td>AL</td> </tr> <tr> <td>Method II:</td> <td>3.0</td> <td>2.0</td> <td>AL</td> </tr> </tbody> </table>						Gadient %	Mtd	Avg	Method I:	2.0	2.0	AL	Method II:	3.0	2.0	AL																																								
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Wetted Width (m):	MS											0.00																																																						
Pool Depth (m):	MS											0.00																																																						
Wb Depth:		.3	.4	.5	Avg: 0.40		Method: MS		Stage: L ☒ M ☐ H ☐		No Vis.Ch.: ☐ Intermittent: ☒ Dw: ☐ Tribs.: ☐																																																							
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Type:	SWD	LWD	B	U	DP	OV	IV																																																											
Amount:	T	T	N	S	N	D	S																																																											
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒																																																											
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Flood Signs: None										Method: S3																																																								
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MORPHOLOGY																																																																		
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D95: 4.00 D (cm): 0.10 Morph: RP										<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </table>					☐	☐	☐	☐	☐	☐	☐	☐																																												
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Islands: N										C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																																																								
Coupling: DC										<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </table>					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐																																									
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Confinement: UN										Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐																																																								
FSZ: ☐																																																																		
HABITAT QUALITY																																																																		
Name										Comments																																																								
Spawning Habitat										Low - Dry/Int, low amount of gravel patches observed																																																								
Rearing Habitat										Low - Dry/Int, high overhanging vegetation for cover																																																								
OverWinter Habitat										None - Dry/Int																																																								
PHOTOS																																																																		
Photo										Foc Lg																																																								
Dir										Comments																																																								
R:	24	F:	13	STD		U		upstream photo of overhanging vegetation which is the dominant cover throughout sample site																																																										
R:	24	F:	14	STD		D		downstream photo of typical habitat found within site																																																										

FDIS Site Card

South Fulton Study Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000	4.0	093L.080	10133	791

COMMENTS	
Section	Comments
CHANNEL	S4 inferred, no barriers observed within site or during RECCI flight
CHANNEL	braided sections observed
CHANNEL	stream has a high amount of vascular plants within stream bed



Site #791, upstream photo of overhanging vegetation which is the dominant cover throughout sample site.
Roll #24, Frame #13, Date: 2001/08/19



Site #791, downstream photo of typical habitat found within site.
Roll #24, Frame #14, Date: 2001/08/19

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-705800-06200-00000-00000-000-000-000-000-000-000

Reach # ILP Map # ILP #
5.0 093L.080 10133

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-705800-06200-00000-00000-000-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10133		
REACH									
Reach #: 5.0		UTM(Zone/East/North): 9.680935.6072509				Sample Type: Biased			
Length (km): .53		Coupling: Decoupled		Magnitude: 4		BGC Zone: SBS			
Gradient (%): 4.9		Confinement: Occasionally Conf		Order: 2		Open water: Present			
US Elev (m): 905		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 792		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/19	
Site Length (m): 100		GIS UTM 9.681238.6072351		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☐		Intermittent: ☒		Avg		Min		Max	
Dewatered: ☐		Tribes: ☐		Channel Width (m): 1.03		0.7		1.5	
Stage: Low ☒				Wetted Width (m): 0.00		0		0	
Med ☐				Bankfull Depth (m): 0.27		0.2		0.3	
High ☐									
Temp (C): 6		pH: 7.7		Conductivity: 150					
				Avg		Min		Max	
				Gradient %: 4.00		3		5	
				Pool Depth (m): 0.00		0		0	
				Turbidity: Turbid ☐		Low ☐			
				Moderate ☐		Clear ☒			
MORPHOLOGY									
Bed Material: Dominant: Fines		D95 (cm): 4.00		Bars: Non ☒		Side ☐		Diagonal ☐	
Subdominant: Gravels		D (cm): 1.00				Mid-channel ☐		Span ☐	
Channel Pattern: Sinuous		Islands: None		DISTURBANCE		O1		B1	
Coupling: Decoupled				INDICATORS		B2		B3	
Confinement: Unconfined						D1		D2	
Morphology: RP Riffle Pool						D3			
				C1		C2		C3	
				C4		C5		S1	
				S2		S3		S4	
				S5					
COVER									
Total Cover: Abundant		Type: SWD		LWD		B		U	
LWD: Few		Amount: T		T		N		S	
LWD Dist: Evenly Distributed		Location: P/S/O:		☒		☒		☒	
				☐		☐		☐	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape: V - shape		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg: Mixed C/D		Stage: Mature forest							
Left Bank: Rip.Veg:		Stage: Mature forest							
				Instream Veg: None ☐		Algae ☐		Moss ☒	
								Vascular ☒	
FISH									
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)
792	EF	1	40	27 sec	400	NFC	0		

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000

Reach # 5.0 ILP Map # 093L.080 ILP # 10133 Site 792

PROJECT																																																																														
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496																																																																				
Stream Name (gaz.): BABINE RIVER																																																																														
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000																																																																														
WATERSHED																																																																														
Gazetted Name:										Local Name: None																																																																				
Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000																																																																														
ILP Map #: 093L.080		ILP #: 10133		NID Map #: 093L.080		NID #: 70092		Reach #: 5.0		Site #: 792																																																																				
Field UTM (Z.E.N): ..				Method:				Site Lg: 100		Method: HC		Access: H																																																																		
GIS UTM (Z.E.N): 9.681238.6072351								Ref. Name:																																																																						
Date: 2001/08/19			Time: 10:43			Agency: C172			Crew: JA/JH		Fish Crd?: ☒		Incomplete: ☐																																																																	
CHANNEL																																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Mtd</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>width</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Channel Width (m):</td> <td>MS</td> <td>1.10</td> <td>0.90</td> <td>1.50</td> <td>1.20</td> <td>0.70</td> <td>0.80</td> <td></td> <td></td> <td></td> <td></td> <td>1.03</td> </tr> <tr> <td>Wetted Width (m):</td> <td>MS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> </tr> <tr> <td>Pool Depth (m):</td> <td>MS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> </tr> </tbody> </table>													Mtd	width	width	width	width	width	width	width	width	width	width	Avg	Channel Width (m):	MS	1.10	0.90	1.50	1.20	0.70	0.80					1.03	Wetted Width (m):	MS											0.00	Pool Depth (m):	MS											0.00	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Gadient %</th> <th>Mtd</th> <th>Avg</th> </tr> </thead> <tbody> <tr> <td>Method I:</td> <td>5.0</td> <td>3.0</td> <td>AL</td> </tr> <tr> <td>Method II:</td> <td>4.0</td> <td>4.0</td> <td>AL</td> </tr> </tbody> </table>				Gadient %	Mtd	Avg	Method I:	5.0	3.0	AL	Method II:	4.0	4.0	AL
	Mtd	width	width	width	width	width	width	width	width	width	width	Avg																																																																		
Channel Width (m):	MS	1.10	0.90	1.50	1.20	0.70	0.80					1.03																																																																		
Wetted Width (m):	MS											0.00																																																																		
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Method I:	5.0	3.0	AL																																																																											
Method II:	4.0	4.0	AL																																																																											
Wb Depth: .3		.3		.2		Avg: 0.27		Method: MS		Stage: L ☒ M ☐ H ☐		No Vis.Ch.: ☐ Intermittent: ☒		Dwr.: ☐ Tribs.: ☐																																																																
COVER Total: A																																																																														
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Type:	SWD	LWD	B	U	DP	OV	IV																																																																							
Amount:	T	T	N	S	N	D	S																																																																							
Loc: P/S/O:	☒	☒	☐	☒	☐	☒	☒																																																																							
LWD: F DIST: E								INSTREAM VEG: N ☐ A ☐ M ☒ V ☒																																																																						
LB SHP: V								RB SHP: U																																																																						
Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐								Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐																																																																						
RIP: S								RIP: M																																																																						
STG: MF								STG: MF																																																																						
WATER																																																																														
EMS:					Method: T4					Req #:																																																																				
Temp: 6					Method: P2					Cond.: 150																																																																				
pH: 7.7					Method: GE					Turb.: T ☐ M ☐ L ☐ C ☒																																																																				
Flood Signs: None										Method: S3																																																																				
										Method: GE																																																																				
MORPHOLOGY																																																																														
Bed Material:		Dominant: F		Subdom: G		O1		B1		B2		B3		D1		D2		D3																																																												
D95: 4.00		D (cm): 1.00		Morph: RP																																																																										
Pattern: SI						DISTURBANCE		C1		C2		C3		C4		C5		S1																																																												
Islands: N						INDICATORS																																																																								
Coupling: DC																																																																														
Confinement: UN																																																																														
FSZ: ☐																																																																														
						Bars:		N ☒		SIDE ☐		DIAG ☐		MID ☐		SPAN ☐		BR ☐																																																												
HABITAT QUALITY																																																																														
Name		Comments																																																																												
Spawning Habitat		Low - Dry/Int - lack of clean patches of gravel observed																																																																												
Rearing Habitat		Low - Dry/Int - high distribution of vascular plants were observed within the stream channel bed																																																																												
OverWinter Habitat		None -Dry/Int																																																																												
PHOTOS																																																																														
Photo		Foc Lg		Dir		Comments																																																																								
R:	24	F:	15	STD		U		upstream photo of fine substrate and the high overhanging vegetation found within sample area																																																																						
R:	24	F:	16	STD		D		downstream photo of high vascular plant distribution within stream bed																																																																						

FDIS Site Card

South Fulton Study Area

	Reach #	ILP Map #	ILP #	Site
Watershed Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000	5.0	093L.080	10133	792

COMMENTS	
Section	Comments
CHANNEL	isolated pools in lower 10m were sampled (No fish caught)
CHANNEL	high distribution of vascular plants were observed in stream bed
CHANNEL	no barriers were observed within sample site
CHANNEL	S4 default

South Fulton Study Area

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-705800-06200-00000-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.080				ILP #:		10133		Reach #: 5 -	
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K				Date: 2001/08/19		To: 2001/08/19		Agency: C172		Crew: JA/JH		Resample: ☐	
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment		
792	093L.080	70092				GPU	EF	1	6	150	C		
A. GEAR SETTINGS													
Site#	MTD/NO		H/P	Date In	Time In	Date Out	Time Out	Comment					
792	EF	1	1	2001/08/19	10:43	2001/08/19	11:10						
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO		H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
792	EF	1	1	O	27	40.0	1.1	400	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment			
792	EF	1	1	NFC			0						



Site #792, upstream photo of fine substrate and the high overhanging vegetation found within sample area.
Roll #24, Frame #15, Date: 2001/08/19



Site #792, downstream photo of high vascular plant distribution within stream bed.
Roll #24, Frame #16, Date: 2001/08/19

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-705800-06500-65000-9340-3429-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10139

STREAM REFERENCING									
Gazetted Name:					Local Name:				
Watershed Code: 480-705800-06500-65000-9340-3429-000-000-000-000-000					ILP Map #: 093L.080		ILP #: 10139		
REACH									
Reach #: 1.0		UTM(Zone/East/North): 9.680924.6072250				Sample Type: Biased			
Length (km): .47		Coupling: Partially Couple		Magnitude: 1		BGC Zone: SBS			
Gradient (%): 12.3		Confinement: Occasionally Conf		Order: 1		Open water: Absent			
US Elev (m): 933		Islands: NONE		Riparian Vegetation: Mixed C/D					
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified									
SITE									
Site #: 793		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/19	
Site Length (m): 100		GIS UTM 9.681226.6072232		Agency Name: Triton Environmental Consultants (Terrace)					
CHANNEL									
No Vis.Ch.: ☒		Intermittent: ☐		Avg		Min		Max	
Dewatered: ☐		Tribes.: ☐		Channel Width (m):		0.00		0	
Stage: Low ☐				Wetted Width (m):		0.00		0	
Med ☐				Bankfull Depth (m):		0.00		0	
High ☐		Temp (C):		pH:		Conductivity:		Turbidity: Turbid ☐ Low ☐	
								Moderate ☐ Clear ☐	
MORPHOLOGY									
Bed Material: Dominant:		D95 (cm):		Bars: Non ☐		Side ☐		Diagonal ☐	
Subdominant:		D (cm):				Mid-channel ☐		Span ☐	
Channel Pattern:		Islands:		DISTURBANCE INDICATORS		O1		B1	
Coupling:						B2		B3	
Confinement:						D1		D2	
Morphology:						D3			
						C1		C2	
						C3		C4	
						C5		S1	
						S2		S3	
						S4		S5	
COVER									
Total Cover:		Type: SWD		LWD		B		U	
LWD:		Amount:				DP		OV	
LWD Dist:		Location: P/S/O:				IV			
								FSZ: ☐	
Right Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Left Bank: Shape:		Texture: Fines ☐		Gravel ☐		Cobble ☐		Boulder ☐	
Right Bank: Rip.Veg:		Stage:				Rock ☐		Manmade ☐	
Left Bank: Rip.Veg:		Stage:				Rock ☐		Manmade ☐	
						Instream Veg: None ☐		Algae ☐	
						Moss ☐		Vascular ☐	

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-06500-65000-9340-3429-000-000-000-000-000

Reach # 1.0 ILP Map # 093L.080 ILP # 10139 Site 793

PROJECT																
Project Name: Smithers Landing Fish Inventory - 2000										Project Code: 3496						
Stream Name (gaz.): BABINE RIVER																
Project Watershed Code: 480-000000-00000-00000-0000-0000-000-000-000-000-000																
WATERSHED																
Gazetted Name:										Local Name: None						
Watershed Code: 480-705800-06500-65000-9340-3429-000-000-000-000-000-000																
ILP Map#: 093L.080		ILP #: 10139		NID Map #: 093L.080		NID #: 70093		Reach #: 1.0		Site #: 793						
Field UTM (Z.E.N): ..				Method:		Site Lg: 100		Method: HC		Access: H						
GIS UTM (Z.E.N): 9.681226.6072232				Ref. Name:												
Date: 2001/08/19			Time: 11:30		Agency: C172		Crew: JA/JH		Fish Crd?: ☐		Incomplete: ☐					
CHANNEL																
												Gadient %		Mtd	Avg	
Channel Width (m):												3.0		4.0	AL	4.25
Wetted Width (m):												5.0		5.0	AL	
Pool Depth (m):																
												No Vis.Ch.: ☒		Intermittent: ☐		
												Dw: ☐		Tribes.: ☐		
Wb Depth:												Avg: 0.00		Method: MS		Stage: L ☐ M ☐ H ☐
COVER Total:																
Type:		SWD	LWD	B	U	DP	OV	IV	CROWN CLOSURE							
Amount:																
Loc: P/S/O:									INSTREAM VEG: N ☐ A ☐ M ☐ V ☐							
LWD:									DIST:							
LB SHP:									RB SHP:							
Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐									Texture: F ☐ G ☐ C ☐ B ☐ R ☐ A ☐							
RIP:									RIP:							
STG:									STG:							
WATER																
EMS:					Method:					Req #:						
Temp:					Method:					Cond.:						
pH:					Method:					Turb.: T ☐ M ☐ L ☐ C ☐						
Flood Signs:					Method:					Method: GE						
MORPHOLOGY																
Bed Material:		Dominant:		Subdom:		O1		B1	B2	B3	D1	D2	D3			
D95:		D (cm):		Morph:		DISTURBANCE										
Pattern:						INDICATORS		C1	C2	C3	C4	C5	S1			
Islands:																
Coupling:																
Confinement:																
FSZ:								Bars: N ☐	SIDE ☐	DIAG ☐	MID ☐	SPAN ☐	BR ☐			
HABITAT QUALITY																
Name					Comments											
Other					No Visible Channel											
PHOTOS																
Photo			Foc Lg		Dir		Comments									
R:	24	F:	17	STD		U		upstream photo of vegetated gully								
R:	24	F:	18	STD		D		downstream photo of vegetated gully								
COMMENTS																
Section					Comments											

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-06500-65000-9340-3429-000-000-000-000-000-000	Reach #	ILP Map #	ILP #	Site
	1.0	093L.080	10139	793

COMMENTS	
Section	Comments
CHANNEL	vegetated gully consists of devil's club, alder, lady fern and spruce trees
CHANNEL	No stream or channel observed



Site #793, upstream photo of vegetated gully.
Roll #24, Frame #17, Date: 2001/08/19



Site #793, downstream photo of vegetated gully.
Roll #24, Frame #18, Date: 2001/08/19

FDIS Reach/Site Summary

South Fulton Study Area

Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000

Reach # ILP Map # ILP #
2.0 093L.069 10193

STREAM REFERENCING																																	
Gazetted Name:					Local Name:																												
Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000					ILP Map #: 093L.069		ILP #: 10193																										
REACH																																	
Reach #: 2.0		UTM(Zone/East/North): 9.679991.6061379			Sample Type: Random																												
Length (km): 1.72		Coupling: Decoupled		Magnitude: 1		BGC Zone: SBS																											
Gradient (%): 9.6		Confinement: Confined		Order: 1		Open water: Absent																											
US Elev (m): 1298		Islands: NONE		Riparian Vegetation: Shrubs																													
Bars: None ☒ Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐ Braid ☐ Landuse: Not Specified																																	
SITE																																	
Site #: 794		Field UTM ..		Agency: C172		Crew: JA/JH		Date: 2001/08/19																									
Site Length (m): 110		GIS UTM 9.678724.6061540		Agency Name: Triton Environmental Consultants (Terrace)																													
CHANNEL																																	
No Vis.Ch.: ☐		Intermittent: ☐						Avg Min Max #																									
Dewatered: ☒		Tribes: ☐						Gradient %: 13.50 9 19 4																									
Stage: Low ☒								Pool Depth (m): 0.08 0.03 0.150 6																									
Med ☐								Turbidity: Turbid ☐ Low ☐																									
High ☐								Moderate ☐ Clear ☒																									
Temp (C): 8		pH: 8.0		Conductivity: 20																													
MORPHOLOGY																																	
Bed Material: Dominant: Fines		D95 (cm): 10.00		Bars: Non ☒		Side ☐ Diagonal ☐ Mid-channel ☐ Span ☐																											
Subdominant: Gravels		D (cm): 1.00				Braid ☐																											
Channel Pattern: Sinuous		Islands: None		DISTURBANCE INDICATORS																													
Coupling: Decoupled				O1 B1 B2 B3 D1 D2 D3																													
Confinement: Unconfined				C1 C2 C3 C4 C5 S1 S2 S3 S4 S5																													
Morphology: RP Riffle Pool																																	
COVER																																	
Total Cover: Moderate		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Type:</th> <th>SWD</th> <th>LWD</th> <th>B</th> <th>U</th> <th>DP</th> <th>OV</th> <th>IV</th> </tr> <tr> <th>Amount:</th> <td>T</td> <td>N</td> <td>N</td> <td>D</td> <td>N</td> <td>S</td> <td>T</td> </tr> <tr> <th>Location: P/S/O:</th> <td>☒</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☒</td> <td>☒</td> </tr> </table>								Type:	SWD	LWD	B	U	DP	OV	IV	Amount:	T	N	N	D	N	S	T	Location: P/S/O:	☒	☐	☐	☒	☐	☒	☒
Type:	SWD	LWD	B	U	DP	OV	IV																										
Amount:	T	N	N	D	N	S	T																										
Location: P/S/O:	☒	☐	☐	☒	☐	☒	☒																										
LWD: None		FSZ: ☐																															
LWD Dist:																																	
Right Bank: Shape: Undercut		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐ Rock ☐ Manmade ☐																									
Left Bank: Shape: V - shape		Texture: Fines ☒		Gravel ☐		Cobble ☐		Boulder ☐ Rock ☐ Manmade ☐																									
Right Bank: Rip.Veg: Shrubs		Stage: Mature forest		Crown Closure 1-20%																													
Left Bank: Rip.Veg:		Stage: Mature forest		Instream Veg: None ☐ Algae ☐ Moss ☒ Vascular ☐																													
FISH																																	
Site Number	Capture Method	Number of Events	Length fished (m)	Total Time	Voltage	Species	Total Fish	Minimum Length (mm)	Maximum Length (mm)																								
794	EF	1	80	100 sec	500	NFC	0																										

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000-000

Reach # 2.0 ILP Map # 093L.069 ILP # 10193 Site 794

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Gazetted Name: Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000-000
ILP Map #: 093L.069 ILP #: 10193 NID Map #: 093L.069 NID #: 70094 Reach #: 2.0 Site #: 794
Field UTM (Z.E.N): .. Method: Site Lg: 110 Method: HC Access: H
GIS UTM (Z.E.N): 9.678724.6061540 Ref. Name:
Date: 2001/08/19 Time: 13:29 Agency: C172 Crew: JA/JH Fish Crd?: ☒ Incomplete: ☐

CHANNEL

	Mtd	width	width	width	width	width	width	width	width	width	width	Avg
Channel Width (m):	MS	0.80	0.40	0.60	0.70	0.60	0.50					0.60
Wetted Width (m):	MS	0.80	0.40	0.60	0.70	0.60	0.50					0.60
Pool Depth (m):	MS	0.09	0.10	0.15	0.08	0.04	0.03					0.08

	Gadient %	Mtd	Avg
Method I:	9.0 19.0	C	13.50
Method II:	14.0 12.0	C	

Wb Depth:	.3	.1	.1
-----------	----	----	----

Avg: 0.17

Method: MS

Stage: L ☒ M ☐ H ☐

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

COVER Total: M

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

CROWN CLOSURE

1 1-20%

INSTREAM VEG: N ☐ A ☐ M ☒ V ☐

LWD: N

DIST:

LB SHP: V

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RB SHP: U

Texture: F ☒ G ☐ C ☐ B ☐ R ☐ A ☐

RIP: S

RIP: S

STG: MF

STG: MF

WATER

EMS:
Temp: 8
pH: 8.0
Flood Signs: None

Method: T4
Method: P2
Method: GE

Req #:
Cond.: 20
Turb.: T ☐ M ☐ L ☐ C ☒
Method: S3
GE

MORPHOLOGY

Bed Material: Dominant: F
D95: 10.0 D (cm): 1.00

Subdom: G
Morph: RP

Pattern: SI
Islands: N
Coupling: DC
Confinement: UN
FSZ: ☐

DISTURBANCE INDICATORS

O1	B1	B2	B3	D1	D2	D3				
☐	☐	☐	☐	☐	☐	☐				
C1	C2	C3	C4	C5	S1	S2	S3	S4	S5	
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Bars: N ☒ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR ☐

HABITAT QUALITY

Name	Comments
Spawning Habitat	Low - limited by lack of clean patches of gravel
Rearing Habitat	Low - limited by lack of cover and deep pools
OverWinter Habitat	Low - limited by lack of deep pools

PHOTOS

Photo	Foc Lg	Dir	Comments
R: 24 F: 19	STD	U	upstream photo of de-watered section common throughout sample site
R: 24 F: 20	STD	D	downstream photo of typical morphology found within sample site

FDIS Site Card

South Fulton Study Area

Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000-000

Reach #2.0

ILP Map #093L.069

ILP #10193

Site794

COMMENTS	
Section	Comments
CHANNEL	dewatered sections throughout site
CHANNEL	No fish caught
CHANNEL	S4 default

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-705800-57200-31118-0000-0000-000-000-000-000-000 Reach # 2.0 ILP Map # 093L.069 ILP # 10193

WATERBODY													
Gazetted Name:										Local: None			
Project Code: 480-000000-00000-00000-0000-0000-000-000-000-000-0													
WS Code: 480-705800-57200-31118-0000-0000-000-000-000-000-000													
Waterbody ID:				ILP Map #: 093L.069				ILP #: 10193		Reach #: 2 -			
Project ID: 3496				Lake/Stream: S				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/19			To: 2001/08/19			Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
794	093L.069	70094				GPU EF 1	8	20	C				
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
794	EF 1	1	2001/08/19	13:29	2001/08/19	13:47							
C. ELECTROFISHER SPECIFICATIONS													
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model		
794	EF	1	1	O	100	80.0	0.8	500	I	5	SMITH ROOT	12B	
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
794	EF	1	1	NFC		0							



Site #794, upstream photo of de-watered section common throughout sample site.
Roll #24, Frame #19, Date: 2001/08/19



Site #794, downstream photo of typical morphology found within sample site.
Roll #24, Frame #20, Date: 2001/08/19

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-729600-73200-00000-00000-00000-00000-00000-00000-00000

Reach # 5.0 ILP Map # 093L.080 ILP # 30005

WATERBODY												
Gazetted Name:						Local:						
Project Code: 480-000000-00000-00000-00000-00000-00000-00000-0												
WS Code: 480-729600-73200-00000-00000-00000-00000-00000-00000												
Waterbody ID: 03027BABL				ILP Map #: 093L.080				ILP #: 30005		Reach #: 5 -		
Project ID: 3496				Lake/Stream: L				Lake From Date:				
Fish Permit #: 145085K			Date: 2001/08/04			To: 2001/08/05			Agency: C172		Crew: JA/DS	Resample: ☐
SITE / METHOD												
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment		
870	093L.080	30870				GPU MT 5	7		C			
870	093L.080	30870				GPU MT 4	7		C			
870	093L.080	30870				GPU MT 3	7		C			
870	093L.080	30870				GPU MT 2	7		C			
870	093L.080	30870				GPU MT 1	7		C			
A. GEAR SETTINGS												
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment					
870	MT 1	1	2001/08/04	11:15	2001/08/05	12:45						
870	MT 2	1	2001/08/04	11:15	2001/08/05	12:45						
870	MT 3	1	2001/08/04	11:15	2001/08/05	12:45						
870	MT 4	1	2001/08/04	11:15	2001/08/05	12:45						
870	MT 5	1	2001/08/04	11:15	2001/08/05	12:45						
B. NET/TRAP SPECIFICATIONS												
Site #	MTD/NO.		H/P	Net Type	Length	Depth	Mesh	Set	Habitat			
870	MT 1		1			1.5		BT	L			
870	MT 2		1			1.5		BT	L			
870	MT 3		1			1.5		BT	L			
870	MT 4		1			1.5		BT	L			
870	MT 5		1			1.5		BT	L			
FISH SUMMARY												
Site#	MTD/NO		H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment		
870	MT 1		1	NFC			0					
870	MT 2		1	NFC			0					
870	MT 3		1	NFC			0					
870	MT 4		1	NFC			0					
870	MT 5		1	NFC			0					

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-00000-000-000-000-000-000-000

Reach # 2.0 ILP Map # 093L.080 ILP # 30000

WATERBODY															
Gazetted Name:										Local:					
Project Code: 480-000000-00000-00000-00000-000-000-000-000-000-0															
WS Code: 480-718600-21400-00000-00000-000-000-000-000-000-000															
Waterbody ID: 01309BABL					ILP Map #: 093L.080					ILP #: 30000 Reach #: 2 -					
Project ID: 3496					Lake/Stream: L					Lake From Date:					
Fish Permit #: 145085K					Date: 2001/08/05 To: 2001/08/05					Agency: C172 Crew: JS/DS Resample: ☐					
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment				
871	093L.080	30871				GPU	MT 5	8		C					
871	093L.080	30871				GPU	MT 4	8		C					
871	093L.080	30871				GPU	MT 3	8		C					
871	093L.080	30871				GPU	MT 2	8		C					
871	093L.080	30871				GPU	MT 1	8		C					
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
871	MT 1	1	2001/08/04	10:25	2001/08/05	10:40									
871	MT 2	1	2001/08/04	10:25	2001/08/05	10:40									
871	MT 3	1	2001/08/04	10:25	2001/08/05	10:40									
871	MT 4	1	2001/08/04	10:25	2001/08/05	10:40									
871	MT 5	1	2001/08/04	10:25	2001/08/05	10:40									
B. NET/TRAP SPECIFICATIONS															
Site #	MTD/NO.		H/P	Net Type	Length	Depth	Mesh	Set	Habitat						
871	MT	1	1			1.5		BT	L						
871	MT	2	1			1.5		BT	L						
871	MT	3	1			1.5		BT	L						
871	MT	4	1			1.5		BT	L						
871	MT	5	1			1.5		BT	L						
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)		FishAct	Comment					
871	MT	1	LKC	J		14	40	90	R						
871	MT	2	LKC	J		5	50	80	R						
871	MT	3	LKC	J		1	60	60	R						
871	MT	4	LKC	J		3	50	75	R						
871	MT	5	LKC	J		10	50	90	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#				
871	MT	1	LKC	70		U	IM								
871	MT	1	LKC	65		U	IM								
871	MT	1	LKC	65		U	IM								
871	MT	1	LKC	60		U	IM								
871	MT	1	LKC	50		U	IM								
871	MT	1	LKC	55		U	IM								
871	MT	1	LKC	45		U	IM								
871	MT	1	LKC	45		U	IM								
871	MT	1	LKC	55		U	IM								
871	MT	1	LKC	50		U	IM								
871	MT	1	LKC	90		U	IM								
871	MT	1	LKC	60		U	IM								
871	MT	1	LKC	80		U	IM								
871	MT	2	LKC	50		U	IM								
871	MT	2	LKC	80		U	IM								
871	MT	2	LKC	55		U	IM								
871	MT	2	LKC	66		U	IM								

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-718600-21400-00000-0000-0000-000-000-000-000

Reach # 2.0
ILP Map # 093L.080
ILP # 30000

INDIVIDUAL FISH DATA																	
Site#	MTD/NO		H/P	Species	Length	Weight	Sex	Mat	Age			Vch#	Genetic		Roll #	Frame#	Comment
									Str/Smpl#/Age				Str/Smpl#				
871	MT	2	1	LKC	55		U	IM									
871	MT	4	1	LKC	50		U	IM									
871	MT	4	1	LKC	55		U	IM									
871	MT	4	1	LKC	75		U	IM									

South Fulton Study Area

Reach #	ILP Map #	ILP #
6.0	093L.080	30001

Triton Environmental Consultants Ltd.

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-729600-73466-41727-0000-0000-000-000-000-000-000 Reach # 9.0 ILP Map # 093L.080 ILP # 30006

WATERBODY													
Gazetted Name:						Local:							
Project Code: 480-000000-00000-00000-0000-000-000-000-000-0													
WS Code: 480-729600-73466-41727-0000-0000-000-000-000-000													
Waterbody ID: 03028BABL				ILP Map #: 093L.080				ILP #: 30006		Reach #: 9 -			
Project ID: 3496				Lake/Stream: L				Lake From Date:					
Fish Permit #: 145085K			Date: 2001/08/04			To: 2001/08/05			Agency: C172		Crew: JA/DS		Resample: ☐
SITE / METHOD													
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment			
873	093L.080	30873				GPU MT 4							
873	093L.080	30873				GPU MT 3							
873	093L.080	30873				GPU MT 2							
873	093L.080	30873				GPU MT 1							
A. GEAR SETTINGS													
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment						
873	MT 1	1	2001/08/04	09:40	2001/08/05	11:00							
873	MT 2	1	2001/08/04	09:40	2001/08/05	11:00							
873	MT 3	1	2001/08/04	09:40	2001/08/05	11:00							
873	MT 4	1	2001/08/04	09:40	2001/08/05	11:00							
B. NET/TRAP SPECIFICATIONS													
Site #	MTD/NO.		H/P	Net Type	Length	Depth	Mesh	Set	Habitat				
873	MT 1		1			1.8		BT	L				
873	MT 2		1			1.6		BT	L				
873	MT 3		1			1.6		BT	L				
873	MT 4		1			1.7		BT	L				
FISH SUMMARY													
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment				
873	MT 1	1	NFC			0							
873	MT 2	1	NFC			0							
873	MT 3	1	NFC			0							
873	MT 4	1	NFC			0							

FDIS Fish Card

South Fulton Study Area

Reach # ILP Map # ILP #

Watershed Code: 480-729600-00000-00000-0000-000-000-000-000-000-000

11.0

WATERBODY																
Gazetted Name:										Local:						
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0																
WS Code: 480-729600-00000-00000-0000-000-000-000-000-000-000																
Waterbody ID: 01314BABL					ILP Map #:					ILP #:						
Project ID: 3496					Lake/Stream: W					Reach #: 11 - Lake From Date:						
Fish Permit #: 145085K			Date: 2001/08/04			To: 2001/08/05			Agency: C172			Crew: JA/DS			Resample: ☐	
SITE / METHOD																
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO		Temp	Cond	Turbid	Comment					
874	093L.080	30874				GPU	MT	5								
874	093L.080	30874				GPU	MT	4								
874	093L.080	30874				GPU	MT	3								
874	093L.080	30874				GPU	MT	2								
874	093L.080	30874				GPU	MT	1								
A. GEAR SETTINGS																
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment									
874	MT	1	1	2001/08/04	08:04	2001/08/05	12:20									
874	MT	2	1	2001/08/04	08:04	2001/08/05	12:20									
874	MT	3	1	2001/08/04	08:04	2001/08/05	12:20									
874	MT	4	1	2001/08/04	08:04	2001/08/05	12:20									
874	MT	5	1	2001/08/04	08:04	2001/08/05	12:20									
B. NET/TRAP SPECIFICATIONS																
Site #	MTD/NO.		H/P	Net Type	Length	Depth	Mesh	Set	Habitat							
874	MT		1	1		1.5		BT	L							
874	MT		2	1		1.5		BT	L							
874	MT		3	1		1.5		BT	L							
874	MT		4	1		1.5		BT	L							
874	MT		5	1		1.5		BT	L							
FISH SUMMARY																
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment							
874	MT	1	1	NFC		0										
874	MT	2	1	NFC		0										
874	MT	3	1	NFC		0										
874	MT	4	1	NFC		0										
874	MT	5	1	NFC		0										

FDIS Fish Card

South Fulton Study Area

Watershed Code: 000-000000-00000-00000-0000-000-000-000-000-000-000-000 Reach # 2.0 ILP Map # 093L.080 ILP # 30004

WATERBODY															
Gazetted Name:										Local:					
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0															
WS Code: 000-000000-00000-00000-0000-000-000-000-000-000-000															
Waterbody ID:										ILP Map #: 093L.080					
Project ID: 3496										ILP #: 30004 Reach #: 2 -					
										Lake/Stream: L Lake From Date:					
Fish Permit #: 145085K					Date: 2001/08/04					To: 2001/08/05					
					Agency: C172					Crew: JA/DS Resample: ☐					
SITE / METHOD															
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment					
875	093L.080	30875				GPU MT 5									
875	093L.080	30875				GPU MT 4									
875	093L.080	30875				GPU MT 3									
875	093L.080	30875				GPU MT 2									
875	093L.080	30875				GPU MT 1									
A. GEAR SETTINGS															
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment								
875	MT 1	1	2001/08/04	12:00	2001/08/05	10:10									
875	MT 2	1	2001/08/04	12:00	2001/08/05	10:10									
875	MT 3	1	2001/08/04	12:00	2001/08/05	10:11									
875	MT 4	1	2001/08/04	12:00	2001/08/05	10:15									
875	MT 5	1	2001/08/04	12:00	2001/08/05	10:15									
B. NET/TRAP SPECIFICATIONS															
Site #	MTD/NO.		H/P	Net Type	Length	Depth	Mesh	Set	Habitat						
875	MT 1		1			2.5		BT	L						
875	MT 2		1			2.7		BT	L						
875	MT 3		1			2.7		BT	L						
875	MT 4		1			2.7		BT	L						
875	MT 5		1			2.7		BT	L						
FISH SUMMARY															
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment						
875	MT 1	1	LKC	J		3	50 70	R							
875	MT 2	1	RB	J		4	50 65	R							
875	MT 2	1	LKC	J		3	50 83	R							
875	MT 3	1	RB	J		2	50 65	R							
875	MT 3	1	LKC	J		7	50 65	R							
875	MT 4	1	LKC	J		3	50 70	R							
875	MT 5	1	LKC	J		3	50 75	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#					
875	MT 1	1	LKC	50		U	IM								
875	MT 1	1	LKC	70		U	IM								
875	MT 1	1	LKC	60		U	IM								
875	MT 2	1	LKC	60		U	IM								
875	MT 2	1	LKC	85		U	IM								
875	MT 2	1	LKC	50		U	IM								
875	MT 2	1	RB	50		U	IM								
875	MT 2	1	RB	60		U	IM								
875	MT 2	1	RB	65		U	IM								
875	MT 2	1	RB	60		U	IM								
875	MT 3	1	RB	65		U	IM								
875	MT 3	1	RB	50		U	IM								
875	MT 3	1	LKC	65		U	IM								
875	MT 3	1	LKC	60		U	IM								
875	MT 3	1	LKC	55		U	IM								
875	MT 3	1	LKC	55		U	IM								

FDIS Fish Card

South Fulton Study Area

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

Reach #2.0

ILP Map #093L.080

ILP #30004

INDIVIDUAL FISH DATA																	
Site#	MTD/NO		H/P	Species	Length	Weight	Sex	Mat	Age			Vch#	Genetic		Roll #	Frame#	Comment
									Str/Smpl#/Age				Str/Smpl#				
875	MT	3	1	LKC	60		U	IM									
875	MT	3	1	LKC	65		U	IM									
875	MT	4	1	LKC	70		U	IM									
875	MT	4	1	LKC	50		U	IM									
875	MT	4	1	LKC	50		U	IM									
875	MT	5	1	LKC	75		U	IM									
875	MT	5	1	LKC	50		U	IM									
875	MT	5	1	LKC	60		U	IM									

FDIS Reach Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000

Reach # 2.0
ILP Map # 093L.080
ILP # 10055

PROJECT

Project Name: Smithers Landing Fish Inventory - 2000
Stream Name (gaz.): BABINE RIVER
Project Watershed Code: 480-000000-00000-00000-0000-000-000-000-000-000-000

Project Code: 3496

WATERSHED

Reach Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000
ILP Map #: 093L.080
ILP #: 10055
Reach #: 2.0
NID Map #: 093L.080
NID #: 50173
Air Photos
LINE: 30BCC97158
#: 131
Gaz.:
Local:
Names
UTM(Zone/East/North/Method)
9.683840.6066764
GIS
Sample Type: B
Wetland:

SURVEY INFO

Date: 1900/07/06
Agency: C172
Crew: SH

ATTRIBUTES

Length (km): .56
DS Elev.: 1069
US Elev.: 1085
Gradient: 2.86
Order: 2
Magnitude: 2
BGC Zone: ESSF
Setting: VW
Open water: A
Confinement: OC
Coupling: DC
DISTURBANCE INDICATORS
O1 B1 B2 B3 D1 D2 D3
C1 C2 C3 C4 C5 S1 S2 S3 S4 S5
Valley Flat: N
Active Floodplain Visible: ☐
Channel Pattern: SI
C/D:
Est. Width:
Islands: N
Bars: ☒ N ☐ SIDE ☐ DIAG ☐ MID ☐ SPAN ☐ BR
Mass Movement: M
Riparian Veg.: S
Exposed/Eroded: NS
Landuse: NS

MAPS

Map Type	Map #	Year
TRIM	093L.080	

Monday, February 11, 2002

FDIS Fish Card

South Fulton Study Area

Watershed Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000 Reach # 2.0 ILP Map # 093L.080 ILP # 10055

WATERBODY												
Gazetted Name:										Local: None		
Project Code: 480-000000-00000-00000-0000-000-000-000-000-000-0												
WS Code: 480-742900-26000-72510-0000-0000-000-000-000-000-000												
Waterbody ID:					ILP Map #: 093L.080			ILP #: 10055		Reach #: 2 -		
Project ID: 3496					Lake/Stream: S			Lake From Date:				
Fish Permit #: 145085K			Date: 2001/07/31			To: 2001/07/31		Agency: C172		Crew: JA/JH		Resample: ☐
SITE / METHOD												
Site#	NID Map	NID #	UTM:Zone/East/North/Mthd			MTD/NO	Temp	Cond	Turbid	Comment		
953	093L.080	50953				GPU EF 1	6	60	C			
A. GEAR SETTINGS												
Site#	MTD/NO	H/P	Date In	Time In	Date Out	Time Out	Comment					
953	EF 1	1	2001/07/31	10:15	2001/07/31	10:35						
C. ELECTROFISHER SPECIFICATIONS												
Site#	MTD/NO	H/P	Encl	Sec	Length	Width	Voltage	Frequency	Pulse	Make	Model	
953	EF 1	1	O	100	100.0	1.0	600	I	5	SMITH ROOT	12B	
FISH SUMMARY												
Site#	MTD/NO	H/P	Species	Stage	Age	Total #	Lgth (Min/Max)	FishAct	Comment			
953	EF 1	1	NFC			0						
COMMENTS												
Section			Comments									
WATERBODY			Stagnant/ponded sections sampled									

APPENDIX II

Phase Completion Reports

PROJECT PHASE COMPLETION REPORT - PHASE I-III

MELP Project Number: CNF_C172_010_2001
FRBC Activity Number: 716564
FDIS Project Code: 3496
Project Name: Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory in selected tributaries within the Babine Lake watershed
Project Type: 1:20,000 Scale Reconnaissance
Report Date: July 25, 2000
Proponent: Canadian Forest Products Ltd.
Company/Agency: Triton Environmental Consultants Ltd.
Contact Person: Jason Harris
Contact Phone: (250) 635-1494
Contact E-Mail: jharris@triton-env.com
MELP Project Monitor: Paul Giroux
FRBC Coordinator: Todd Mahon

List of Deliverables Submitted (Phase I)

Deliverable Product	Received	Approved (QA)
Bibliography (hardcopy and digital)		
List of Contacts (hardcopy and digital)		
Interim Maps with; • watershed boundaries • waterbodies with ILP's or watershed codes • reach breaks with NIDS • lakes with NIDS • proposed sample sites		
Reach tables (digital FDIS)		
Project Plan (hardcopy and digital)		
Lake tables (digital FDIS)		
Phase completion report (hardcopy and digital)		

Activity Log (Phase I-III)

Date	Activity	Time Spent
June 01, 2000	Project meeting with Todd Mahon.	15h
June 5, 2000	Stream and Lake file search @ MELP Smithers	15 h
June 5-20, 2000	Requests for information	15 h
June 5-20, 2000	Request for FISS maps and information	10 h
June 15-30 2000	Assign ILP's, delineate watershed boundaries	140 h
June 20-26, 2000	Completing Reach Tables and Quality Control	36 h
June 20-27, 2000	Completing Interim Maps and Quality Control	22.5 h
June 20-29, 2000	Lakes planning and lakes information tables	20.5 h
June 12-30, 2000	Completing Basin Classification, Reach Breaks, Lakes Classification and Quality Control	228.5 h
July 6-30, 2000	Create contact list, bibliography	15 h
June 15-20, 2000	Project Plan development	15 hrs
June 20-25, 2000	Interim Maps/Sample Site Locations	31 hrs
June 15-30, 2000	Crew and Equipment List	5 hrs
June 20, 2000	Sample Site Selection Rationale	4 hrs
June 30, 2000	Phase 3 meeting (Todd Mahon)	15 hrs

Summary of Work Completed

A meeting was conducted with Todd Mahon (contract monitor) to obtain information regarding the project specifications and project area.

A background data review was conducted to establish existing information within the Tanglechain, Smithers Landing, South Fulton and Guess working areas. These reports were obtained from the Ministry of Environment Land and Parks (MELP) office in Smithers, the Morice Forest District office in Houston, CanFor in Houston, various consultants and the BC Conservation Data Centre. A bibliography listing these reports was completed (attached).

In the process of data collection and compilation consultants and government agencies were contacted. A list of contacts made during this process was completed.

FISS maps were reviewed and compared with the data collected during the background review. Information that was not included on the FISS maps, as well as new information gathered in Phase 4, will be transcribed to a corresponding 1:50,000 scale National Topographic Scale (NTS) map at Phase 5.

The project area boundaries were delineated on trim maps and all streams, wetlands and lakes were assigned, waterbody identifiers or ILP's. Watershed codes and ILP's were assigned using Arcview and FDIS.

Twenty-seven working TRIM mapsheets are being used for the project.

Detailed map and air photo analysis was conducted in order to identify and classify sub-basins within the study area; to determine reach breaks; and to determine individual reach characteristics for all watercourses, lakes and wetlands. The delineation of sub-basins was based on stream order and hierarchy within the watershed.

All connected wetlands were identified and added to the interim maps. Wetlands with defined or partly defined channels, which convey flow, were included in the stream portion of the sampling plan. While wetlands without defined channels, or those with extensive ponding were included in the lake portion of the sampling plan.

All watercourses within the study area were divided into reaches and physical features affecting fish habitat suitability (including gradient, confinement, channel pattern and riparian vegetation) were identified.

All lakes within the study area were assigned to lake groups.

The focus of Phase 3 was to develop the detailed sampling plan and produce the planning report. The number of sample sites proposed and a brief rationale for sample site selection is provided in the project plan (attached).

Planning for the field sampling portion of this project followed a balanced approach between MELP requirements and CanFor's operational needs. Initial sample site selection was undertaken using the FDIS random generator. Further discretionary sites were added to the initial randomly generated sampling sites. Discretionary sites were selected using the following criteria:

- MELP's Reach Sampling Summary table for each watershed (attached);
- existing fish species distribution data;
- strategies to determine fish distribution within each watershed; and
- CanFor's operational needs.

Revisions to the stream sampling plan (increased number of site, alternate site locations) will be revised at the beginning of Phase 4, which is scheduled to commence in the summer of 2000.

Table 1. Project Area Statistics

	Smithers Landing	Tanglechain	Guess	Fulton South
Project Area (Ha)	11,498 ha	11,185 ha	31,937 ha	59,973 ha
Number of TRIM maps	4	5	11	7
Largest watershed (stream) order	4	3	5	5
Number of 3rd order basins	6	3	32	21
km of streams in project area	199.41 kms	136.84 kms	605.45 kms	912.38 kms
Number of stream reaches in project area	215	184	1281	820
Number of lakes in project area	0	16	41	9

Table 2. Number of Reach Sample Sites Selected by FDIS (Random)

	Smithers Landing	Tanglechain	Guess	Fulton South
Number of stream reaches in project area	215	184	1281	820
Number of sample sites (random)	47	43	99	89
Random sampling %	21.9%	23.9%	7.7%	10.9%
Number of sample sites (bias)	5	3	41	55
Bias sampling %	2.3%	1.6%	3.2%	6.7%
Total sampling % (bias and random)	24.2%	25%	10.9%	17.6%

Progress and Problems Summary

Phase I-III was completed as scheduled. Watershed codes were assigned to a significant portion of the streams within each watershed. Searching through the watershed atlas was time consuming and much slower than using ILP's for stream delineation. The use of watershed codes will allow easier access to data management (by CanFor) and possibly increase turnaround time for watershed code assignment from MELP.

Detailed reach planning was not conducted during the planning phases, as it is anticipated (based on previous experience) that several reaches will be moved during pre-field meetings with the licensee, ministry representatives and during the sampling program. We anticipate several changes to the sampling plan, and as discussed with Paul Giroux and CanFor these changes will significantly alter the original sample site selection. Detailed reach planning forms will be completed during phase 5 and will be submitted as a deliverable for this phase.

No lakes were specifically selected for sampling, therefore no detailed lakes forms were completed. After discussions with Paul Giroux and CanFor, lakes to be sampled will be selected after the conclusion of the stream sampling program. Lakes sampling will then focus on attaining information that will be of value to both MELP (watershed wide fish distribution) and CanFor (headwater lakes which support fish in ephemeral systems).

Next Phase Project Plans and Constraints

FISS updates will be provided with Phase V of the project as opposed to Phase III. At that time new information gathered from the field can be incorporated into FISS.

Phase IV (field) is scheduled to commence August 15, 2000

Summary of Phase 1-3 Costs

Professional Fees	\$32,255.00
Disbursements	\$2,458.00

Costs as per original budget

Contract Monitor Acceptance

Report Submitted By: Jason Harris	Date: July 20, 2000
Phase Completion Approved:	Date:
Comments:	

PROJECT PHASE COMPLETION REPORT

PHASE 4

- **MELP Project Number:** CNF_C172_010_2002
- **Contract Name:** Fish and Fish Habitat Inventory in selected tributaries within the Babine Lake watershed (Morice Forest District)
- **FRBC Project Number:** HFRBC 16-1
- **FRBC Region** Skeena-Bulkley Region
- **MELP Region** Skeena 06
- **FDIS Project Code:** 3496
- **Forest District** Morice Forest District
- **Project Type:** 1:20 000 Reconnaissance
- **Report Date:** October 15, 2001
- **Proponent:** Canadian Forest Products Ltd. (Houston Operations)
- **Company/Agency:** Triton Environmental Consultants Ltd.
- **Contact Person:** Jason Harris
- **Contact Phone:** (250) 635-1494
- **Contact E-Mail:** jharris@triton-env.com
- **MELP Project Monitor:** Paul Giroux
- **FRBC Coordinator:** Todd Mahon
- **Proponent QA Monitor:** Chris Schell

List of Deliverables Submitted

<u>Deliverable Product</u>	<u>Received</u>	<u>Approved</u>
Site Cards	Delivered as attachment to Final Report	
Fish Collection Forms/Individual Fish Data Forms	Delivered as attachment to Final Report	
Additional Sampling Table	Delivered as attachment to Final Report	
Phase Completion Report		
Phase 2 Quality Assurance	Delivered as attachment to Final Report	

At Paul Giroux's request, some of the above listed items will be delivered at project completion (as attachments to the final report or appendices).

Activity Log

<u>Date</u>	<u>Activity</u>
July 31, 2001 – October 6, 2001	Gear up, travel, fieldwork and gear down for stream inventory in the Morice Forest District.

Summary of Work Completed

Total number of stream reaches sampled: 288*

*Includes 3 lakes sampled - overnight gillnet sets

*Includes 31 lakes / wetlands sampled - overnight minnow trap sets

Summary of Phase Costs

Professional Fees	\$57,732.00
Disbursements	\$23,435.00

Progress and Problems Summary

Phase 4 was completed as scheduled. Sampling during late summer periods allowed crews to assess habitat during low flow conditions and gave a good representation of stream habitats throughout the year.

Identification of obstructions/barriers was critical to describing and assessing fisheries distribution within the sampled watersheds. Field crews tried to identify obstructions/barriers while on site, by either using a helicopter recce of the stream or by strategically moving sample sites while still in the field.

Field crews were in constant contact with Paul Giroux (Fisheries Inventory Specialist) and Todd Mahon (FRBC contract monitor) when the originally proposed plan needed modifications. Modifications of the original plan were used to provide additional fisheries information for the working area.

Next Phase Project Plans and Constraints

The project will now proceed with data compilation and reporting.

Contract Monitor Acceptance

Report Submitted By: Jason Harris	Date: October 15, 2001
Phase Completion Approved:	Date:
Comments:	

PROJECT PHASE COMPLETION REPORT

PHASE 5/6

- **MELP Project Number:** CNF_C172_010_2002
- **Contract Name:** Fish and Fish Habitat Inventory in selected tributaries within the Babine Lake watershed (Morice Forest District)
- **FRBC Project Number:** HFRBC 16-1
- **FRBC Region** Skeena-Bulkley Region
- **MELP Region** Skeena 06
- **FDIS Project Code:** 3496
- **Forest District** Morice Forest District
- **Project Type:** 1:20 000 Reconnaissance
- **Report Date:** January 15, 2002
- **Proponent:** Canadian Forest Products Ltd. (Houston Operations)
- **Company/Agency:** Triton Environmental Consultants Ltd.
- **Contact Person:** Jason Harris
- **Contact Phone:** (250) 635-1494
- **Contact E-Mail:** jharris@triton-env.com
- **MELP Project Monitor:** Paul Giroux
- **FRBC Coordinator:** Todd Mahon
- **Proponent QA Monitor:** Chris Schell

List of Deliverables Submitted

<u>Deliverable Product</u>	<u>Received</u>	<u>Approved (QA)</u>
FDIS Site Cards (in watershed reports)		
FDIS Fish Collection Forms (in watershed reports)		
FDIS Database (as attachment)		
Planning Document (as attachment)		
Field Notes (as attachment)		
Fish Ageing Structures (as attachment)		
Photodocumentation (as attachment)		
Digital Data (as attachment)		
FISS update data (as attachment)		
Final Reports (hardcopy and digital)		
Project Overview Map		
Interpretive Maps		
Project Maps		

Activity Log

Date	Activity	Time Spent
October - November 2001	site card entry	
November - December 2001	fish collection form entry	
November - December 2001	photo development/scanning/printing	
November - December 2001	watershed reporting	
January - February 2002	mapping project/interpretive/overview	

Summary of Work Completed

Total number of stream reaches processed: 288*

*Includes 3 lakes sampled – overnight gillnet sets

*Includes 31 lakes / wetlands sampled – overnight minnow trap sets

Summary of Phase I-III Costs

Professional Fees	\$32,255.00
Disbursements	\$2,458.00

Summary of Phase IV Costs

Professional Fees	\$57,732.00
Disbursements	\$23,435.00

Summary of Phase V Costs

Professional Fees	\$24,800.00
Disbursements	\$2,160.00

Summary of Phase VI Costs

Professional Fees	\$54,076.00
Disbursements	\$8,051.00

Progress and Problems Summary

The reporting and mapping procedures followed those outlined in the *Reconnaissance (1:20,000) Inventory Standards* and includes additional data not otherwise required. The digitally produced maps include all information as per RIC standards and the contract. These maps include: watershed codes; ILP's; stream names; waterbody identifiers; stream networks; reach breaks; fish sampling/site card locations; fisheries sensitive zones; fish species; and features.

All data entered into FDIS was audited using MELP's QA/QC tool prior to inclusion into the watershed reports.

Next Phase Project Plans and Constraints

Nid to UTM conversions will be completed post QA/QC.

Triton will complete digital mapping QA internally after QA/QC has been completed.

Contract Monitor Acceptance

Report Submitted By: Jason Harris	Date: January 15, 2002
Phase Completion Approved:	Date:
Comments:	

APPENDIX III

Quality Assurance Forms and Correspondence

October 12, 2000

Todd Mahon
FRBC Co-ordinator, Canadian Forest Products Ltd.
PO Box 158
Houston, BC, V0J 1Z0

Deidre:

The stage 1 quality assurance (QA) reviews of the 1:20k stream inventory program conducted by Triton Environmental Consultants Ltd. has been completed. Resources Inventory Committee standard QA forms were filled-out during the audit and are included with this letter. These forms list objectives that were met and comments pertaining to any problems that were identified during the QA review.

Overall, I have no significant comments on this project. ILPs were generated correctly and the maps and tables are to standards. Reach delineation was completed properly. There was one issue with the background search that I have outlined on form 1B. I found a few minor errors in the map/FDIS reach check, but well within the acceptable limits. The lake check uncovered a very few "zero-tolerance" errors that will require correction, but these appeared to be accidental and do not represent a systematic misapplication of the standards. The sampling and project plans were both completed to RIC standards.

This project has passed QA evaluation. If you have any questions regarding the information presented in this memo or in the QA forms, please contact me by e-mail (schell@mail.bulkley.net) or by telephone (250-847-0180).

Sincerely,

Chris Schell
QA/QC Monitor
Fish and Fish Habitat Inventory

cc. Jason Harris, Triton Environmental Consulting Ltd., Terrace, BC

FISH INVENTORY QUALITY ASSURANCE CHECK FORMProject name: Canfor Fish and Fish Habitat Inventory 2000-2001FRBC project number: unknown MELP project number: unknownSubmitted by: Triton Environmental Consultants LtdQA review by: Chris Schell Review date: August 2000**FORM 1A DELIVERABLE CHECKLIST FOR PRE-FIELD – PAGE 1 OF 1**

Check to ensure that a pre-field project planning report was received with all the associated deliverable products.

Deliverable	Hardcopy	Digital	Comments
1. Cover page	Y	Y	
2. List of digital products	Y	Y	
3. Overview map	Y	na	
4. FISS map	na	na	
5. Existing data review			
• list of references	Y	Y	
• list of contacts	Y	Y	
• new FISS information summary and products	na	na	to be submitted with phases 5-6
6. ILP data*			
• ILP data sheets	Y	Y	
• ILP maps	Y	Y	
• ILP information sent to ministry		Y	
7. Interim maps*	Y	na	
8. FDIS database	na	Y	
9. Sampling design sheets	Y	Y	
10. Aerial video record (optional)	na	na	
11. Project plan	Y	Y	

Approved: **Yes**

Comments:

Recommended actions:

Have a nice day.

* If ILP maps and ILP data sheets have been sent to the ministry for processing, ILPs must be shown on the interim maps to allow QA to proceed.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
FRBC project number: unknown MELP project number: unknown
Submitted by: Triton Environmental Consultants Ltd
QA review by: Chris Schell Review date: August 2000

FORM 1B**EXISTING DATA REVIEW – PAGE 1 OF 1**

Deliverable	Deliverable check	Acceptable Y/N	Comments
List of contacts	Is list of contacts provided in acceptable format?	?	Some of these people were not actually contacted.
	Have all relevant contacts for the project area in question been pursued?	Y	
	If NO, report known important contacts not provided on list.		
Bibliography	Is bibliography provided in acceptable format?	Y	
	Does the bibliography adequately cover the information known to be available for the project area in question?	Y	
	If NO, report known available information that was not provided in bibliography.		
FISS information	Has FISS update information been provided for new sources of fisheries information that were not referenced in FISS as required in the contract:	No	To be submitted with phase 5-6 deliverables.
	FISS forms		
	clean NTS maps		
	a copy of each new source provided		
	a reference to each new source provided		
	If NO, report required information not provided.		

Approved: **Y**

Comments:**Recommended actions:**

Please limit your contact list to people you actually talked to. J. DeGisi has no memory of talking to Triton staff this year. A long list of people is not impressive if it is not believable. Also, the comments section should quickly list what information you learned from these people with respect to fish distribution in the project areas. That is the reason for a contact list, to list the people who gave you fisheries information about an area.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
FRBC project number: unknown **MELP project number:** unknown
Submitted by: Triton Environmental Consultants Ltd
QA review by: Chris Schell **Review date:** August 2000

FORM 1D COMBINED CHECK OF STREAM REACH DATA – PAGE 1 OF 4

List of reaches checked (FDIS /maps/air photos) (NIDs are 50000, ILPs are 10000)

	1	2	3s	4	5	6	7	8	9	10
ILP# / NID#	50178	11121	50322	50804	11174	10501	12075	12068	50914	11011
Map	931.068	931.078	931.068	931.078	931.078	931.090	931.068	931.068	931.077	931.077
Reach #	6	4	8	12	1	6	3	3	6	1

For all reaches	1	2	3	4	5	6	7	8	9	10	Comments
Watershed code or ILP # and ILP map #											
ILP sheet, FDIS, ILP (or interim) map all match											
NID # and NID map # or UTM (optional, but no errors allowed; do not include in marking scheme)											
TRIM map number											
Reach number											
Reach break location											
Reach map symbol											
Map status						X					6) it's 1 st order.
Order											
Upstream/Downstream elevation											
Length											
Pattern											
Confinement											
AN/BR											
Basin type											
Total errors	0	0	0	0	0	1	0	0	0	0	
Shaded cell errors											
Features	1	2	3	4	5	6	7	8	9	10	Comments
NID and NID map number											
Map symbol											
Total errors											
Shaded cell errors											

Note: Any error identified in a shaded cell constitutes a failure.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
FRBC project number: unknown MELP project number: unknown
Submitted by: Triton Environmental Consultants Ltd
QA review by: Chris Schell Review date: August 2000

FORM 1D CONTINUED – PAGE 2 OF 4

Reaches to be field sampled	1	2	3	4	5	6	7	8	9	10	Comments
BCG zone											
Setting											
Open water											
Coupling											
Valley flat											
Active floodplain											
Islands											
Bars											
Disturbance indicators											
Mass movement											
Riparian vegetation											
Exposed/Eroded											
Land use											
Total errors											

Comments:

Recommended actions:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
 FRBC project number: unknown MELP project number: unknown
 Submitted by: Triton Environmental Consultants Ltd
 QA review by: Chris Schell Review date: August 2000

FORM 1D COMBINED CHECK OF STREAM REACH DATA – PAGE 3 OF 4

List of reaches checked (FDIS /maps/air photos) (50000 series = NIDs)

1-6 South Fulton, 7-8 Smithers Landing, 9-10 Tanglechain

	1	2	3	4	5	6	7	8	9	10
ILP # or NID	50015	50580	10300	10117	10071	10348	11300	11060	10033	10007
Map	931.079	931.061	931.070	931.080	931.080	931.070	931.099	93m.009	93m.097	931.088
Reach #	14	2	1	2	4	4	1	2	1	1

For all reaches	1	2	3	4	5	6	7	8	9	10	Comments
Watershed code or ILP # and ILP map #											
ILP sheet, FDIS, ILP (or interim) map all match											
NID # and NID map # or UTM (optional, but no errors allowed; do not include in marking scheme)											
TRIM map number											
Reach number											
Reach break location											
Reach map symbol											
Map status											
Order											
Upstream/Downstream elevation											
Length											
Pattern											
Confinement											
AN/BR											
Basin type											
Total errors											
Shaded cell errors	0	0	0	0	0	0	0	0	0	0	
Features	1	2	3	4	5	6	7	8	9	10	Comments
NID and NID map number											
Map symbol											
Total errors											
Shaded cell errors											

Note: Any error identified in a shaded cell constitutes a failure.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
 FRBC project number: unknown MELP project number: unknown
 Submitted by: Triton Environmental Consultants Ltd
 QA review by: Chris Schell Review date: August 2000

FORM 1D CONTINUED – PAGE 4 OF 4

Reaches to be field sampled	1	2	3	4	5	6	7	8	9	10	Comments
BCG zone											
Setting											
Open water											
Coupling											
Valley flat											
Active floodplain											
Islands											
Bars											
Disturbance indicators											
Mass movement											
Riparian vegetation											
Exposed/Eroded											
Land use											
Total errors											

QA Summary

	All reaches	Features	Sampled reaches
Number of reaches sampled	20	0	
Number of marks (N reaches sampled × attributes)	N×15 300	N×2	N×13 260
Maximum errors acceptable (12% of marks)	36		
Number of errors found	1		
Is the number of errors acceptable (Y/N)	Y		
Number of errors in zero-tolerance attributes	0		

Approved: Y

Comments:

Very nice.

Recommended actions:

Fill out reach form for sampled reaches. I will check these during the phase 5-6 QA.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
 FRBC project number: unknown MELP project number: unknown
 Submitted by: Triton Environmental Consultants Ltd
 QA review by: Chris Schell Review date: August 2000

FORM 1E COMBINED CHECK OF PRE-FIELD LAKE INFORMATION – PAGE 1 OF 1

	1(tang)	2 (S.L.)	3 (S.F.)	4 (S.F.)	5 (S.F.)	6 (guess)	7 (guess)	8 (guess)	9 (guess)	10 (gues)
ILP # or WBID	00544 BABL	13022	20029	20049	30000	22001	31550	95002	01388 BABL	01602 BABL
Reach #	8	2	2	3	2	9	3	2	2	3
Map #	93m.007	931.099	931.69	931.070	931.080	931.078	931.078	931.088	931.078	931.067

Attribute	1	2	3	4	5	6	7	8	9	10	Comments
Official name											
Alias or local name											
WSC and waterbody identifier "or"											
ILP number and ILP map number		X									
NID # and NID map #					X						
Reach number											
Basin type											
Group											
Class (P/S)											
Genesis											
Surface area											
Magnitude							X		X		
Biogeoclimatic zone											
Wetland											
Total errors for each lake	0	1	0	0	1	0	1	0	0	1	

QA Summary

	Lakes	
Number of lakes sampled	10	
Number of marks (N lakes sampled x attributes)	N×13	130
Maximum errors acceptable (12% of marks)	15.6	
Number of errors found	4	
Is the number of errors acceptable (Y/N)	Yes	
Number of errors in zero-tolerance attributes	2	

Approved: 0 Y 4 N

Comments:

- 2) ILP label missing from map.
- 5) NID for lake is on the wrong inlet.
- 7, 10) magnitude should be 0

Recommended actions :

Fix the zero tolerance errors.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
 FRBC project number: unknown MELP project number: unknown
 Submitted by: Triton Environmental Consultants Ltd
 QA review by: Chris Schell Review date: August 2000

FORM 1G STREAM SAMPLING DESIGN – PAGE 1 OF 1

	Acceptable (Y/N)	Comment
Is the inventory watershed based (i.e., entire watershed)?	Y	separated but distinct watersheds, each with its own FDIS database
Are random reaches selected for sampling based on the FDIS statistical sampling design?	Y	
For low gradient or small/medium sized streams, is the sample size of reaches ≥ 8 ?	Y	
For higher gradient (20–30%) or large sized streams, is the minimum sample size 2 and maximum 25?	Y	
Are discretionary reach samples included?		
• above or below barriers	Y	
• adjacent to identified cutblocks	Y	
• major inlets and outlets to secondary lakes	NA	
• of inlets and outlets to primary lakes	NA	
• to achieve connectivity within sub-basins for fish distribution and identification of upstream limits.	Y	As much as possible.
Are proposed reach sample sites shown on TRIM maps with solid and dashed green lines?	Y	
Are planning tables complete with gear and voucher requirements indicated?	Y	Even reaches not to be sampled have gear requirements filled in.
Does the distribution of sample sites adequately represent all basin types and basin connectivities.	Y	As much as possible with number of samples.
Is the overall sampling rate (sample number vs total number of reaches) acceptable?	Y	A bit low for Guess Creek, but the others are fine. -
Does the sample design adequately cover the requirements for a reconnaissance inventory?	Y	

Note: Any error identified in a shaded cell constitutes a failure.

Approved: Y

Comments:

Recommended actions:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
FRBC project number: unknown MELP project number: unknown
Submitted by: Triton Environmental Consultants Ltd
QA review by: Chris Schell Review date: August 2000

FORM 1H**LAKES SAMPLING DESIGN – PAGE 1 OF 1**

	Acceptable (Y/N)	Comment
Is the lakes planning table complete and accurate (including classification of lakes as primary, secondary or not sampled)?	na	
Will all identified primary lakes be sampled?	na	
Is there at least one lake from each lake group identified that will be sampled?	na	
Will at least 20% of all identified secondary lakes be sampled?	na	
Is justification provided for those lakes that will not be sampled?	na	
Are lakes proposed for sampling outlined on TRIM maps with solid and dashed green lines?	na	
Are planning tables complete with gear and voucher requirements indicated?	na	
Does the sample design adequately cover the requirements for a reconnaissance inventory? If no, the sampling design is rejected.	na	No lakes sampling is planned.

Approved: Y
Comments:

Recommended actions:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor Fish and Fish Habitat Inventory 2000-2001
 FRBC project number: unknown MELP project number: unknown
 Submitted by: Triton Environmental Consultants Ltd
 QA review by: Chris Schell Review date: August 2000

FORM 1i PROJECT PLAN – PAGE 1 OF 1

	Acceptable (Y/N)	Comment
Does the project plan cover field inventory procedures?	Y	
Does the project plan cover data compilation?	Y	
Does the plan cover reporting requirements?	Y	
Does the plan include proposed staff for field phase?	Y	
Has existing data been considered and used in the project plan?	Y	
Have sampling intentions of relevant WRP projects or other inventory project requirements been incorporated into the plan to avoid duplication?	Y	
Has the plan integrated the sampling of lake and stream habitats, in particular, with any aerial over flights and sampling of lake tributaries?	na	no lakes sampling is planned, no aerial overflights were conducted during phase 1-3.
Have requirements for effective sampling methods in relation to stream reach and lake types been addressed?	Y	
Have requirements for biological and water samples been properly considered?		
• water sampling particularly in primary lakes	Y	
• fish voucher specimens	Y	
• other samples.	na	
Does and should the plan incorporate any special fish species level inventory needs on a provincial or regional scale?	Y	
Are budget and schedule adequate to complete the project as planned?	na	
If the answer to any of the above is no, is this going to have an impact on the inventory project? If so, the project plan is rejected.	N	Project plan is accepted.

Approved: Y

Comments:

Recommended actions:

September 14, 2001

Jay Baker, Silvicon Services Inc.
FRBC Co-ordinator, Pacific Inland Resources Ltd.
PO Box 3130
Smithers, BC, V0J 2N0

Jay:

The stage 2 quality assurance (QA) audits of the 1:20k stream inventory field data collection performed by Triton Environmental Consulting Ltd. has been completed. Resources Inventory Committee standard QA forms were completed during the audit and are included with this letter. The forms list objectives that were met and comments pertaining to any problems that were identified during the QA evaluation.

All crews passed the stage 2 QA audit with no comments. All demonstrated a proficient knowledge of how to collect and record data for the site card and fish collection form to full RIC standards. Fish collection effort and technique was also to standards and safety measures were maintained.

This letter concludes the stage 2 QA audit and reporting. If you have any questions regarding the information presented in this letter or in the QA forms please contact me by e-mail (schell@bulkley.net) or by telephone (250-847-0180).

Sincerely,

Chris Schell
Quality Assurance Monitor Fish and Fish Habitat Inventory

cc. Jason Harris, Triton Environmental Consulting Ltd., Terrace, BC

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Pacific Inland Resources Ltd. 1:20k Aquatic Inventory – 2001

FRBC project number: _____ MELP project number: _____

Contractor: Triton Environmental Consulting Ltd.

Field audit by: Chris Schell Site identifier: na Field audit date: August, 2001

FORM 2A**FIELD AUDIT: CREW INFORMATION, PERMITS AND SAFETY****Crew information**

Crew members' names	Listed in contract or plan	Area of expertise (bio, geo, other)	First aid		Electrofishing	
			Level 1	Transportation	Crew member	Crew leader
Jason Harris	Y	Bio – tech	Y	Y		Y
Jason Dore	Y	Bio – tech	Y	Y		Y
Jesse Anaka	Y	Bio – tech	Y	Y		Y
David Taft	Y	Bio – tech	Y	Y		Y

QA comments about crew and/or certifications:

Permits and safety equipment

Group	Item	Acceptable		Specify problem
		Y	N	
Permits	MELP fish collection permit	Y		
	DFO fish collection permit	Y		
Safety plan	Safety plan in place	Y		
	Is safety plan followed	Y		

QA comments about permits and safety:

Note: If any obvious WCB regulations are contravened, the QA team must immediately inform the responsible contract manager and the ministry representative.

Field Audit Confirmation

Field audit leader: Chris Schell For field crew: All

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Pacific Inland Resources Ltd. 1:20k Aquatic Inventory - 2001

FRBC project number: _____ MELP project number: _____

Contractor: Triton Environmental Consulting Ltd.

Field audit by: Chris Schell Site identifier: na Field audit date: August, 2000

FORM 2B

FIELD AUDIT FOR STREAM SURVEYS: SITE CARD PROCEDURES CHECK – PAGE 1 OF 2

Materials present in field	Y	N	Notes
Site cards	Y		
Field reference materials	Y		
Field maps	Y		

List equipment used	Calibrated (Y/N)	Proper use (Y/N)	Notes
pH – electronic meter	Y	Y	
Conductivity – electronic meter	Y	Y	
Temperature – alcohol therm.	Y	Y	

Group	Item	Acceptable		Notes
		Tech.	Data	
Site selection	Representative site	Y	Y	
Reference	Stream name (Gaz)	Y	Y	
	Alias	Y	Y	
	WSD code or	Y	Y	
	ILP # and ILP map #	Y	Y	
	Map NID and NID map #	Y	Y	
	Field UTM (and method)	Y	Y	
	Reach number	Y	Y	
	Site number	Y	Y	
	Site length (and method)	Y	Y	
	Access	Y	Y	
	Date, time	Y	Y	
	Agency	Y	Y	
	Crew	Y	Y	
	Fish form	Y	Y	
Channel	Equipment	Y	Y	
	Channel widths	Y	Y	
	Wetted widths	Y	Y	

Notes:

Notes:

Field Audit Confirmation:

Field audit leader: Chris Schell For field crew: ALL

Group	Item	Acceptable		Note
		Tech.	Data	
Channel (continued)	Residual pool depth	Y	Y	
	Bankfull depth	Y	Y	
	Gradient	Y	Y	
	Stage	Y	Y	
	NVC; Dry/Int; DW; Tribs	Y	Y	
Cover	Total cover	Y	Y	
	Cover elements			
	• amount	Y	Y	
	• location	Y	Y	
	Crown closure	Y	Y	
	Large woody debris	Y	Y	
	• function	Y	Y	
	• distribution	Y	Y	
	Instream vegetation	Y	Y	
	Left and right bank shape	Y	Y	
	Texture	Y	Y	
	Riparian vegetation	Y	Y	
	Stage	Y	Y	
Morphology	Flood signs	Y	Y	
	Bed material	Y	Y	
	D95	Y	Y	
	D	Y	Y	
	Morphology	Y	Y	
	Disturbance indicators	Y	Y	
	Channel pattern	Y	Y	

Group	Item	Acceptable		Notes
		Tech.	Data	
Morphology (cont.)	Islands	Y	Y	
	Bars	Y	Y	
	Coupling	Y	Y	
	Confinement	Y	Y	
Water	Equipment	Y	Y	
	Temperature	Y	Y	
	pH	Y	Y	
	Conductivity	Y	Y	
	Turbidity	Y	Y	
Features	NID map #, NID	Y	Y	
	Type	Y	Y	
	Height, length	Y	Y	
	Photo	Y	Y	
Habitat quality	Keywords	Y	Y	
	Relevant comments	Y	Y	
	FSZ	Y	Y	
Photodocu- mentation	Roll #	Y	Y	
	Photo #	Y	Y	
	Focal length	Y	Y	
	Direction	Y	Y	
	NID #, NID map #	Y	Y	
	UTM and method	Y	Y	
Wildlife	Group	Y	Y	
	Relevant comment	Y	Y	

Notes:

Notes:

Field Audit Confirmation:

Field audit leader: Chris Schell For field crew: ALL

Field Audit Confirmation:

Field audit leader: Chris Schell _____ For field crew: ALL _____

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Pacific Inland Resources Ltd., 1:20k Aquatic Inventory – 2001

FRBC project number: _____ MELP project number: _____

Contractor: Triton Environmental Consulting Ltd.

Field audit by: Chris Schell Site identifier: na Field audit date: August, 2001

FORM 2D

FIELD AUDIT: FISH COLLECTION CHECK – PAGE 1 OF 3

Materials present in field	Y	N	Notes
Fish collection forms	Y		
Individual fish data forms	Y		
Field data reference	Y		
Field key to freshwater fishes of BC	Y		
Approved electroshocker	Y		
Ancillary fish capture equipment (buckets, dip nets, stop net)	Y		
Measuring board/ruler	Y		
Weigh scale	Y		
Fish samples (e.g., scale envelopes, tissue vials)	Y		
Voucher containers, preservative, labels	Y		

Sampling technique		Acceptable		Notes
		Y	N	
Lakes	Number and duration of gill nets set	na		
	Number and duration of minnow traps set	na		
	Other	na		
Streams	Site selection and length	Y		
	Number and duration of minnow traps set	Y		
	Other			
Electrofisher function	Tilt/safety switch	Y		
	Main power switch	Y		
	Anode deadman's switch	Y		
	Quick release harness	Y		
	Anode clean	Y		
Electrofishing techniques	Safe operation and signals	Y		
	Site coverage – all habitats	Y		
	Effective fish capture	Y		
	Impact on fish	Y		
Fish handling	Impacts on fish	Y		

Notes:

Notes:

Field Audit Confirmation:

Field audit leader: Chris Schell For field crew: All

		Acceptable		Notes
Sampling technique		Y	N	
Fish identification	Correct identification	Y		
	Correct use of fish key	Y		
	Unidentified fish procedure	Y		
Fish samples	Age sampling, labeling	na		
	Voucher storage, labeling	na		

		Acceptable		Notes
Group	Item	Tech.	Data	
Header	Name	Y	Y	
	Stream/Lake/Wetland	Y	Y	
	Watershed code or ILP	Y	Y	
	Waterbody ID	Y	Y	
	ILP map #	Y	Y	
	Project ID	Y	Y	
	Reach #	Y	Y	
	MELP fish permit #	Y	Y	
	Date start, end	Y	Y	
	Agency, crew	Y	Y	
	Resample	Y	Y	
Site/Method	Site #	Y	Y	
	NID map #, NID #	Y	Y	
	Site UTM	Y	Y	
	Method, method no.	Y	Y	
	Temp, cond., turbidity	Y	Y	

Notes:

		Acceptable		Notes
Group	Item	Tech.	Data	
Fish summary	Site #	Y	Y	
	Method, method no.	Y	Y	
	Haul/Pass (H/P)	Y	Y	
	Species, stage, total #	Y	Y	
	Min. length	Y	Y	
	Fish activity	Y	Y	
Gear specifications	Site #	Y	Y	
	Method, method no.	Y	Y	
	Haul	Y	Y	
	Date, time in	Y	Y	
	Date, time out	Y	Y	
	Net type, length & depth	Y	Y	
	Mesh size	Y	Y	
	Set, habitat	Y	Y	
Electrofischer specifications	Site #	Y	Y	
	Method, method no.	Y	Y	
	Pass	Y	Y	
	Time in, time out	Y	Y	
	EF sec.	Y	Y	
	Length, width	Y	Y	
	Enclosure	Y	Y	
	Voltage, freq., pulse	Y	Y	
	Make, model	Y	Y	
Individual fish data	Fish collection form #	Y	Y	
	Site #	Y	Y	

Notes:

Field Audit Confirmation:

Field audit leader: Chris Schell For field crew: All

Group	Item	Acceptable		Notes
		Tech.	Data	
Individual fish data continued	Method, method no.	Y	Y	
	Haul/Pass	Y	Y	
	Species	Y	Y	
	Length	Y	Y	
	Weight	na	na	
	Sex	na	na	
	Maturity	na	na	
	Age structure	na	na	
	Age sample #	na	na	
	Age	na	na	
	Voucher	na	na	
	Genetic structure	na	na	
	Genetic sample #	na	na	
	Photos	na	na	
	Number of fish sampled	na	na	

Notes:

Notes:

Field Audit Confirmation:

Field audit leader: Chris Schell For field crew: All

February 4, 2002

Todd Mahon, Wildfor Consultants
FRBC Co-ordinator, Canadian Forest Products Ltd.
PO Box 158,
Houston, BC, VOJ 1Z0

Todd,

The stage 3 quality assurance (QA) review of the final deliverables for the 1:20k stream inventory sampling program performed by Triton Environmental Consulting Ltd. for Canfor has been completed. Resources Inventory Committee standard QA forms were completed during the audit and are included with this letter. I also performed a stream classification QA, where I evaluated the resampling data supporting non-fish bearing stream recommendations. All forms list objectives that were met and comments pertaining to any problems that were identified during the QA evaluation.

The list of deliverables check found almost all present. Digital files were examined and all were in order with the exception printouts from the digital mapping QA programs, which was missing. This program should be run, and the results printed up, marked-up with Triton's response to each error, then submitted (digitally is fine) to me for a quick review.

The card/FDIS/map check found vanishingly few typographical errors and no systematic problems. GIS derived UTM's have not yet been imported into FDIS, and this should be done before final submission of the database. I noted a few minor, mostly editorial issues while checking the reports; these are listed on QA form 3k. FISS update deliverables and the photodocumentation package were complete and to standards. The maps were to RIC standards (in Triton's own format) and complete. I reviewed the interpretive stream coding and compared that to gradient and site information that was displayed on the map, and found no discrepancies.

To finalise QA approval, I would ask Triton to forward the mapping QA file as requested, and a letter listing how they have addressed each of the points noted in this QA review. If you have any questions regarding the information presented in this memo or in the QA forms please contact me by e-mail (schell@bulkley.net) or by telephone (250-847-0180).

Sincerely,

Chris Schell

cc. Jason Harris, Triton Environmental Consultants Ltd., Triton, BC

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3A

DATA COMPILATION AND REPORTING DELIVERABLES FOR QA – PAGE 1 OF 1

	Deliverable	Hardcopy	Digital	Comments
Watershed reporting	Watershed report	Y	Y	
	Appendices			
	I. FDIS summary and photographs	Y	Y	
	II. Hardcopy maps	Y	Y	
	Attachments			
	I. Pre-field planning document	Y	N	submitted during phase 1-3
	II. Field notes and forms	Y	na	
	III. Fish aging structures	Y	na	
	IV. Fish samples and vouchers	na	na	
	V. Photodocumentation	Y	Y	
	VI. Digital data	na	Y	
	VII. FISS update data	Y	na	
	VIII. Aerial photography	na	na	
Individual lake reporting (for each lake)	Lake report			No lake reporting.
	Appendices			
	I. Lake survey form			
	II. Water chemistry data			
	III. Fish collection forms			
	IV. Tributary summary			
	V. Photographs			
	VI. Bathymetric map			
	Attachments			
	I. Photodocumentation			
	II. Digital data			
	III. FISS update data			
	IV. Phase completion reports			
	V. Field notes and forms			
	VI. Aerial photography			
	VII. Fish ageing structures			
	VIII. Fish samples and vouchers			

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3B

DIGITAL DATA CHECKING – PAGE 1 OF 1

For each FDIS file provided:

FDIS filename:

	Acceptable		Comments
	Y	N	
Conversions done:			
• ILP to WSC	X		Not expected at this time
• NID-UTM		X	Not done at this time
• Update bathymetry			NA
FDIS QA report attached			
• Acceptable error report	Y		see comment below

For each FDIS file and digital map file set:

ARCView fish QA tool

	Filename	Acceptable		Comments
		Y	N	
Digital map files				
• Metadata table	m6200261.dbf m6200262.dbf	Y		
• Map attributes table	a6200261.dbf a6200262.dbf	Y		Guess attribute table is in "Plots" directory.
FDIS data check				
• Sequential reach numbering:		Y		
• Point locations on TRIM streams:	qaprox.doc	Y		all "errors" are lakes and one unmapped stream
Copy of ARCView fish QA tool error report attached				
• Acceptable error report			N	Only the proximity test is done. Where are the other mapping checks?

The FDIS automated QA noted "fish sampling only" sites that were electrofished, with no conductivity or temperature data taken. This is the only comment in the QA report that has any merit. Conductivity data is needed to evaluate the effectiveness of electrofishing.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 1 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	1	9	39	49	52	59	351	365	503	513
NID map #	93L.070	93L.080	93L.070	93L.80	93L.70	93L.070	93L.069	93L.080	93L.080	93L.069
NID #	10001	10009	10039	10049	10052	10059	30051	30065	50003	50013

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4											
	Wetted width	1, 2											
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribs	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morpho logy	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo- documen- tation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Comments:

10) Flood signs “braided channels”, but bars are “side” only?

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 3 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	518	530	538	548	19	26	65	76	88	99
NID map #	93L.080	93L.070	93K.071	93L.069	93L.0	93L.068	93L.077	93L.079	93L.068	93L.079
NID #	50018	10333	50038	50048	10019	10026	10065	10076	10088	10099

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4											
	Wetted width	1, 2											
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribs	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morphology	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo-documentation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Comments:

7) the comments and UTM about the high gradient section is unclear. Wouldn't it be easier to make this a cascade reach feature?

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 5 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	757	795	810	818	831	836	842	855	863	956
NID map #	93L.068	93L.077	93L.077	93L.077	93L.067	93L.077	93L.077	93L.078	93L.079	93L.068
NID #	70857	70095	70810	70818	70831	70836	70842	70855	90863	90956

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4									X		
	Wetted width	1, 2									X		
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribes	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morpho- logy	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo- documen- tation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Summary of stream site information check:Number of marks (# cards * 52): 1560Maximum number of errors acceptable (5%): 78Number of errors found: 1

Is the number of errors acceptable: Yes

Comments:

9) channel widths, seems to have extra values added to the end ; res. pool depth missing one value.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 1 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	1	9	39	49	52	59	351	365	503	513
NID map #	93L070	93L080	93L070	93L80	93L70	93L070	93L069	93L080	93L080	93L069
NID #	10001	10009	10039	10049	10052	10059	30051	30065	50003	50013

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2											
	Make, model	1, 2											
Total:													

Comments:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 3 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	518	530	538	548	19	26	65	76	88	99
NID map #	93L.080	93L.070	93K.071	93L.069	93L.0	93L.068	93L.077	93L.079	93L.068	93L.079
NID #	50018	10333	50038	50048	10019	10026	10065	10076	10088	10099

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2											
	Make, model	1, 2											
Total:													

Comments:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 5 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	757	795	810	818	831	836	842	855	863	956
NID map #	93L.068	93L.077	93L.077	93L.077	93L.067	93L.077	93L.077	93L.078	93L.079	93L.068
NID #	70857	70095	70810	70818	70831	70836	70842	70855	90863	90956

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2									X		
	Make, model	1, 2											
Total:													

Number of marks (# cards * 36): 1080Number of errors found: 1Maximum number of errors acceptable (5%): 54

Is the number of errors acceptable: Yes

Comments:

9) voltage is 600 on the card. and 60 in FDIS.

Otherwise, excellent work.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3F

CONSISTENCY CHECK: INDIVIDUAL FISH DATA CARD, FDIS – PAGE 1 OF 1

	1	2	3	4	5	6	7	8	9	10
Site #	365	513	538	19	26	65	76	853	825	846
NID map #	93L.080	93L.069	93K.071	93L.0	93L.068	93L.077	93L.079	93L.078	93L.077	93L.088
NID #	30065	50013	50038	10019	10026	10065	10076	70853	70825	90846

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) individual fish data cards and 2) FDIS, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Individual fish data	Site #	1, 2											
	Method, method no.	1, 2											
	Haul/Pass	1, 2											
	Species	1, 2											
	Length	1, 2								X			
	Weight	1, 2											
	Sex	1, 2											
	Maturity	1, 2											
	Age structure	1, 2											
	Age sample #	1, 2											
	Age	1, 2											
	Voucher	1, 2											
	Genetic structure	1, 2											
	Genetic sample #	1, 2											
	Photos	1, 2											

Number of marks (# cards * 15): 150
 Number of errors found: 1

Maximum number of errors acceptable (5%): 7
 Is the number of errors acceptable:

Comments:

8) fish with scale sample # 110 is 118mm long on the card and 110 in FDIS.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3K WATERSHED REPORT – PAGE 1 OF 4

Report section	Attribute	Accept. (Y/N)	Notes
Title page	Proper title	N	1
	Watershed code below title	N	2
	Prepared for...	Y	
	Prepared by...	Y	
	Signature of R.P.Bio	Y	
Reference information	Project reference information	Y	
	Watershed information	Y	
	Sampling design summary	Y	
	Contractor information	Y	
Disclaimer	Standard wording disclaimer	Y	
Acknowledgements		Y	
Table of contents	Page numbering correct	Y	
	Report outline follows standard	Y	
Lists	List of Tables	Y	
	List of Figures	Y	
	List of Attachments	Y	
	List of Appendices	Y	

Report section	Attribute	Accept. (Y/N)	Notes
Introduction			
Project scope, objectives	1:20 000, 1:5000, lakes, etc.	Y	
Location	Description	Y	
Overview map	8.5 × 11" or 11 × 17"	Y	
	Outline of study area	Y	
	Inset map showing relation to BC	Y	
	Sample site locations	Y	
	1:20 000 map grid	Y	
	Major communities	Y	
	TRIM/FC aquatic features	na	
Access	Description	Y	
Resource Information	First Nations	Y	
	Land use, logging, recreation, etc.	N	3
	Impacts and uses by wildlife	Y	
	Existing water quality data	Y	
	Previous fish presence	Y	
Methods	Reference to RECCE standards	N	4
	Reference to project plan	Y	
	Deviations from RIC standards	Y	
	Deviations from project plan	Y	
	List of sampling equipment used	Y	

Notes:

- 1) "...selected tributaries to the south side of the Fulton River Watershed"
"...tributaries to the southwest shore of Babine Lake, south of Topley Landing."
- 2) Please list the main watersheds in the project area, or the first and last.
- 3) No discussion of logging in the area.

Notes:

- 4) both reports cite the 1998 standards. The 2001 standards include all the errata and should be the one that you cite.

Report section	Attribute	Accept. (Y/N)	Notes
Results and Discussion			
Logistics	Problems encountered	Y	
	Weather	Y	
	Access	Y	
	Water levels	Y	
	How was it addressed	Y	
	How did it impact the results	Y	

Stream Report Format

Report section	Attribute	Accept. (Y/N)	Notes
Summary of sub-basin biophysical information	Table defining each sub-drainage	Y	missing
	Sub-drainages not sampled but included in the planning document	-	na
	Previous sampling reference	-	in 2.1
Habitat and fish distribution	Characteristics of fish habitats	Y	
	Pattern of fish distribution	Y	
	Location of significant fish pop.s	Y	2
	Lakes treated as a reach of the stream	Y	
	Upstream limits of fish presence	N	3
	Obstructions influencing fish	N	3
	Table of all barriers present	Y	

Notes:

- 1) What does your length frequency data say about how long the juvenile coho remain rearing in these streams?
- 2) noted in "Significant fisheries observations."
- 3) the upstream limit of spawning SK is noted, but there is no mention of any of other barriers listed in table 3. All those that are barriers and create an "end of

Stream Report Format – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Fish age, size and life history	Summary of life stages, life history, etc.	Y	
	Length-frequency histograms	Y	
	Histograms have the same x-axis	-	na
	Table: Summary of length-at-age.	Y	1
	Data presented by species	Y	
	Data presented by sub-drainage	-	no
	Age classes appear correct	-	na
Significant features and fisheries observations	Fish and fish habitat		
	Critical habitats	Y	
	Special populations	Y	
	Wild stocks	Y	
	Rare stocks or species	Y	
	High value sport fishing	Y	
	NO management recommend.	Y	
	Habitat protection concerns		
	Fisheries sensitive zones	Y	
	Fish above 20% gradients	N	4
	Restoration opportunities	Y	
	Problem culverts	Y	
	Unstable slopes	Y	
Fish bearing status	Brief narrative section	Y	
	Table: Summary of fish bearing reaches...	Y	

Notes:

- fish use" should be noted and discussed.
- 4) You should discuss the WSU and LKC populations upstream of the cascade in R2 of -697200-12300. Discuss any reasons you see why no sport species are present and why you feel this population should not receive special status under the code.

Stream Report Format – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Fish bearing status (cont.)	Table: Summary of non-fish bearing reaches		2
	Table: Follow-up sampling required	Y	1
References	All sources in report listed		
	According to CBE style manual		

Stream Report Appendices

Report section	Attribute	Accept. (Y/N)	Notes
Appendix I. FDIS summary and photographs	In ascending order by WSC	-	
	Grouped by site	Y	
	FDIS reach card printouts	Y	
	FDIS site card printouts	Y	
	Fish data collection form	Y	
	Photos (min. 1, max. 4)	Y	
	All photos entered in FDIS	Y	
	Explanatory photo captions	Y	
	Photos in colour (final only)	-	
Appendix II. Hardcopy maps – General	“E” size plots	Y	
	Folded in pocket in report	N	
	UTM projection	Y	
	1:20 000 map grid	Y	
	1:20 000 scale	Y	
	Complete title box	Y	
	Complete legend box	Y	
	Source information box	Y	

Notes:

- 1) you need to clearly state in this section that the reaches in the additional sampling table are also listed in the fish bearing table.
- 2) you say that NCD is a timber industry term - it's a Forest Practices Code term.

Stream Report Appendices – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Appendix II. Hardcopy maps – General (cont.)	Inset map box	Y	
	Fish species box	Y	
	100 m contour lines	Y	
	WSCs or ILPs for all sampled streams	Y	
	WSCs or ILPs for all 3 rd order or higher streams	Y	
	WSCs or ILPs for every other 1 st and 2 nd order stream	Y	
	WBIDs for all lakes	Y	
	Sample site locations	Y	
Project map	All site data symbols attached to sites	Y	
	Lake summary symbols	Y	
	Reach data symbols on all reaches <30% gradient and all reaches containing sites	Y	gradient
	Features, obstructions, etc.	Y	
	Reach breaks and numbers	Y	
Interpretive map	Reach summary symbols for all reaches in the project area	Y	
	Features, obstructions	Y	
	Fish distribution limits	Y	
	Stream class	Y	

Notes:

Stream Report Attachments

Report section	Attribute	Accept. (Y/N)	Notes
Attachment I. Planning document	Budget breakdown by phase	na	1
	Project sampling design	na	1
	Process of site selection	na	1
	Reach table	na	1
	Lake table	na	1
	Random sample table	na	1
	References, contacts list	na	1
Attachment II. Field notes	Field book or facsimile	Y	
	Site cards	Y	
	Fish collection forms	Y	
	Individual fish data forms	Y	
	Field working maps	na	
Attachment III. Fish ageing structures	Actual ageing structures	Y	
	Labelled photocopies	Y	
	Annuli identified with red	Y	
	Age data are correct	Y	
Attachment IV. Voucher, DNA samples	Table: Vouchers collected	N	
	Table: DNA collected	N	
Attachment V. Photodocumentation	Table: Photo summary report	Y	
	Colour thumbnail reference	Y	
	Photo CD	Y	2
	CD Image #s match digital	Y	
	Negatives in plastic sleeves	Y	
	Negatives labelled	Y	

Notes:

- 1) submitted with phases 1-3
- 2) If all the CDs are going to be kept in the South Fulton photodoc binder, it

Report section	Attribute	Accept. (Y/N)	Notes
Attachment V. Photodocumentation (cont.)	Negative #s match digital	na	
	Prints in plastic sleeves	Y	
	Prints labelled	Y	
Attachment VI. Digital data	Budget breakdown by phase	na	
	Project sampling design	Y	in FDIS
	References, contacts list	na	1
	Table of vouchers collected	Y	in FDIS
	Table of DNA collected	Y	in FDIS
	Photo summary report	Y	in FDIS
	Report tables, figures	Y	
	Report text	Y	
	FDISDAT.MDB	Y	
Attachment VII. FISS update data	Mapping files (plot files)	Y	
	Mapping files (metadata and map features files)	Y	
	FISS data forms and maps	Y	
Attachment VIII. Aerial photography	Copies of reference material	na	
	Data on forms match FDIS	Y	
	Purchased aerial photos	na	
	Aerial video tape	na	

Notes:

Misc. errors:

93L.078 – Fedral Creek, reach 5, site is not labeled with a site number.

Site 838: first page of site card print out is missing in the appendix

Site 842: fish form printout is missing from appendix

Site 956: fish form printout is missing from appendix

Photodoc

roll 25 frames 9-10 CD # missing from FDIS.

roll 29 frame 14. I found prints with this same label.

From: Jason Harris
To: schell@bulkley.net
Date: 2/14/02 12:36PM
Subject: Stage 3 Quality Assurance (QA) review

Chris:

Re: Stage 3 Quality Assurance (QA) review of final deliverables for the 1:20k stream inventory sampling program performed by Triton Environmental Consultants Ltd. for Canadian Forest Products, Houston.

As discussed, please find attached Triton's response to the Quality Assurance (QA) review of final deliverables for the 1:20k stream inventory completed by you for Canadian Forest Products, Houston. As part of the QA we are submitting this report to you for review and acceptance before inclusion in CanFor's 2001-2002 Fish and Fish Habitat final deliverables.

We have gone through the Stage 3 QA review and addressed your edits and suggestions for the final deliverables. I trust finalising this project in this manner is acceptable to you.

Should you require additional information, please contact me at (250) 635-1494.

Yours truly,

Jason Harris

February 4, 2002

Todd Mahon, Wildfor Consultants
FRBC Co-ordinator, Canadian Forest Products Ltd.
PO Box 158,
Houston, BC, VOJ 1Z0

Todd,

The stage 3 quality assurance (QA) review of the final deliverables for the 1:20k stream inventory sampling program performed by Triton Environmental Consulting Ltd. for Canfor has been completed. Resources Inventory Committee standard QA forms were completed during the audit and are included with this letter. I also performed a stream classification QA, where I evaluated the resampling data supporting non-fish bearing stream recommendations. All forms list objectives that were met and comments pertaining to any problems that were identified during the QA evaluation.

The list of deliverables check found almost all present. Digital files were examined and all were in order with the exception printouts from the digital mapping QA programs, which was missing. This program should be run, and the results printed up, marked-up with Triton's response to each error, then submitted (digitally is fine) to me for a quick review. Done. Chris Schell found these in the Digital Data section (February 8th over the phone).

The card/FDIS/map check found vanishingly few typographical errors and no systematic problems. GIS derived UTM's have not yet been imported into FDIS, and this should be done before final submission of the database. Done. Chris Schell found these in the Digital Data section (February 8th over the phone). I noted a few minor, mostly editorial issues while checking the reports; these are listed on QA form 3k. FISS update deliverables and the photodocumentation package were complete and to standards. The maps were to RIC standards (in Triton's own format) and complete. I reviewed the interpretive stream coding and compared that to gradient and site information that was displayed on the map, and found no discrepancies.

To finalise QA approval, I would ask Triton to forward the mapping QA file Done as requested, and a letter listing how they have addressed each of the points noted in this QA review. If you have any questions regarding the information presented in this memo or in the QA forms please contact me by e-mail (schell@bulkley.net) or by telephone (250-847-0180).

Sincerely,

Chris Schell

cc. Jason Harris, Triton Environmental Consultants Ltd., Triton, BC

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3A

DATA COMPILATION AND REPORTING DELIVERABLES FOR QA – PAGE 1 OF 1

	Deliverable	Hardcopy	Digital	Comments
Watershed reporting	Watershed report	Y	Y	
	Appendices			
	I. FDIS summary and photographs	Y	Y	
	II. Hardcopy maps	Y	Y	
	Attachments			
	I. Pre-field planning document	Y	N	submitted during phase 1-3
	II. Field notes and forms	Y	na	
	III. Fish aging structures	Y	na	
	IV. Fish samples and vouchers	na	na	
	V. Photodocumentation	Y	Y	
	VI. Digital data	na	Y	
	VII. FISS update data	Y	na	
	VIII. Aerial photography	na	na	
Individual lake reporting (for each lake)	Lake report			No lake reporting.
	Appendices			
	I. Lake survey form			
	II. Water chemistry data			
	III. Fish collection forms			
	IV. Tributary summary			
	V. Photographs			
	VI. Bathymetric map			
	Attachments			
	I. Photodocumentation			
	II. Digital data			
	III. FISS update data			
	IV. Phase completion reports			
	V. Field notes and forms			
	VI. Aerial photography			
	VII. Fish ageing structures			
	VIII. Fish samples and vouchers			

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3B

DIGITAL DATA CHECKING – PAGE 1 OF 1

For each FDIS file provided:

FDIS filename:

	Acceptable		Comments
	Y	N	
Conversions done:			
• ILP to WSC	X		Not expected at this time
• NID-UTM		X	Not done at this time <u>Done and discussed with Chris Schell</u>
• Update bathymetry			NA
FDIS QA report attached			
• Acceptable error report	Y		see comment below

For each FDIS file and digital map file set:

ARCView fish QA tool

	Filename	Acceptable		Comments
		Y	N	
Digital map files				
• Metadata table	m6200261.dbf m6200262.dbf	Y		
• Map attributes table	a6200261.dbf a6200262.dbf	Y		Guess attribute table is in "Plots" directory.
FDIS data check				
• Sequential reach numbering:		Y		
• Point locations on TRIM streams:	qaprox.doc	Y		all "errors" are lakes and one unmapped stream
Copy of ARCView fish QA tool error report attached				
• Acceptable error report			N	Only the proximity test is done. Where are the other mapping checks? <u>Done and discussed with Chris Schell</u>

The FDIS automated QA noted "fish sampling only" sites that were electrofished, with no conductivity or temperature data taken. This is the only comment in the QA report that has any merit. Conductivity data is needed to evaluate the effectiveness of electrofishing. Taken under advisement.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 1 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	1	9	39	49	52	59	351	365	503	513
NID map #	93L.070	93L.080	93L.070	93L.80	93L.70	93L.070	93L.069	93L.080	93L.080	93L.069
NID #	10001	10009	10039	10049	10052	10059	30051	30065	50003	50013

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4											
	Wetted width	1, 2											
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribs	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morpho- logy	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo- documen- tation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Comments:

10) Flood signs “braided channels”, but bars are “side” only?

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

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Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 3 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	518	530	538	548	19	26	65	76	88	99
NID map #	93L.080	93L.070	93K.071	93L.069	93L.0	93L.068	93L.077	93L.079	93L.068	93L.079
NID #	50018	10333	50038	50048	10019	10026	10065	10076	10088	10099

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4											
	Wetted width	1, 2											
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribs	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morpho logy	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo-documen- tation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Comments:

7) the comments and UTM about the high gradient section is unclear. Wouldn't it be easier to make this a cascade reach feature?

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

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Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3C

CONSISTENCY CHECK: STREAM CARDS, FDIS, PROJECT, INTERPRETIVE MAPS – PAGE 5 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	757	795	810	818	831	836	842	855	863	956
NID map #	93L.068	93L.077	93L.077	93L.077	93L.067	93L.077	93L.077	93L.078	93L.079	93L.068
NID #	70857	70095	70810	70818	70831	70836	70842	70855	90863	90956

Record errors below with an 'x.' An error occurs if there is any inconsistency among: 1) field site cards, 2) FDIS, 3) project maps and 4) interpretive maps, as specified for each attribute.

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Stream name	1, 2, 3, 4											
	Watershed code or ILP map # and ILP #	1, 2, 3, 4											
	NID map # and NID #	1, 2											
	Reach #	1, 2, 3, 4											
	Site #	1, 2, 3, 4											
	Site length	1, 2											
	Access	1, 2											
	Survey date	1, 2, 3, 4											
	Agency conducting survey	1, 2, 3, 4											
	Time of survey	1, 2											
	Crew conducting survey	1, 2											
	Fish form completed	1, 2											
Channel	Channel width	1, 2, 3, 4									X		
	Wetted width	1, 2									X		
	Residual pool depth	1, 2											
	Gradient	1, 2, 3, 4											
	Bankfull depth	1, 2											
	Stage	1, 2											
	No Vis. Ch., DW, and Dry/Int.	1, 2, 3, 4											
	Tribs	1, 2, 3, 4											
Cover	Total cover	1, 2											
	Cover elements	1, 2											
	Functional LWD (amount, distribution)	1, 2											
	Crown closure	1, 2											
	Instream vegetation	1, 2											
	Bank shape, texture, riparian vegetation	1, 2											

Card section	Attribute	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Water	EMS #	1, 2, 3, 4											
	Temperature, pH	1, 2											
	Water chemistry requisition #	1, 2											
	Conductivity, turbidity	1, 2											
Channel - morpho logy	Flood signs	1, 2											
	Bed material	1, 2, 3											
	D95, D	1, 2											
	Morphology	1, 2, 3											
	Disturbance indicators	1, 2, 3											
	Pattern	1, 2, 3											
	Islands, bars, coupling	1, 2											
	Confinement	1, 2, 3											
Features	NID map # and NID #	1, 2											
	Type, height/length	1, 2, 3, 4											
	Photo, comments	1, 2, 3, 4											
	UTM	1, 2											
Habitat quality	General comments	1, 2											
	Fisheries sensitive zones	1, 2											
Photo-documen- tation	Roll #	1, 2											
	Frame #	1, 2											
	Focal length	1, 2											
	Direction	1, 2											
	Comments	1, 2											
Wildlife	Group	1, 2											
	Observations	1, 2											
Comments	General comments	1, 2											
Total errors:													

Summary of stream site information check:Number of marks (# cards * 52): 1560Maximum number of errors acceptable (5%): 78Number of errors found: 1

Is the number of errors acceptable: Yes

Comments:

9) channel widths, seems to have extra values added to the end ; res. pool depth missing one value. Checked to be fine.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

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FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 1 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	1	9	39	49	52	59	351	365	503	513
NID map #	93L.070	93L.080	93L.070	93L.80	93L.70	93L.070	93L.069	93L.080	93L.080	93L.069
NID #	10001	10009	10039	10049	10052	10059	30051	30065	50003	50013

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2											
	Make, model	1, 2											
Total:													

Comments:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 3 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	518	530	538	548	19	26	65	76	88	99
NID map #	93L.080	93L.070	93K.071	93L.069	93L.0	93L.068	93L.077	93L.079	93L.068	93L.079
NID #	50018	10333	50038	50048	10019	10026	10065	10076	10088	10099

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2											
	Make, model	1, 2											
Total:													

Comments:

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3E

CONSISTENCY CHECK: FISH COLLECTION FORM, FDIS, PROJECT MAP, INTERPRETIVE MAP, LAKE OUTLINE MAP – PAGE 5 OF 6

	1	2	3	4	5	6	7	8	9	10
Site #	757	795	810	818	831	836	842	855	863	956
NID map #	93L.068	93L.077	93L.077	93L.077	93L.067	93L.077	93L.077	93L.078	93L.079	93L.068
NID #	70857	70095	70810	70818	70831	70836	70842	70855	90863	90956

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) fish collection forms, 2) FDIS, 3) project maps, and 4) interpretive maps, and/or 5) lake outline maps, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Header	Name	1, 2, 3, 4, 5											
	Stream/Lake/Wetland	1, 2, 3											
	Watershed code or ILP	1, 2, 3, 4, 5											
	Waterbody ID	1, 2, 5											
	ILP map #	1, 2											
	Reach #	1, 2, 3, 4, 5											
	MELP fish permit #	1, 2											
	Date start, end	1, 2											
	Agency, crew	1, 2											
	Resample	1, 2											
Site/Method	Site #	1, 2, 3, 4, 5											
	NID map #, NID #	1, 2											
	Site UTM	1, 2											
	Method, method no.	1, 2											
	Temp, turbidity	1, 2											
	Conductivity	1, 2, 3, 4											
Fish summary	Method, method no.	1, 2											
	Haul/Pass (H/P)	1, 2											
	Species	1, 2, 3, 4											
	Stage, total #	1, 2											
	Min. length	1, 2											
	Fish activity	1, 2											

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Gear specifications	Method, method no.	1, 2											
	Haul	1, 2											
	Date, time in/out	1, 2											
	Net type, lgth, dpth	1, 2											
	Mesh size	1, 2											
	Set, habitat	1, 2											
Electrofisher specifications	Method, method no.	1, 2											
	Pass	1, 2											
	Time in, time out	1, 2											
	EF sec.	1, 2											
	Length, width	1, 2											
	Enclosure	1, 2											
	Voltage, freq., pulse	1, 2									X		
	Make, model	1, 2											
Total:													

Number of marks (# cards * 36): 1080Number of errors found: 1Maximum number of errors acceptable (5%): 54

Is the number of errors acceptable: Yes

Comments:9) voltage is 600 on the card. and 60 in FDIS. Corrected in FDIS

Otherwise, excellent work.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3F

CONSISTENCY CHECK: INDIVIDUAL FISH DATA CARD, FDIS – PAGE 1 OF 1

	1	2	3	4	5	6	7	8	9	10
Site #	365	513	538	19	26	65	76	853	825	846
NID map #	93L.080	93L.069	93K.071	93L.0	93L.068	93L.077	93L.079	93L.078	93L.077	93L.088
NID #	30065	50013	50038	10019	10026	10065	10076	70853	70825	90846

Record errors below with an 'x'. An error occurs if there is inconsistency among 1) individual fish data cards and 2) FDIS, as specified for each attribute.

Group	Item	Where to check	1	2	3	4	5	6	7	8	9	10	Error locations
Individual fish data	Site #	1, 2											
	Method, method no.	1, 2											
	Haul/Pass	1, 2											
	Species	1, 2											
	Length	1, 2								X			
	Weight	1, 2											
	Sex	1, 2											
	Maturity	1, 2											
	Age structure	1, 2											
	Age sample #	1, 2											
	Age	1, 2											
	Voucher	1, 2											
	Genetic structure	1, 2											
	Genetic sample #	1, 2											
	Photos	1, 2											

Number of marks (# cards * 15): 150
 Number of errors found: 1

Maximum number of errors acceptable (5%): 7
 Is the number of errors acceptable:

Comments:

8) fish with scale sample # 110 is 118mm long on the card and 110 in FDIS. Corrected in FDIS.

FISH INVENTORY QUALITY ASSURANCE CHECK FORM

Project name: Canfor. - 2001/2002 - Fish and Fish Habitat Inventory : Guess and South Fulton
FRBC project number: 3496 **MELP project number:** CNF-C172-010-2002
Contractor: Triton Environmental Consultants Ltd.
QA review by: Chris Schell **Review date:** February, 2002

FORM 3K

WATERSHED REPORT – PAGE 1 OF 4

Report section	Attribute	Accept. (Y/N)	Notes
Title page	Proper title	N	1
	Watershed code below title	N	2
	Prepared for...	Y	
	Prepared by...	Y	
	Signature of R.P.Bio	Y	
Reference information	Project reference information	Y	
	Watershed information	Y	
	Sampling design summary	Y	
	Contractor information	Y	
Disclaimer	Standard wording disclaimer	Y	
Acknowledgements		Y	
Table of contents	Page numbering correct	Y	
	Report outline follows standard	Y	
Lists	List of Tables	Y	
	List of Figures	Y	
	List of Attachments	Y	
	List of Appendices	Y	

Report section	Attribute	Accept. (Y/N)	Notes
Introduction			
Project scope, objectives	1:20 000, 1:5000, lakes, etc.	Y	
Location	Description	Y	
Overview map	8.5 × 11" or 11 × 17"	Y	
	Outline of study area	Y	
	Inset map showing relation to BC	Y	
	Sample site locations	Y	
	1:20 000 map grid	Y	
	Major communities	Y	
	TRIM/FC aquatic features	na	
Access	Description	Y	
Resource Information	First Nations	Y	
	Land use, logging, recreation, etc.	N	3
	Impacts and uses by wildlife	Y	
	Existing water quality data	Y	
	Previous fish presence	Y	
Methods	Reference to RECCE standards	N	4
	Reference to project plan	Y	
	Deviations from RIC standards	Y	
	Deviations from project plan	Y	
	List of sampling equipment used	Y	

Notes:

1) "...selected tributaries to the south side of the Fulton River Watershed" Changed title.

"...tributaries to the southwest shore of Babine Lake, south of Topley Landing." Changed title.

Notes:

4) both reports cite the 1998 standards. The 2001 standards include all the errata and should be the one that you cite. Changed references.

2) Please list the main watersheds in the project area, or the first and last. Added.

3) No discussion of logging in the area. Added.

Report section	Attribute	Accept. (Y/N)	Notes
Results and Discussion			
Logistics	Problems encountered	Y	
	Weather	Y	
	Access	Y	
	Water levels	Y	
	How was it addressed	Y	
	How did it impact the results	Y	

Stream Report Format

Report section	Attribute	Accept. (Y/N)	Notes
Summary of sub-basin biophysical information	Table defining each sub-drainage	Y	missing
	Sub-drainages not sampled but included in the planning document	-	na
	Previous sampling reference	-	in 2.1
Habitat and fish distribution	Characteristics of fish habitats	Y	
	Pattern of fish distribution	Y	
	Location of significant fish pop.s	Y	2
	Lakes treated as a reach of the stream	Y	
	Upstream limits of fish presence	N	3
	Obstructions influencing fish	N	3
	Table of all barriers present	Y	

Notes:

- 1) What does your length frequency data say about how long the juvenile coho remain rearing in these streams?
- 2) noted in "Significant fisheries observations."
- 3) the upstream limit of spawning SK is noted, but there is no mention of any of

Stream Report Format – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Fish age, size and life history	Summary of life stages, life history, etc.	Y	
	Length-frequency histograms	Y	
	Histograms have the same x-axis	-	na
	Table: Summary of length-at-age.	Y	1
	Data presented by species	Y	
	Data presented by sub-drainage	-	no
	Age classes appear correct	-	na
Significant features and fisheries observations	Fish and fish habitat		
	Critical habitats	Y	
	Special populations	Y	
	Wild stocks	Y	
	Rare stocks or species	Y	
	High value sport fishing	Y	
	NO management recommend.	Y	
	Habitat protection concerns		
	Fisheries sensitive zones	Y	
	Fish above 20% gradients	N	4
	Restoration opportunities	Y	
	Problem culverts	Y	
	Unstable slopes	Y	
Fish bearing status	Brief narrative section	Y	
	Table: Summary of fish bearing reaches...	Y	

Notes:

- fish use" should be noted and discussed. Discussed.
- 4) You should discuss the WSU and LKC populations upstream of the cascade in R2 of -697200-12300. Discuss any reasons you see why no sport species are present and why you feel this population should not receive special status under the code. Section submitted to John Brockley and Matt Jessop for review and approval prior to inclusion in report.

other barriers listed in table 3. Added section 4.4.1 All those that are barriers and
create an “end of

.

Stream Report Format – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Fish bearing status (cont.)	Table: Summary of non-fish bearing reaches		2
	Table: Follow-up sampling required	Y	1
References	All sources in report listed		
	According to CBE style manual		

Stream Report Appendices

Report section	Attribute	Accept. (Y/N)	Notes
Appendix I. FDIS summary and photographs	In ascending order by WSC	-	
	Grouped by site	Y	
	FDIS reach card printouts	Y	
	FDIS site card printouts	Y	
	Fish data collection form	Y	
	Photos (min. 1, max. 4)	Y	
	All photos entered in FDIS	Y	
	Explanatory photo captions	Y	
	Photos in colour (final only)	-	
Appendix II. Hardcopy maps – General	“E” size plots	Y	
	Folded in pocket in report	N	
	UTM projection	Y	
	1:20 000 map grid	Y	
	1:20 000 scale	Y	
	Complete title box	Y	
	Complete legend box	Y	
	Source information box	Y	

Notes:

1) you need to clearly state in this section that the reaches in the additional sampling table are also listed in the fish bearing table. Added comments that address this.

Stream Report Appendices – cont.

Report section	Attribute	Accept. (Y/N)	Notes
Appendix II. Hardcopy maps – General (cont.)	Inset map box	Y	
	Fish species box	Y	
	100 m contour lines	Y	
	WSCs or ILPs for all sampled streams	Y	
	WSCs or ILPs for all 3 rd order or higher streams	Y	
	WSCs or ILPs for every other 1 st and 2 nd order stream	Y	
	WBIDs for all lakes	Y	
	Sample site locations	Y	
Project map	All site data symbols attached to sites	Y	
	Lake summary symbols	Y	
	Reach data symbols on all reaches <30% gradient and all reaches containing sites	Y	gradient
	Features, obstructions, etc.	Y	
	Reach breaks and numbers	Y	
Interpretive map	Reach summary symbols for all reaches in the project area	Y	
	Features, obstructions	Y	
	Fish distribution limits	Y	
	Stream class	Y	

Notes:

2) you say that NCD is a timber industry term - it's a Forest Practices Code term.
Added comments that address this.

Stream Report Attachments

Report section	Attribute	Accept. (Y/N)	Notes
Attachment I. Planning document	Budget breakdown by phase	na	1
	Project sampling design	na	1
	Process of site selection	na	1
	Reach table	na	1
	Lake table	na	1
	Random sample table	na	1
	References, contacts list	na	1
Attachment II. Field notes	Field book or facsimile	Y	
	Site cards	Y	
	Fish collection forms	Y	
	Individual fish data forms	Y	
	Field working maps	na	
Attachment III. Fish ageing structures	Actual ageing structures	Y	
	Labelled photocopies	Y	
	Annuli identified with red	Y	
	Age data are correct	Y	
Attachment IV. Voucher, DNA samples	Table: Vouchers collected	N	
	Table: DNA collected	N	
Attachment V. Photodocumentation	Table: Photo summary report	Y	
	Colour thumbnail reference	Y	
	Photo CD	Y	2
	CD Image #s match digital	Y	
	Negatives in plastic sleeves	Y	
	Negatives labelled	Y	

Notes:

- 1) submitted with phases 1-3
 2) If all the CDs are going to be kept in the South Fulton photodoc binder, it Added to both binders.

Report section	Attribute	Accept. (Y/N)	Notes
Attachment V. Photodocumentation (cont.)	Negative #s match digital	na	
	Prints in plastic sleeves	Y	
	Prints labelled	Y	
Attachment VI. Digital data	Budget breakdown by phase	na	
	Project sampling design	Y	in FDIS
	References, contacts list	na	1
	Table of vouchers collected	Y	in FDIS
	Table of DNA collected	Y	in FDIS
	Photo summary report	Y	in FDIS
	Report tables, figures	Y	
	Report text	Y	
	FDISDAT.MDB	Y	
	Mapping files (plot files)	Y	
	Mapping files (metadata and map features files)	Y	
Attachment VII. FISS update data	FISS data forms and maps	Y	
	Copies of reference material	na	
	Data on forms match FDIS	Y	
Attachment VIII. Aerial photography	Purchased aerial photos	na	
	Aerial video tape	na	

Notes:

Misc. errors:

93L.078 – Fedral Creek, reach 5, site is not labeled with a site number. Corrected.

Site 838: first page of site card print out is missing in the appendix Corrected.

Site 842: fish form printout is missing from appendix Corrected.

Site 956: fish form printout is missing from appendix Corrected.

Photodoc

roll 25 frames 9-10 CD # missing from FDIS. Corrected.

roll 29 frame 14. I found prints with this same label. Corrected.

February 15, 2002

Todd Mahon, Wildfor Consultants
FRBC Co-ordinator, Canadian Forest Products Ltd.
PO Box 158,
Houston, BC, VOJ 1Z0

**RE: Triton's response to stage 3 (phase 5-6) QA review of reconnaissance (1:20k)
fish and fish habitat inventory for Canadian Forest Products, Houston.**

Todd,

I have completed my review of Triton's reply to my QA. They have responded to each of my comments, points by point. All outstanding issues have been addressed, and this letter is to inform you that this project has passed QA review.

Sincerely,

Chris Schell MSc, RPBio

cc. Jason Harris, Triton Environmental Consultants Ltd., Triton, BC

From: "Jessop, Matthew SRM:EX" <Mathew.Jessop@gems4.gov.bc.ca>
To: "Jason Harris" <JHarris@triton-env.com>
Date: 2/19/02 11:33AM
Subject: Morice TSA Non-fish bearing status reports

Hello Jason,

This message indicates my approval of the Non-Fish Bearing Status Reports for Fish and Fish Habitat Inventory work done by Triton Environmental Consultants Ltd in the Guess Creek and South Fulton Watersheds in the Morice Forest District during the 2001/2002 field season.

Thank you, Matt.

Matthew Jessop
Fisheries Inventory Specialist
Ministry of Sustainable Resource Management
Skeena Region
Bag 5000, Smithers, BC, V0J 2N0
Phone: (250) 847-7538
Fax: (250) 847-7217
Mathew.Jessop@gems4.gov.bc.ca
<http://srmwww.gov.bc.ca/ske/fshinv/>

CC: "Larden, Troy WLAP:EX" <Troy.Larden@gems1.gov.bc.ca>

From: Jason Harris
To: SRM:EX, Jessop, Matthew
Date: 2/27/02 11:59AM
Subject: Re: LKC and WSU in Baboon system

Matt: In response to your email 'LKC and WSU in Baboon System 02/06/02, I have provided you with the following for the Baboon Lake drainage:

Referencing Information,
Fish Inventory,
Data Summary Tables, and
Habitat Protection Concerns (to be included in RFFHI final report).

The RFFHI final report will include the **Habitat and Protection Concerns** section located at the end of this document. This email will also be included in the correspondence appendix of the RFFHI final report, as an attachment.

Should you require additional information please contact me.

Jason Harris
Triton Environmental Consultants Ltd.

Referencing Information

The Baboon Lake drainage (WSC 480-697200-12300) is a tributary to Fulton Lake in the Babine Lake watershed group. A small portion of the Baboon Lake drainage is located in Canfor's Guess operating area, west of Topley Landing, BC. A cascade (8 / 3 m) approximately 2 km upstream of the mouth prevents access to the drainage by resident species within the Fulton River watershed, however resident fish such as lake chub (*Couesius plumbeus*), white sucker (*Catostomus commersoni*) and reidside shiner (*Richardsonius balteatus*) are present upstream of the cascade. TRIM map sheets for the area include; 93L.079, 93L.078 and 93L.069.

Fish Inventory

Twenty (20) baited (boraxed coho or chinook salmon roe) minnow traps were set throughout the drainage. Water depths at trap sites were between 0.3 m and 0.9 m and trap entrances were placed parallel to the shore and adjacent to submerged cover. Minnow traps fished for a total of 414.15 hours within the watershed.

One multi-panel sinking gill net was set across the center of unnamed lake (WBID01254BABL) at 11:00 h on October 24, 2001 and was retrieved at 10:20 h (23 h 33 min set) on October 25, 2001. The floating gill net was placed perpendicular to the shore and secured to the shore from a point of land with a 5 m rope. The gill net was used to sample the main basin of the lake.

One stream reach within the drainage was electrofished for 200 m. The average gradient within this stream was 2% and the average channel width was 2.85 m. This section of stream was characterized by a pool, riffle glide complex typically containing gravel / cobble substrates. Common riparian vegetation was mixed shrubs. Access through this site is considered fair for coarse species. Salmonid spawning is lacking (no significant accumulations of suitable sized gravels, too large), but spawning substrates for coarse fish are abundant. Instream spawning substrates for coarse fish included; instream vegetation, LWD, SWD and undercut banks.

Previous sampling conducted by Hatfield Consultants Ltd. indicates the presence of reidside shiner in Baboon Lake. The results of the Hatfield sampling efforts within the drainage can be found in the following reference:

Hatfield Consultants Ltd. 1998. Secondary Lake Survey of Baboon Lake (01607BABL). Ministry of Environment, Lands and Parks, Skeena Region. April 1998.

The fish-sampling summary of gear type and effort is provided in the attached tables. White sucker, lake chub and redbreasted sunfish were the only species captured in the drainage upstream of the cascade.

Habitat Protection Concerns

One drainage within the Guess Creek study area is known to contain fish species above a physical barrier. The Baboon Lake drainage (WSC 480-697200-12300) is a tributary to the Fulton Lake in the Babine Lake watershed group. A small portion of the Baboon Lake drainage is located in Canfor's Guess operating area, west of Topley Landing, BC. A cascade (8 / 3 m) approximately 2 km upstream of the mouth prevents access to the drainage by resident species within the Fulton River watershed, however resident fish; lake chub, white sucker and redbreasted sunfish are present upstream of the cascade.

The key issue with this population is that it is isolated from other populations of fish by the 8 / 3 m cascade on the mainstem. The subdued terrain and limited development within the area reduces the level of concern for protection of sensitive fish habitat. Additionally, several small wetlands, ponds and lakes provide natural buffers against the potential impacts of existing and future forest development.

Under the Forest Practices Code (FPC) streams containing lake chub, white sucker and redbreasted sunfish are not considered fish streams and given that no other fish exist within this drainage, all streams are classified as non fish bearing (S5 or S6). Under the code, these fish and their habitat do not require an equivalent level of protection to salmonids and other species listed as 'code species'. Facilitating unobstructed passage for these species through stream crossing structures in the outlets of the following would, therefore, be considered a best management practice and a positive proactive measure by Canfor:

- " Baboon Lake (WBID1455BABL);
- " Lennac Lake (WBID 1377BABL);
- " Unnamed Lake (WBID1207BABL);
- " Unnamed Lake (WBID1254BABL);
- " Unnamed Lake (WBID1533BABL); and,
- " Other large potentially fish bearing lakes and permanent water bodies within the drainage.

Unobstructed passage through these areas is considered important to the sustainability of the species discussed above in the Baboon Lake drainage.

>>> "Jessop, Matthew SRM:EX" <Mathew.Jessop@gems4.gov.bc.ca> 02/06/02 02:23PM >>>
Hi Jason,

I spoke with Paul Giroux, Dana Atagi and Andy Witt regarding the presence of lake chub and white sucker above the barrier in the Baboon Lake system. The consensus was that you could treat it in a similar fashion as the LKC above the falls on Pimperl Creek.

It should be mentioned in the report that best management practices should be used to maintain unobstructed passage of these species throughout the watershed. While they are not a Code species this is not a license to install substandard culverts and crossings. Connectivity should be maintained throughout the sub-basin. For riparian management purposes the streams may be classified as non-fish bearing upstream of the barrier. Based on our discussions, the protection afforded to these particular species by the management areas allowed should provide for fish conservation.

I will be writing a memo for the lake and stream files stating the above.
Could you please send me all the info you have on this particular system (480-697200-12300)? I'm looking for the size of the cascade, morphology, map sheets, total number of sites, number of fish sample sites etc.
Basically anything that will help me describe the system and the rationale for classifying it as NFB above the barrier.

Thanks, Matt.

Matthew Jessop
Fisheries Inventory Specialist
Ministry of Sustainable Resource Management
Skeena Region
Bag 5000, Smithers, BC, V0J 2N0
Phone: (250) 847-7538
Fax: (250) 847-7217
Mathew.Jessop@gems4.gov.bc.ca
<http://srmwww.gov.bc.ca/ske/fshinv/>

CC: JBrockley@mail.canfor.ca

Table 1. Gill Netting and Minnow Trapping Summary for the Baboon Drainage

Referenc	Site	ILP / WS	AKE WBI	Reach	Date		Method	Amount	GN / MT Settings		Time In	Time Out	Total Hours	Fish captured		Length		Comment
					from	to			Depth (m)					Species	Total	Min	Max	
T2001	335	480-697200-12300-16900	01254BA BL	2	9/24/2001	9/25/2001	GN	1 set	2		11:00	10:20	23.33					Length = 91.2m Type = FL Mesh = ST Set = SU Habitat = L
														LKC	22	95	125	
														WSU	14	110	210	
Hatfield97	45	480-697200-12300	01607BA BL	1	9/24/1997	9/24/1997	GN	1 set	1		12:05	14:25	2.33					Length = 91.2m Type = FL Mesh = ST Set = SU Habitat = L
														RSC	1	99	99	
T2001	630	480-697200-12300-79800	01533BA BL	4	9/7/2001	9/8/2001	MT	5 traps			12:40	9:40	21					Set = L Habitat=L
							MT	1	0.6					LKC	10	65	80	
							MT	2	0.7					LKC	12	45	70	
							MT	3	0.7					LKC	13	50	90	
							MT	4	0.8					LKC	10	50	80	
							MT	5	0.9					LKC	9	60	90	
T2001	631	480-697200-12300	NA	2	9/7/2001	9/8/2001	MT	5 traps			13:20	10:20	21					Set = L Habitat=L
							MT	1	0.4					LKC	7	50	80	
							MT	2	0.6					LKC	6	60	85	
							MT	2	0.6					WSU	3	50	70	
							MT	3	0.6					LKC	8	40	65	
							MT	4	0.5					WSU	2	60	95	
							MT	4	0.5					LKC	8	50	75	
							MT	5	0.4					LKC	12	45	85	
T2001	632	480-697200-12300-17800	01207BA BL	2	9/7/2001	9/8/2001	MT	5 traps			13:40	10:40	21					Set = L Habitat=L
							MT	1	0.5					NFC	0			
							MT	2	0.5					NFC	0			
							MT	3	0.4					NFC	0			
							MT	4	0.6					NFC	0			
							MT	5	0.7					NFC	0			
T2001	633	480-697200-12300	NA	4	9/7/2001	9/8/2001	MT	5 traps			14:10	11:00	19.83					Set = L Habitat=L
							MT	1	0.3					LKC	6	50	80	
							MT	1	0.3					WSU	6	45	95	
							MT	2	0.4					WSU	8	40	85	
							MT	3	0.3					WSU	12	50	90	
							MT	4	0.3					WSU	4	70	95	
							MT	5	0.4					LKC	3	45	80	
							MT	5	0.4					WSU	9	60	100	

Table 2. Electrofishing Summary for the Baboon Drainage

Referenc	Site	ILP / WS	Reach	Date		Method	Amount	Electroshocking Specifications				Pulse	Temp.	Fish Captured		Length	
				from	to			Dist. (m)	Time (s)	Voltage	Freq			Species	Total	Min	Max
T2001	760	480-697200-12300	19	9/7/2001	9/7/2001	EF	1 pass	200	262	500	60	6	8	WSU	2	65	97
														LKC	15	60	85

APPENDIX IV

Phase I-III Project Plan (with attachments)

PHASES I-III
PRE-FIELD PROJECT PLANNING REPORT
Reconnaissance (1:20,000) Fish and Fish Habitat
Inventory in selected tributaries within the Babine Lake
watershed

WSC 480-548800 – 480-776600

Prepared for:

Canadian Forest Products Ltd.
PO Box 158
Houston, BC
V0J 1Z0

July, 2000

Prepared by:





TRITON
Environmental Consultants Ltd.

P.O. Box 88, Terrace, B.C.
Canada V8G 4A2
Telephone: 1 (250) 635-1494
Fax: 1 (250) 635-1495

July 31, 2000

Reference: 3139WP#T-1023

Wildfor Consultants Ltd.

PO Box 2962
Smithers BC, V0J 2N0

Attention: Todd Mahon

Dear Mr. Mahon:

**Re: Canadian Forest Products Ltd. Reconnaissance (1:20,000 Scale) Fish
and Fish Habitat Inventory Phase I-III Deliverables**

Please find attached project deliverables for Phases I-III (planning phases) as outlined in the General Services Agreement for FRBC Stream Inventory.

The attached report is organized as follows:

- Phase I-III Pre-Field Project Planning Report
- Phase I-III Completion Report (Appendix 1/Tab 1)
- Phase I-III Attachments (Appendix 1/Tabs 2-7)
- Phase I-III Digital Data (sleeve in report)
- Phase I-III Interim Maps (tube)

Should you have any questions or comments please do not hesitate to contact me at (250) 635-1494.

Yours truly,

Triton Environmental Consultants Ltd.

Jason Harris

enclos.

This checklist was designed as a template for use by Project Co-ordinators to track submissions.
Please submit electronic and hard copies as a means to indicate what has been submitted for your Fish Inventory Project.
Complete areas indicated with RED text and shade in cells to indicate submission is included in package.

2000/2001 FRBC Funded Fish and Fish Habitat Inventory Program

Deliverables Submitted for Fiscal Year 2000/2001

Paul Giroux

Canadian Forest Products Inventory

Smithers, Tangle, Guess, Fulton

Phase I - III

Pre-Field Planning Report

Digital

HardCopy

*Shade in cells to indicate submission**in report*

Excel/Word File Names

Overview Map

List of References/contacts

FISS forms for new info

ILP Data Sheet Status

ILP Map Status

FDIS File Status

Sampling Design Sheet

Project Plan

Interim Map

ILP Data Sheet file name

*copy of e-mail or cover letter**(FDIS file copy optional)*

Reach Table

Lake Table

Phase I-III Projects deliverable req'd

Phase I-VI Projects status only

Phase I-III Projects deliverable req'd

Phase I-VI Projects status only

Phase I-III Projects deliverable req'd

Phase I-VI Projects status only

QA Report

Digital &

Hardcopy

Phase Completion Report

Digital &

Hardcopy

Date Due

as per Standards Agreement

Phase IV

Streams

Site Forms

submit at Phase VI; provide #

Fish Collection Forms

submit at Phase VI; provide #

Additional Sampling Req't Summa submit at Phase VI; provide status

Lakes

Lake Survey Form

submit at Phase VI; provide #

Water Chem Status

Ageing Samples or Status

Vouchers Submitted

QA Report

Hardcopy

Digital

Phase Completion Report

Hardcopy

Digital

Date Due

as per Standards Agreement

Phase V-VI

Original Hard Copies

data forms

sounding traces

aging structures

Databases

FDIS.dat

Photographs

Photo form 1

binder with index

2 CD's with index

Digital copy of index

FISS Updates

Forms

Maps

Lake Surveys

Draft Report

lake reports	6 hard copies
	2 electronic copies
outline map	<i>in report</i>
ariel photo	<i>in report</i>
bathymap	6 hard copies
	2 electronic copies
Watershed Reports	
Draft Report	
Final Report	6 hard copies
	2 Digital
Maps	
Draft Maps	Digital copy
	Hard copy
Project Maps	5 hard copies
	2 digital
Interpretive Map	5 hard copies
	2 digital
Overview	6 hard copies (1 copy per report)
	2 digital
QA Report	hard copy
	digital
Phase Completion Report	hard copy
	digital
Date Due	as per Standards Agreement

Information for Quality Certificate

Task			
PHASE I-III			
PHASE IV			
PHASE V-VI			
Total			

Jason Harris

From: Edward Lem <elem@triton-env.com>
To: <Sean.Cheesman@gems5.gov.bc.ca>
Cc: Dave Warburton <DWarburton@triton-env.com>; Jason Harris <JHarris@triton-env.com>
Sent: Thursday, July 20, 2000 9:49 AM
Attach: smithers.ZIP; TANGLE.ZIP; guess.ZIP; fulton.ZIP
Subject: ILP Tables

Sean,

Here are the ILP tables for the Canfor projects for Jason Harris project manager for Triton Environmental in Terrace. The ZIP files are named by watershed area. If you have any problems please don't hesitate to call.

Thanks,

7/24/00

Jason Harris

From: Miers, Lynn FISH:EX <Lynn.Miers@gems1.gov.bc.ca>
To: <jharris@triton-env.com>
Sent: Friday, July 21, 2000 2:44 PM
Attach: waterbdy.exp

7/24/00

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**PHASES I-III
PRE-FIELD PROJECT PLANNING REPORT
Reconnaissance (1:20,000) Fish and Fish Habitat
Inventory in selected tributaries within the Babine Lake
watershed**

WSC 480-548800 – 480-776600

Prepared for:

Canadian Forest Products Ltd.
PO Box 158
Houston, BC
V0J 1Z0

July, 2000

Prepared by:



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**Phase I to III Pre-field Project Planning Report - 1:20,000 Fish and Fish Habitat Inventory
in the Fulton River and Babine Lake project area**

FRBC Multiyear agreement number:

Contract Number:

FRBC Project Number:

FDIS Project Code:

3496

Project Name:

Reconnaissance (1:20,000 scale) Fish and
Fish Habitat Inventory in selected tributaries
within the Babine Lake watershed

Project Type:

1:20,000 Reconnaissance

Report Date:

July 25, 2000

Proponent:

Canadian Forest Products Ltd.

Company/Agency:

Triton Environmental Consultants Ltd.

Contact Person:

Jason Harris

Contact Phone:

(250) 635-1494

Contact E-Mail:

jharris@triton-env.com

Ministry Representative:

Paul Giroux

FRBC Coordinator

Todd Mahon

LIST OF DIGITAL PRODUCTS

List of References

canfbiblio2000.doc

List of Contacts

canfcontactlist2000.doc

Project Planning Report

canfprojectplan2000.doc

Phase Completion Report

canfphasecomp1232000.doc

Guess Lake ILP Data Sheet

guess/lipall.dbf

South Fulton Lake ILP Data Sheet

fulton/lipall.dbf

Tanglechain Lake ILP Data Sheet

tangle/lipall.dbf

Guess Stream ILP Data Sheet

guess/silpall.dbf

Smithers Landing Stream ILP Data Sheet

smithers/silpall.dbf

South Fulton Stream ILP Data Sheet

fulton/silpall.dbf

Tanglechain Stream ILP Data Sheet

tangle/silpall.dbf

Guess FDIS

guess.zip>.mdb file

Smithers Landing FDIS

smithers.zip>.mdb file

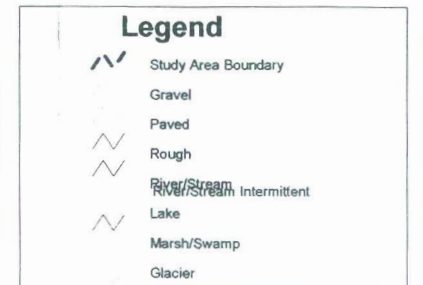
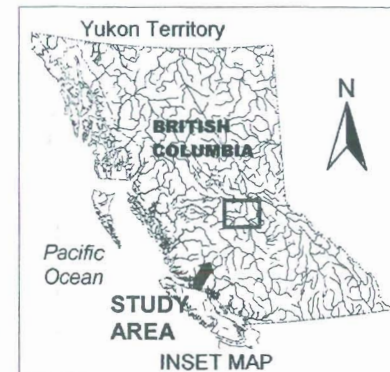
South Fulton FDIS

fulton.zip>.mdb file

Tanglechain FDIS

tanglechain.zip>.mdb file

Unnamed Tributaries to Fulton River
Tanglechain Planning Unit
Reconnaissance (1:20,000)
Fish and Fish Habitat Inventory



2000 0 2000 4000 Meters

1:150,000

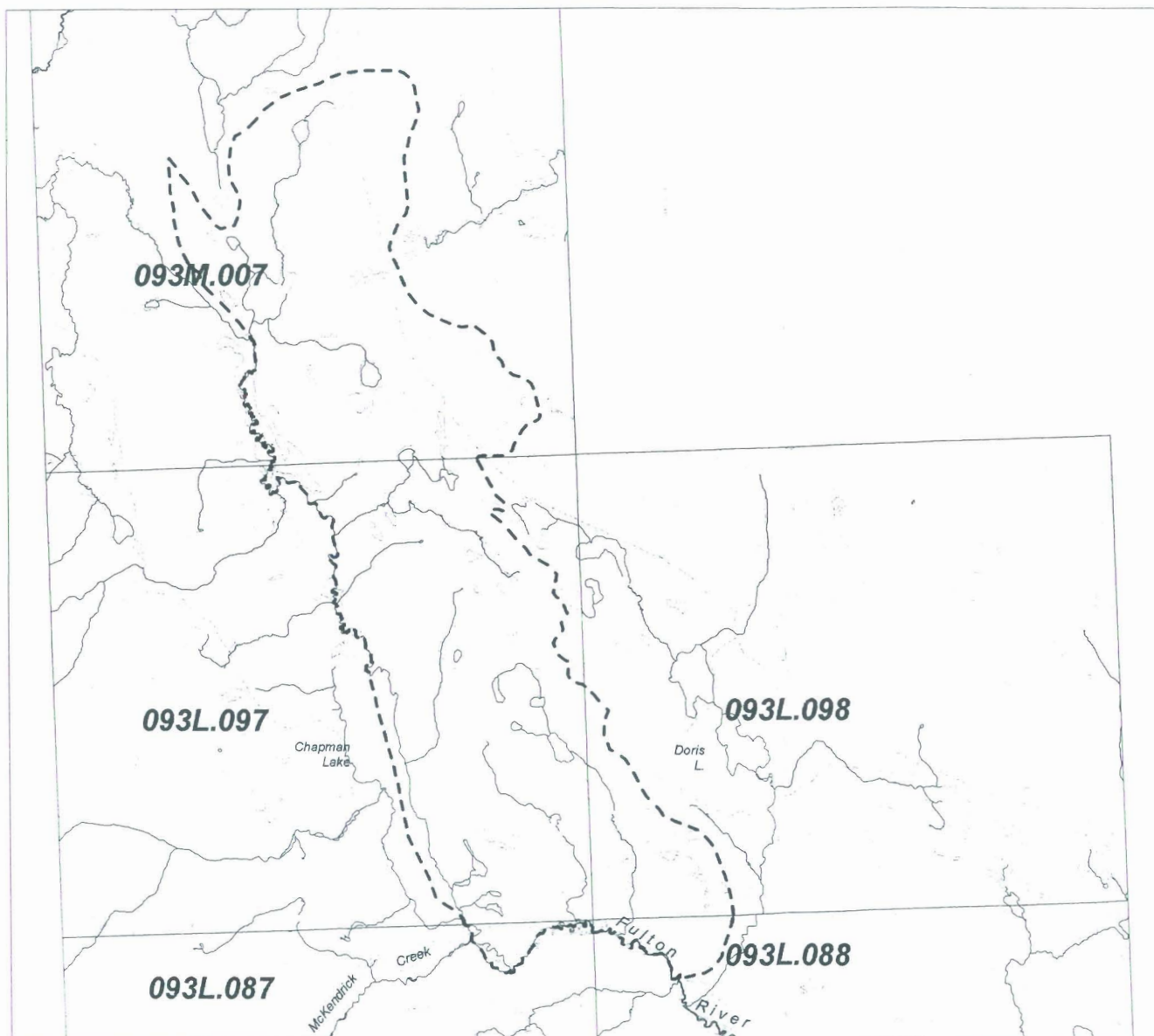
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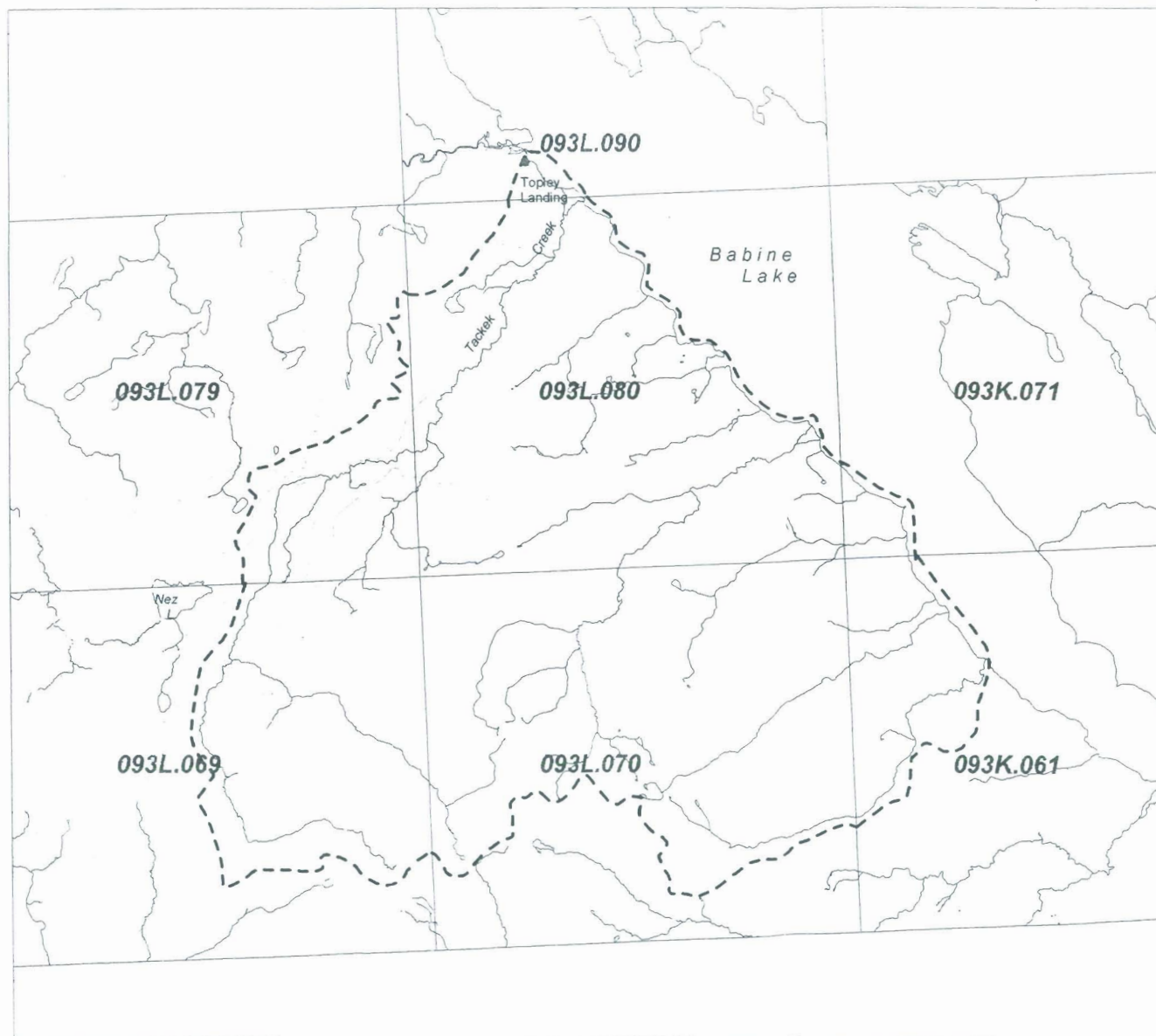
Date: July 15, 2000
Created by: SM



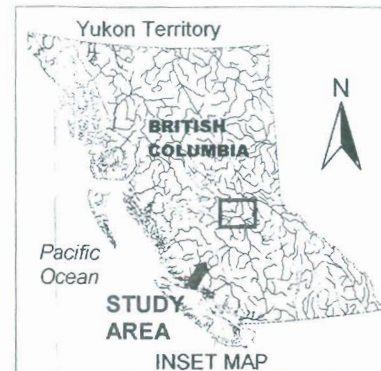
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Environmental Consultants Ltd.

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**Unnamed Tributaries to Babine Lake
South Fulton Planning Unit
Reconnaissance (1:20,000)
Fish and Fish Habitat Inventory**



Legend

- Study Area Boundary
- Gravel
- Paved
- Rough
- River/Stream
- River/Stream Intermittent
- Lake
- Marsh/Swamp
- Glacier

2000 0 2000 4000 Meters

1:150,000

Source: 1:20,000 TRIM Projection: UTM

Date: July 15, 2000
Created by: SM



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4100 - 1010 10th Avenue, Suite 100
Vancouver, British Columbia V6H 1Y1
Canada (604) 271-1111

1.0 INTRODUCTION

Triton Environmental Consultants Ltd. was retained by Canadian Forest Products Ltd. (CanFor) in partnership with Forest Renewal British Columbia (FRBC) and Ministry of Environment Lands and Parks (MELP) to conduct a reconnaissance level fish and fish inventory in selected tributaries within the Babine Lake watershed. This report summarizes work completed in Phases I-III and outlines the project plan for Phases IV-VI.

1.1 Summary of Work Completed

A summary of work completed for each phase is outlined in the attached Phase Completion Report (Appendix I). This summary includes:

- contractor information;
- list of deliverables submitted;
- activity log;
- summary of work completed;
- summary of phase costs;
- progress and problems summary; and
- next phase project plans and constraints.

2.0 STUDY AREA AND ACCESS

2.1 List of Trim Maps

The Babine Lake study area is located around the town of Topley Landing, BC. Topley Landing is located at the confluence of the Fulton River with Babine Lake. The 1:20,000 TRIM sheets covering this project area include:

Smithers Landing Working Area

93M.008	93M.009	93L.098	93L.099
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Tanglechain Working Area

93M.007	93L.097	93L.098	93L.087	93L.088
---------	---------	---------	---------	---------

Guess Working Area

93L.087	93L.088	93L.089	93L.090	93L.077	93L.066
93L.077	93L.078	93L.079	93L.080	93L.067	93L.069

Fulton South Working Area

93L.090 93L.079 93L.080 93K.071 93L.069
93L.070 93K.061

2.2 Working areas and major Sub-basins within the Babine Lake project area

The sub-basins to be sampled in the study area include:

Smithers Landing Working Area

Unnamed tributaries to Babine Lake (WSC 480-548800 – 480-627900)

Tanglechain Working Area

Bristol Creek (WSC 480-697200-65700)
Covert Creek (WSC 480-697200-36700)

Guess Working Area

Betty Creek (WSC 480-697200-25400-50500)
Bryon Creek (WSC 480-697200-27500)
Cynthia Creek (WSC 480-697200-25400-87600)
Doray Creek (WSC 480-697200-25400-24500)
Eggleston Creek (WSC 480-697200-23400-73800)
Fredral Creek (WSC 480-697200-25400-49800)
Guess Creek (WSC 480-697200-25400)
Martorie Creek (WSC 480-697200-25400-84100)
Nicholson Creek (WSC 480-697200-16400)
Stimson Creek (WSC 480-697200-24500-03800)

Fulton South Working Area

Strimboldh Creek (WSC 480-705800-57200)
Tachek Creek (WSC 480-707580)

2.3 Access

Road access is fairly extensive in the lower reaches of the Guess and Fulton South working areas. Several roads are located throughout the Smithers Landing and Tanglechain working areas, with mainline logging roads and secondary spur roads providing most of the access. The upper reaches of many of the sub-basins will be accessed by helicopter where road networks are not present.

3.0 BACKGROUND REVIEW

An extensive background review was completed for the project area. Data sources reviewed include:

- consultants reports;
- CanFor planning and stream class information;
- previous inventory data;
- fish data base and maps; and
- DFO/MELP Fish Habitat Inventory and Information Program (FHIIP or SISS) catalogue for Sub-district 4D Smithers (Volume 2) Bulkley.

A complete list of references and contacts used during the background review is provided in Appendix I. The background review indicated that the following species are present within project area:

- coho salmon (*Oncorhynchus kisutch*);
- pink salmon (*O. gorbuscha*);
- chinook salmon (*O. tshawytscha*);
- sockeye salmon (*O. nerka*);
- steelhead/rainbow trout (*O. mykiss*);
- cutthroat trout (*O. clarki*);
- Dolly Varden char/Bull Trout (*Salvelinus malma*);
- lake trout (*S. namaycush*);
- largescale sucker (*Catostomus macrocheilus*);
- longnose sucker (*C. columbianus*);
- white sucker (*C. commersoni*);
- northern pikeminnow (*Ptychocheilus oregonensis*);
- peamouth chub (*Mylocheilus caurinus*);
- redbside shiner (*Richardsonius balteatus*);
- longnose dace (*Rhinichthys cataractae*);
- mountain whitefish (*Prosopium williamsoni*);
- pygmy whitefish (*P. coulteri*);
- lake whitefish (*Coregonus clupeaformis*);
- burbot (*Lota lota*); and
- prickly sculpin (*Cottus asper*)

4.0 DEVIATION FROM RIC STANDARDS

4.1 Planning Phases

Sample site selection was based on satisfying the types of stream reaches identified in the Sample Size Summary table (as generated by the FDIS random generated planning tool).

Prior sampling, fish presence and historical features have been added to the planning maps and the FDIS database. These sites were used to modify the sampling plan and avoid redundancy in sampling efforts.

Potential obstructions identified during map and air photo review have been identified on the map with a P.O. (potential obstruction) abbreviation. These potential obstructions have not been included in the FDIS database because of problems associated with floating nids (GIS) and removal of these nids after ground truthing (data entry).

Fiss data will be compiled, edited and submitted at the completion of phase 6. Fiss updates will include existing information found during the data search and new site information captured during the field inventory.

Detailed reach planning was not conducted during the planning phases, as it is anticipated (based on previous experience) that several reaches will be moved during pre-field meetings with the licensee, ministry representatives and during the sampling program. We anticipate several changes to the sampling plan, and as discussed with Paul Giroux and CanFor these changes will significantly alter the original sample site selection. Detailed reach planning forms will be completed during phase 5 and will be submitted as a deliverable for this phase.

5.0 PROJECT PLAN

5.1 Phase 4: Field Data Collection (Streams)

Following is an outline of our approach to the fieldwork, clarification of specific sampling methodologies, and an estimate of the effort required. The following sections describe the methodologies and approaches to complete field sampling, data collection and reporting.

5.1.1 Pre-Field Preparation

Pre-field preparations will entail both office activities and logistics planning in co-ordination with members of the project team, the Implementation Contractor and Canadian Forest Products (CanFor). Fish collection permits will be obtained from the Ministry of Environment, Lands and Parks (MELP) and the Department of Fisheries and Oceans (DFO) prior to commencement of field activities.

Pre-field preparations will include a crew talk and pre-field training. During the crew talk, safety issues and procedures will be reviewed. All staff will be required to complete pre-field training to review standards and procedures. Crew members who are not involved in the planning phases will be informed about project specific logistics and requirements. The crew talk and pre-field training will provide a means to ensure that all

inventory cards are completed in a standardized manner by all crews and that crews are aware of QA/QC requirements.

5.1.2 Equipment

Triton possesses the majority of field equipment necessary to complete the project. Rental vehicles (4X4 trucks) and hand held radios will be secured prior to the commencement of Phase 4 (Field work).

Each crew will be equipped with a Smith-Root Model 12A backpack electrofisher and other standard field gear (Abney level, hip chain, tape measure, VHF radio, first aid kit, etc.).

5.1.3 Field Assessment

Two person field crews will conduct fieldwork. Crew mobilization will take place using a variety of methods depending on the access available in each watershed. In watersheds where road access is available, crews will drive to the sample sites. In watersheds where road access is unavailable crews will be transported by a Bell Jet Ranger helicopter to the sample sites.

Field crews will be supplied with forest cover maps, TRIM planning maps and aerial photographs to assist in locating and accessing reaches of interest (on the ground). Reaches will be largely accessed using compass bearings, hip chains and GPS units. Fluorescent pink flagging tape labeled with TECL (Triton Environmental Consultants Ltd.) will be used to mark the surveyed section of stream.

All streams will be surveyed with the intent that the information gathered will be used in developing Local Area Agreements for tributaries to the Babine watershed.

5.1.4 Fish Species Sampling

Fish sampling efforts will focus on reaches of <20% gradient (>20% at the FRBC Co-ordinator, Regional Inventory Specialist and Project Manager's discretion (i.e. suspected bull trout, regionally significant species presence)) and will follow the procedures outlined in the *Reconnaissance Fish and Fish Habitat Inventory: Standards and Procedures* (May, 1998) and the *Forest Practice Code's* Fish Stream Identification Guidebook. A minimum 100 m of stream length or a length equal to 10 bankfull widths (whichever is greater) will be sampled in each reach identified for sampling. In addition, intermittent fish sampling may be conducted during travel between sample sites (in an upstream direction), upstream and downstream of barriers and within habitat features (pools, debris jams etc.) that may be utilized by fish.

The presence, relative abundance and diversity of fish species will generally be evaluated through electroshocking at least 100 linear meters of stream length. In areas where return

visits are practical, minnow traps baited with salmon roe will be set and allowed to remain for a 24 hour period. This sampling method will be used to supplement electroshocking data, or in areas that are not suited to electroshocking (deep pools, wetlands, and active spawning areas). Other sampling methods, such as snorkeling, beach seining, and angling may be used where necessary, or where requested by the Project Monitor.

All fish sampling data will be recorded on Fish Collection Forms. The following data and samples will be recorded and collected for fish caught at each sampling site:

- species (keyed out using RIC's Field Key to Freshwater Fishes of BC). Special attention will be given to documenting species at risk in Region 6;
- length to the nearest mm (fork length or total length depending on species) determined for 30 random samples of each fish species captured including the longest and shortest fish;
- life stage;
- a representative sample of any abnormal or unidentified fish or a species of fish out of its normal range will be preserved and submitted to the Implementation Contractor as well as all non-game fish captured from each 2nd - 4th order watershed.

For all reaches with non-fish bearing classification a written explanation supporting the classification will be submitted (Non-Fish Bearing Classification Report) in the final report. The explanation will focus on sampling methods utilized during the field program, and water quality parameters, including conductivity and turbidity.

The fish bearing status of streams may be directly supported by sampling data or indirectly inferred based on fish captures in associated reaches, or habitat quality and the occurrence or lack of barriers to fish passage. Should a barrier be located, sampling will focus on covering all perennial and non-perennial habitat types above that barrier. Sampling in perennial habitats will follow the Guidelines for Local Area Agreement Preparation-Skeena Region (version 2). This will include sampling perennial habitats above barriers with adequate intensities, stream order u/s of barrier $\times 2 =$ number of required sites. This intensity should allow field crews to cover all spawning, rearing and overwintering habitat types within that particular stream. Minnow traps and small gill nets will be set overnight in possible overwintering wetlands and where practical, primary or secondary lakes sampling methods will be conducted. If no perennial habitats are present within a stream and a barrier is located (no connectivity, cascades, falls etc.) sampling intensity of stream order u/s of barrier = number of required sites.

Identification of barriers in the field is critical to describing and assessing fisheries distribution within a particular watershed or stream. Field crews will try to identify these barriers while on site, by either using a helicopter recce of the stream or by strategically moving sample sites while still in the field. Field crews understand the importance of

locating and finding barriers to adequately address distribution and will be in constant contact with Paul Giroux should the proposed plan need modifications or altering. At the end of each field day crews will meet to discuss data and color code interpretive maps. This color coding of maps will allow field crews to identify unanswered questions regarding distribution and make proper changes while still in the field.

5.1.5 Habitat (Site) Description

A reach description will be completed for each reach (at fish sampling sites), consistent with the Site Description form and entered into MELP's MS Access database as part of Phase 5. Each sampling site length will be 100 m, or >10 bankfull widths whichever is greater. The following data will be collected at each site:

- reach length;
- site length;
- stream gradient;
- 6 individual channel width measurements;
- estimates of bed material size;
- measurements of stream cover / riparian vegetation and large organic debris;
- channel confinement;
- water temperature;
- conductivity (ambient);
- flow (see 3.3.2.4 Water Quality);
- major features (fish passage barriers, log jams, LWD, beaver dams, clay slides, etc.);
- obvious fish habitat limitations or restoration opportunities;
- preliminary identification of obvious Fisheries Sensitive Zones as *per Fish-stream Identification Guidebook* specifications.

5.1.6 Water Quality

Consistent with the terms outlined in Schedule A, Triton will sample water quality parameters in the field at each sample site. Parameters will be measured in the field in order to reduce laboratory costs and shipping and receiving requirements. Specifically, Triton proposes to measure air and water temperature using standard field thermometers, pH and conductivity using hand held meters, and turbidity using visual estimates. Water quality measurements will be taken in each sampled reach as specified in the RFP.

5.1.7 Wildlife Observations

Wildlife observations will be noted and specific details recorded. Amphibians, aquatic invertebrates and macrophytes will be described and identified to Order or Family (where practical). Photographs will be taken for further documentation and confirmation.

Wildlife observations will be recorded on the Site Card with emphasis placed on species considered rare, endangered or threatened as defined by the Conservation Data Centre.

5.1.8 Photographic Documentation

Photographs will be taken, recorded and presented as per the *RIC Guide to Photodocumentation* (March, 1996). Photographs will be taken of each sample site (including downstream and upstream perspectives), of each feature identified and of representative or unidentifiable fish species. Photographs will be documented on Site Cards and Fish Collection Forms.

5.1.9 Inventory Area Specific Sampling

Through completion of Phases 1-3 we have identified specific reaches to sample in each working area. Sample sizes are outlined in Table 1.

Table 1. Sample Site Summary by Inventory Area.

Inventory Area	Total No. of Reaches	Number of Reaches to be Sampled	Percent of Inventory Reaches Sampled
Smithers Landing	215	52	24.2%
Tanglechain	184	46	25.0%
Guess	1281	140	10.9%
Fulton South	820	144	17.6%

The criterion for sample site selection was discussed with MELP's Fisheries Inventory Specialist, Mr. Paul Giroux. In order to achieve Reconnaissance (1:20,000) Fish and Fish Habitat Inventory objectives discretionary sites were selected using the following criteria:

- where it is necessary to determine fish presence within a sub-basin;
- to address Local Area Agreements and fisheries distribution within the project area;
- inlets and outlets of lakes where it is necessary to determine fish presence within a sub-basin;
- lower order reaches that are likely to delineate the upper limits of fish distribution;
- within or adjacent to proposed cutblocks;
- above and below potential barriers, and around the 20% gradient break; and
- CanFor's operational needs.

5.1.10 Lakes Sampling

Lakes have not been specifically selected for sampling. After discussions with Paul Giroux (Regional Fisheries Inventory Specialist) and CanFor, lakes to be sampled will be selected after the conclusion of the stream sampling program. Lakes sampling will then focus on attaining information that will be of value to both MELP (watershed wide fish distribution) and CanFor (headwater lakes which support fish).

Planning for the lakes sampling portion of the project will follow a balanced approach between Ministry of Environment Lands and Parks (MELP) requirements and CanFor's operational needs. Should lake sampling be required the following plan will be used.

5.2 Lakes Plan

5.2.1 Phase 4: Field Data Collection

Following is an outline of our approach to the fieldwork, clarification of specific sampling methodologies, and an estimate of the effort required. The following sections describe the methodologies and approaches to complete field sampling, data collection and reporting for primary and secondary lake inventories in CanFor's operating areas.

5.2.2 Pre-Field Preparation

Pre-field preparations will entail both office activities and logistics planning in coordination with members of the project team, the Implementation Contractor and CanFor. Fish collection permits have been obtained from MELP and DFO as part of pre-field planning.

5.2.3 Equipment

Triton possesses most of the field equipment necessary to complete a lakes project. A rental vehicle (4X4 truck) and programmable VHF hand held radios will be secured prior to the commencement of Phase 4 (Field work). Additional lakes sampling equipment is owned by Triton including, Zodiacs and outboard motors, Van Dorn bottles, depth sounders, electroshockers and cameras.

5.2.4 Field Assessment

Fieldwork for lakes will be conducted by a 2-person field crew. Crew mobilization will take place using a variety of methods, which will maximize the efficiency of the field program depending on specific access available at each lake. For lakes with road access, the field crew will utilize a 4X4-crew cab pickup truck. For sites in which road access is unavailable the field crew will be mobilized by a Bell Jet Ranger helicopter from Westland Helicopters (Houston).

The field crew will be equipped with a Smith-Root Model 12A backpack electrofisher, gill nets, minnow traps and other standard field gear (zodiac and motor, clinometer, hip chain, tape measure, Van Dorn bottle, VHF radio, first aid kit, etc.). Utilizing a combination of these methodologies will ensure that field efficiency is maximized and the project target of sampling primary lakes in 2 days and secondary lakes over 1 day is attained.

5.2.5 Fish Species Sampling: Primary Lakes

Multi-panel floating and sinking gill nets will be the principal fish sampling method utilized in primary lakes, along with minnow traps and angling. Gill nets (floating and sinking) to be used will follow specifications for standard nets used in reconnaissance level lake inventories in B.C. Gill nets will be set with the smallest mesh size at the shallow end of the net set and secured to a point on shore. Gill nets and minnow traps will be allowed to fish overnight for a minimum period of 8 hours. Gill nets will be set in the evening and monitored for approximately 30 - 45 minutes for an indication of catch success. Professional judgment will be applied to reduce the netting effort if early indications of net catch suggest excessive fish mortality will result from a standard two net or overnight set. The depth sounder will be operated while setting gill nets to provide a record of bottom substrates and the presence of submerged logs or snags.

Baited (boraxed salmon roe) minnow traps will be set around the perimeter of the lake within shallow shoal areas. Water depths at trap sites will be between 0.3 m and 1.5 m and the trap entrances will be placed parallel to shore or submerged cover. Styrofoam floats will be attached to the traps with a 1.5 m length of string. Minnow traps will be allowed to fish overnight for a minimum of 8 hours.

Inlet and outlet streams will be sampled using an electroshocker to determine fish species presence and relative abundance.

5.2.6 Fish Species Sampling: Secondary Lakes

Secondary lakes are intended to be quick (1 day) surveys of fish species presence or absence. Gill nets will be set initially upon arrival to a lake and allowed to fish while the field crew completes their limnological sampling and other tasks. Minnow traps will also be set for the day during secondary lake surveys. Fish sampling in streams will not be conducted for secondary lakes unless downstream or upstream reaches are sampled during the concurrent streams inventory.

5.2.7 Fish Species Sampling: General

All fish sampling data will be recorded on waterproof Fish Collection Forms. The following data and samples will be recorded and collected for fish caught at each sampling site:

- species (keyed out using RIC's Field Key to Freshwater Fishes of BC). Special attention will be given to documenting species at risk;
- life stage;
- wet weight (in grams);

- a representative sample of any abnormal or unidentified fish or a species of fish out of its normal range will be preserved and submitted to the Implementation Contractor as will all non-game fish captured from each 2nd - 4th order watershed.

Non lethal aging structures will be removed from a subsample of fish captured in lakes (generally 30 of each species) to determine the age of cohorts present in the lake. Fish killed in gill nets will have otoliths removed for aging. Aquatic insects, invertebrates and amphibians will be identified, enumerated and released. Unidentified invertebrates will be retained and preserved in buffered 10% formalin.

A reach description will be completed for one reach of the major inlet and outlet streams to each primary lake consistent with the Site Description form and entered into MELP's MS Access database as part of Phase 5. Each sampling site length will be 100 m, or >10 bankfull widths whichever is greater. The following data will be collected at each site:

- reach length
- site length
- stream gradient
- 6 individual channel and wetted width measurements
- estimates of the percentage areas of the different habitat units
- estimates of bed material size, by size class
- compaction of bed materials
- measurements of stream cover / riparian vegetation and large organic debris
- measurements of bank instability
- channel confinement
- percentage of stream bars
- air temperature
- water temperature
- conductivity (ambient)
- discharge
- major features (fish passage barriers, log jams, LWD, beaver dams, clay slides, etc.)
- obvious fish habitat limitations or restoration opportunities
- preliminary identification of obvious Fisheries Sensitive Zones as per Fish-stream Identification Guidebook specifications.

For secondary lakes a visual survey of each inlet and outlet will be conducted to determine the presence of potential habitats that are important to fish.

For all inlet and outlet reaches with non-fish bearing classification a written explanation supporting the classification will be submitted. The written explanation will be included in the final report. The discussion will focus on sampling methods utilized during the field program, water quality parameters including conductivity and turbidity and recommendations for follow-up sampling.

5.2.8 Lake Habitat Descriptions

Bathymetric soundings will be conducted using a Lowrance X-16 electronic depth sounder. The transducer will be mounted on the transom of a 3 m Achilles inflatable boat powered by a short-leg 9.9 hp Johnson outboard. This combination of boat and motor will allow transects to be conducted in water as shallow as 30 cm in depth, resulting in accurate estimates of distance at transect start and end points. Depths within shoal areas and weed beds will be measured with a measuring pole.

An E-line transect will be performed along the main (long) axis of the lake to determine the maximum depth in the main basin of the lake. Upon completion of the e-line transect, a shoreline perimeter cruise will be conducted to record lakeshore feature, surrounding terrain, vegetation and aquatic plant descriptions.

Full bathymetric surveys will only be required on primary lakes. Transects will be conducted in a straight line, perpendicular to the shoreline and towards an easily identifiable feature on the opposite shoreline (i.e. point, snag etc.). A constant speed will be maintained for the duration of each transect (1 m/sec). Speed will be estimated using a floating object tossed in the water ahead and to one side of the boat and timed as it passes beside the boat from bow to stern. Echograms will be marked with a single solid line to represent the start of each transect and double solid lines to indicate end points. Measurement of lake surface area and drainage area will be determined using a Placom KP-90N digital planimeter.

5.2.9 Water Quality

Triton field crews will sample water quality parameters in the field at each limnology station. EMS numbers will be acquired from MELP prior to the commencement of field work in primary lakes. Parameters will be measured in the field in order to reduce laboratory costs and shipping and receiving requirements. On primary lakes, water samples are required to be sent to a certified laboratory for analysis. Parameters analyzed will follow the Lake and Stream Inventory manual and will be discussed on a case by case basis with the regional Fisheries Inventory Specialist.

Specifically, Triton proposes to measure field air and water temperature using standard field thermometers, pH and conductivity using hand held meters, and turbidity using visual estimates.

Lake limnological sampling will also include a dissolved oxygen/temperature profile, to be completed with a YSI DO probe and a Secchi depth measurement to be taken at the deepest point within the lake. Conductivity and pH will be measured from just below the surface and above the lake bottom. Lake water samples will be collected with a Van Dorn bottle.

5.2.10 Wildlife Observations

Wildlife observations will be noted and specific details recorded. Amphibians will be identified in the field. Abundant invertebrates will be described and field identified to Order or Family (where practical), as will aquatic macrophytes. Photographs will be taken for further documentation and confirmation. Wildlife observations will be recorded on the lake survey form with emphasis placed on species considered rare, endangered or threatened as defined by the Conservation Data Center.

5.2.11 Photographic Documentation

Triton will make extensive use of photography throughout the project. For lakes, a series of lake panorama pictures will be taken from the geographic center of the lake. Pictures will also be taken which highlight geographic features, surrounding country and aquatic vegetation. Other photographs taken on lakes will include evidence of recreational use, wildlife features and fish species (if captured).

Photographs will be documented on lake survey forms and Triton's photodocumentation form and presented in the report in a manner that meets RIC standards.

6.0 PHASE 5 - DATA MANAGEMENT (WATERSHED AND LAKE INVENTORIES)

The office portion of Phase 5 will entail entering hardcopy field notes and field forms into requisite electronic database forms including lake forms, site cards, fish collection forms and Photodocumentation Form 1. ILP's, submitted during the initial phases will be converted to watershed codes and NID's will be converted to UTM coordinates for mapping and georeferencing purposes. Photographs taken during the field season will be developed, captioned and coupled with Lake Forms/Site Cards where applicable. Additional photographs will be indexed in referenced binders with Photodocumentation Cards and negatives. Bathymetric and lake outline mapping will be completed during Phase 5.

7.0 PHASE 6 - REPORTING AND MAPPING (WATERSHED AND LAKE INVENTORIES)

The final report will follow the outline provided in the Reconnaissance (1:20,000) Inventory Standards and will include data analyses, fisheries values, stream and riparian classifications and management recommendations. This report will contain fish bearing and non fish bearing classification reports and a table supporting each will include sampling methods (and effort), habitat conditions, barriers to fish passage and water quality parameters.

For all reaches with non fish bearing classification a written explanation supporting the classification will be submitted (Non Fish Bearing Classification Report). The written explanation will be included in the reach descriptions provided in the final report. The discussion will focus on sampling methods utilized during the field program, water quality parameters including conductivity, turbidity and recommendations.

All final map work will be produced using a GIS software program. Maps produced digitally will include all information as per the requirements outlined in the Reconnaissance (1:20,000) Inventory Standards. The interpretative maps will include: watershed codes (ILP's); stream names; waterbody identifiers; reach breaks; fish sampling sites; fish species; features; stream classification; annotated fish distribution and historical data. Overview maps will accompany the final reports and will show sampling site locations.

7.1 Existing Data

Existing data (i.e. Bulkley 1996/97, WRP projects, CanFor stream classification projects) will be incorporated into the report where applicable and for ease of reference. The results from previous sampling will be used to establish fish presence and distribution throughout the watershed and to facilitate and/or confirm stream Riparian Management Area classifications. Where historical information is sufficient and if further sampling is not required, sample sites will be moved or eliminated from the plan.

8.0 PROJECT TIMELINES

Completion of Phase I to III Activities	July 31, 2000
Completion of Phase IV Activities	October 31, 2000
Completion of Phase IV Deliverables	December 15, 2000
Completion of Draft Phase V and VI Deliverables	March 15, 2001

9.0 PROPOSED STAFF

Project Director	Dave Gordon
Project Manager/Crew Supervisor	Jason Harris
Project Biologist	Bryan Williams
Crew Supervisor	Jason Dorey
Fisheries Technician	Eamon Miyagi
Fisheries Technician	Karen Timlick
Fisheries Biologist	Eva Wichman
GIS Coordinator	Dave Warburton
GIS Technician	Ed Lem

10.0 EQUIPMENT LIST

Fish Collection/Crew

1 electrofisher
1 large battery
1 small battery
1 charger
2 anode poles
2 cathodes
3 pairs of linesman gloves
Fish Collection Permit
1 small net
measuring board
recovery bucket
10 minnow traps
bait
4 bottle of alcohol
voucher jars
Fish Collection Methods and Procedures
1 bottle of clove oil
scale envelopes
DNA vials
razorblade knife
ziplock bags
fishing license

Field Gear/Crew

2 compass		first aid kit		hip chain	bug dope
2 clino		2 wool blankets		string	2 scale rules
2 field books		waders		flagging tape	metric thermometer
site cards		wading boots		1 axe	pH meter
fish forms		aquaseal		file	conductivity meter
individual fish data		color film		caulks	two way radio
duksbak		waterproof camera		caulk wrench	radio frequencies

Misc

RIC inventory standards
contract
fish identification key
project contact list
winch
jack-all
tire iron
spare tire
shovel
axe
Swede saw
rope
tarps
planning maps
timesheets
expense claim forms
daytimers
1 flashlight

11.0 CONTINGENCY PLAN

Based on conversations with Paul Giroux and Todd Mahon the following contingency plan was agreed to:

- It is critical that sampling be approached strategically, rather than (or in addition to) site based. In cases where sampling could not be conducted, or where conditions for sampling were unfavorable, crews can move sites within the same gradient class and size class. Moving sites and keeping them within the same class will not be considered modifications to the approved plan.
- Crews can relocate sites within the watershed to a maximum of 10% if the site varies from the approved plan. Moving a site from one gradient class to another (i.e. class 1 to class 2) or from one size class to another (i.e. small to large) will be considered a modification to the approved plan.
- To allow maximum sampling efficiency and also allow crews to assess barriers and fisheries values throughout the watershed, crews can add 10 additional sample sites to each area if required.

PROJECT PHASE COMPLETION REPORT - PHASE I-III

Contract Number:

FRBC Project Number:

FDIS Project Code: 3496

Project Name: Reconnaissance (1:20,000 scale) Fish and Fish Habitat Inventory in selected tributaries within the Babine Lake watershed

Project Type: 1:20,000 Scale Reconnaissance

Report Date: July 25, 2000

Proponent: Canadian Forest Products Ltd.

Company/Agency: Triton Environmental Consultants Ltd.

Contact Person: Jason Harris

Contact Phone: (250) 635-1494

Contact E-Mail: jharris@triton-env.com

MELP Project Monitor: Paul Giroux

FRBC Coordinator: Todd Mahon

List of Deliverables Submitted (Phase I)

Deliverable Product	Received	Approved (QA)
Bibliography (hardcopy and digital)		
List of Contacts (hardcopy and digital)		
Interim Maps with; • watershed boundaries • waterbodies with ILP's or watershed codes • reach breaks with NIDS • lakes with NIDS • proposed sample sites		
Reach tables (digital FDIS)		
Project Plan (hardcopy and digital)		
Lake tables (digital FDIS)		
Phase completion report (hardcopy and digital)		

Activity Log (Phase I-III)

Date	Activity	Time Spent
June 01, 2000	Project meeting with Todd Mahon.	15h
June 5, 2000	Stream and Lake file search @ MELP Smithers	15 h
June 5-20, 2000	Requests for information	15 h
June 5-20, 2000	Request for FISS maps and information	10 h
June 15-30 2000	Assign ILP's, delineate watershed boundaries	140 h
June 20-26, 2000	Completing Reach Tables and Quality Control	36 h

June 20-27, 2000	Completing Interim Maps and Quality Control	22.5 h
June 20-29, 2000	Lakes planning and lakes information tables	20.5 h
June 12-30, 2000	Completing Basin Classification, Reach Breaks, Lakes Classification and Quality Control	228.5 h
July 6-30, 2000	Create contact list, bibliography	15 h
June 15-20, 2000	Project Plan development	15 hrs
June 20-25, 2000	Interim Maps/Sample Site Locations	31 hrs
June 15-30, 2000	Crew and Equipment List	5 hrs
June 20, 2000	Sample Site Selection Rationale	4 hrs
June 30, 2000	Phase 3 meeting (Todd Mahon)	15 hrs

Summary of Work Completed

A meeting was conducted with Todd Mahon (contract monitor) to obtain information regarding the project specifications and project area.

A background data review was conducted to establish existing information within the Tanglechain, Smithers Landing, South Fulton and Guess working areas. These reports were obtained from the Ministry of Environment Land and Parks (MELP) office in Smithers, the Morice Forest District office in Houston, CanFor in Smithers, various consultants and the BC Conservation Data Centre. A bibliography listing these reports was completed (attached).

In the process of data collection and compilation consultants and government agencies were contacted. A list of contacts made during this process was completed (attached).

FISS maps were reviewed and compared with the data collected during the background review. Information that was not included on the FISS maps, as well as new information gathered in Phase 4, will be transcribed to a corresponding 1:50,000 scale National Topographic Scale (NTS) map at Phase 5.

The project area boundaries were delineated on trim maps and all streams, wetlands and lakes were assigned, waterbody identifiers or ILP's. Watershed codes and ILP's were assigned using Arcview and FDIS.

Twenty working TRIM mapsheets are being used for the project.

Detailed map and air photo analysis was conducted in order to identify and classify sub-basins within the study area; to determine reach breaks; and to determine individual reach characteristics for all watercourses, lakes and wetlands. The delineation of sub-basins was based on stream order and hierarchy within the watershed.

All connected wetlands were identified and added to the interim maps. Wetlands with defined or partly defined channels, which convey flow, were included in the stream

portion of the sampling plan. While wetlands without defined channels, or those with extensive ponding were included in the lake portion of the sampling plan.

All watercourses within the study area were divided into reaches and physical features affecting fish habitat suitability (including gradient, confinement, channel pattern and riparian vegetation) were identified.

All lakes within the study area were assigned to lake groups.

The focus of Phase 3 was to develop the detailed sampling plan and produce the planning report. The number of sample sites proposed and a brief rationale for sample site selection is provided in the project plan (attached).

Planning for the field sampling portion of this project followed a balanced approach between MELP requirements and CanFor's operational needs. Initial sample site selection was undertaken utilizing the FDIS random generator. Further discretionary sites were added to the initial randomly generated sampling sites. Discretionary sites were selected using the following criteria:

- MELP's Reach Sampling Summary table for each watershed (attached);
- existing fish species distribution data;
- strategies to determine fish distribution within each watershed;
- CanFor's operational needs.

Revisions to the stream sampling plan (increased number of site, alternate site locations) will be revised at the beginning of Phase 4, which is scheduled to commence in the summer of 2000.

Table 1. Project Area Statistics

	Smithers Landing	Tanglechain	Guess	Fulton South
Project Area (Ha)	11,498 ha	11,185 ha	31,937 ha	59,973 ha
Number of TRIM maps	4	5	11	7
Largest watershed (stream) order	4	3	5	5
Number of 3rd order basins	6	3	32	21
km of streams in project area	199.41 kms	136.84 kms	605.45 kms	912.38 kms
Number of stream reaches in project area	215	184	1281	820
Number of lakes in project area	0	16	41	9

Table 2. Number of Reach Sample Sites Selected by FDIS (Random)

	Smithers Landing	Tanglechain	Guess	Fulton South
Number of stream reaches in project area	215	184	1281	820
Number of sample sites (random)	47	43	99	89
Random sampling %	21.9%	23.9	7.7	10.9
Number of sample sites (bias)	5	3	41	55
Bias sampling %	2.3%	1.6	3.2	6.7
Total sampling % (bias and random)	24.2%	25%	10.9%	17.6%

Progress and Problems Summary

Phase I-III was completed as scheduled. Watershed codes were assigned to a significant portion of the streams within each watershed. Searching through the watershed atlas was time consuming and much slower than using ILP's for stream delineation. The use of watershed codes will allow easier access to data management (by CanFor) and possibly increase turnaround time for watershed code assignment from MELP.

Detailed reach planning was not conducted during the planning phases, as it is anticipated (based on previous experience) that several reaches will be moved during pre-field meetings with the licensee, ministry representatives and during the sampling program. We anticipate several changes to the sampling plan, and as discussed with Paul Giroux and CanFor these changes will significantly alter the original sample site selection. Detailed reach planning forms will be completed during phase 5 and will be submitted as a deliverable for this phase.

No lakes were specifically selected for sampling, therefore no detailed lakes forms were completed. After discussions with Paul Giroux and CanFor, lakes to be sampled will be selected after the conclusion of the stream sampling program. Lakes sampling will then focus on attaining information that will be of value to both MELP (watershed wide fish distribution) and CanFor (headwater lakes which support fish in ephemeral systems).

Next Phase Project Plans and Constraints

FISS updates will be provided with Phase V of the project as opposed to Phase III. At that time new information gathered from the field can be incorporated into FISS.

Phase IV (field) is scheduled to commence August 15, 2000

Summary of Phase 1-3 Costs

Professional Fees	\$32,255.00
Disbursements	\$2,458.00

Costs as per original budget

Contract Monitor Acceptance

Report Submitted By: Jason Harris	Date: July 20, 2000
Phase Completion Approved:	Date:
Comments:	

Bibliography

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- Bustard, D.** (1987). Babine Lake Creel Survey 1985-86.
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- Bustard, D.** (1990) Assessment of Coho Salmon Recruitment from Stream Tributary to Babine Lake. Prepared for Department of Fisheries and Oceans.
- DeGisi, Joseph S. and Jeffrey A. Burrows.** (1995). Reconnaissance Survey of Bristol Lake; Watershed Code 480-69720-65700-0100. Ministry of Environment, Lands and Parks, Smithers BC.
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- Hatfield Cosultants Ltd.** (1997). Secondary Lake Survey of Unnamed Lake (01648BABL). Ministry of Environment, Lands and Parks. Skeena Region.
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- Hatlevik, S.P.** (1981) A Fisheries Inventory of Some Streams within the Morrison Lake - Hatchery Arm Portion of Babine Lake. BC Fish and Wildlife Branch, Smithers, BC.
- Northwood Pulp and Timber Ltd.** (1995-97) Stream and Riparian Assessment Field Cards. Unpublished: submitted to BC Ministry of Forests, Morice Forest District Office. Northwood Pulp and Timber Ltd., Houston, BC.
- Canadian Forest Products Ltd.** (1999-2000) Stream and Riparian Assessment Field Cards. Unpublished: submitted to BC Ministry of Forests, Morice Forest District Office. Canadian Forest Products Ltd., Houston, BC.
- Shepard, B.G.** (1975). Upper Skeena Chinook Stocks, Evaluation of the Bear - Sustut, Morice and Lower Babine Stocks. Prepared for North Coastal Division, Northern Operations Branch Fisheries and Marine Service, Department of Environment. Vancouver, BC. 40 pp.
- SKR Consultants Ltd.** (1998). Fish and Fish Habitat Inventory for Operational Areas in the Morrison IRM Unit. Three Babine Lake Inlet Streams and a Morrison Creek Tributary. Unpublished manuscript prepared for Houston Forest Products, Houston, BC.
- Taylor, J.A.** 1995. Synoptic Surveys of Habitat Characteristics and Fish Populations Conducted in Lakes and Streams within the Skeena River Watershed. J.A. Taylor and Associates. Unpublished report for the Department of Fisheries and Oceans. 108 pp.
- Taylor, J.A.** 1996. Assessment of Juvenile Coho Population Levels in Selected Lakes and Streams within the Skeena River Watershed, British Columbia, Between 11 and 31 August, 1995. J.A. Taylor and Associates. Unpublished report for the Department of Fisheries and Oceans. 102 pp.
- Triton Environmental Consultants Ltd.** 1998. Reconnaissance Level Fish and Fish Habitat Inventory in the Bulkley TSA. Report prepared for Pacific Inland Resources and BC Ministry of Enviroment, Lands and Parks. Smithers, BC. Vols. 1-19. approx. 2000 pg. including appendices, site cards, photos.

Triton Environmental Consultants Ltd. 1998. Reconnaissance Level Fish and Fish Habitat Inventory in the Bulkley TSA. Working Unit #9 - Fulton. Report prepared for Pacific Inland Resources and BC Ministry of Environment, Lands and Parks. Smithers, BC. Volume #9. approx. 200 pg. including appendices, site cards, photos and 9 TRIM maps.

Triton Environmental Consultants Ltd. 1999. 1-5,000 Fish and Fish Habitat Inventory of Unnamed Tributaries to the Fulton River Working Unit #9 - Fulton. Report prepared for Pacific Inland Resources and BC Ministry of Environment, Lands and Parks. Smithers, BC. approx. 80 pg. including appendices, site cards, photos and 1 TRIM map.

List of Key Contacts and Information Sources for CanFor Stream Inventory Project

Name	Company/Agency	Title	Contact Numbers	Date	Comments
John Brockley	Canadian Forest Products Ltd.	Division Forester	(250) 845-5200	Ongoing	- guidance throughout project - requested relevant CanFor fisheries info.
Todd Mahon	Wildfor Consultants	FRBC Contractor	(250) 846-5449	Ongoing	- guidance throughout project - meeting regarding CanFor requirements
Paul Giroux	MELP (Smithers)	Regional Inventory Specialist	(250) 847-7294 p (250) 847-7591 f	Ongoing	guidance throughout project
Colin Johnstone	Canadian Forest Products Ltd.	Forester, Toxcha-Babine Area	(250) 845-5200 p	Ongoing	requested existing stream classification info.
Cam Bentley	Canadian Forest Products Ltd.	Forestry Technician	(250) 845-5204 p	Ongoing	requested existing stream classification info.
Walter Timcoe	Canadian Forest Products Ltd.	Forester	(250) 845-5103 p	Ongoing	requested existing stream classification info.
Dave McCarthur	Canadian Forest Products Ltd.	Forester	(250) 845-5203 p	Ongoing	requested existing stream classification info.
Jim McCormack	Canadian Forest Products Ltd.	GIS Manager	(250) 845-5225 p	Ongoing	- requested GIS digital trim maps - requested 1:5000 maps of project area and existing stream classification info.
Barry Watson	Canadian Forest Products Ltd.	GIS Administrator	(250) 845-5274 p	Ongoing	support with GIS digital deliverables
Harry Anaka	Canadian Forest Products Ltd.	Forest Operations Supervisor	(250) 845-5281 p	Ongoing	support regarding forest operations
Andy Witt	Morice Forest District	Forest Ecosystem Specialist	(250) 845-6249 p	Ongoing	- guidance and support throughout project regarding LAA and stream classification. - data search
Charlotte Samis	Morice Forest District	Forest Ecosystem Specialist	(250) 845-6105 p	Ongoing	requested existing stream classification info. for study area
Sig Hatlevik	MELP (Smithers)	Fisheries Technician	(250) 847-7291	June 26, 2000	requested fish collection permit
Dana Atagi	MELP (Smithers)	Fisheries Biologist	(250) 847-7290	June 26, 2000	requested FISS reports and other info. pertaining to study area
Ron Tetreau	MELP (Smithers)	Fisheries Technician	(250) 847-7294 p	Ongoing	requested info. regarding project area

List of Key Contacts and Information Sources for CanFor Stream Inventory Project

Ted Zimmerman	MELP (Prince George)	Fisheries Habitat/Inventory Specialist	(250) 565-6852 p	June 26, 2000	requested info. regarding study area
Jeff Lough	FRBC – Watershed Restoration; (Smithers)	Restoration Technician	250) 847-7757 p	June 26, 2000	requested info. regarding WRP reports and current projects within study area
Steve Jennings	Triton Environmental Consultants Ltd. Terrace	Project Manager	(250) 635-1494	Ongoing	contacted about inventory in area (Bulkley Inventory)
Adam Lewis	Triton Environmental Consultants Ltd. Richmond	Project Manager	(604) 279-2093	Ongoing	contacted about inventory in area (Bulkley Inventory)
Marta Donovan	BC Conservation Data Centre	Assistant Data Manager	(250) 356-0928 p	June 26, 2000	requested rare occurrences for project area
Violette Racicot	DFO		(250) 627-3480 fax	June 26, 2000	requested fish collection permit
Scott Northrup	DFO (Nanaimo)	Habitat Biologist	(250) 756-7275 p	June 20, 2000	contacted for info. regarding completed inventories within the study area
Bruce MacDonald	DFO (Nanaimo)	Area Chief (Enhancement Branch)	(250) 756-7270 p	June 20, 2000	contacted for info. regarding completed works within the study area
Jason Huang	DFO (Prince George)	Habitat Biologist	(250) - 561-5396 p	June 26, 2000	requested info. pertaining to the study area
Don Rathford	DFO (Prince Rupert)	Biologist	(250) - 627-3416 p	June 26, 2000	requested info. pertaining to the study area - referred by Smithers DFO office
Regina Saimoto	SKR Environmental Consultants	Biologist	(250) 847-4674	June 26, 2000	requested info. pertaining to work completed in the study area
Dave Peacock	DFO	Biologist	(250) 627-3416 p	June 26, 2000	escapement info. for waterbodies in project area
Ed Chernenkoff	Westland Helicopter	Pilot	(250) - 845-2334 p	June 26, 2000	project info.

List of Key Contacts and Information Sources for CanFor Stream Inventory Project

Jim Beise	Northern Mountain Helicopters Inc.	Pilot	(250) 845-2101 p	June 26, 2000	info. regarding study area
Jim Trask	Triton Environmental Consultants Ltd. (Prince George)	Consultant	(250) 562-9155 p	June 26, 2000	requested any work completed by firm in study area
Bill Holland	First Nations Traditional Territories, Houston	Elder	(250) 845-7418 p	June 26, 2000	info. pertaining to First Nations Traditional Territory in study area
Jim Schwab	Ministry of Forests Regional Office (Smithers)	Silviculture Planning	(250) 847-7500 p	June 26, 2000	info. search - all info. pertaining to study area is at Canadian Forest Products Ltd office
Dwight Hickey	Environmental Dynamics	Consultant	(250) 562-5412 p	June 28, 2000	requested any work completed by firm in study area
Stephan Schug	Wet'suwet'en office of Hereditary Chiefs		(250) 847-3630 p	June 28, 2000	ongoing Morice watershed restoration project
Barry Finnegan	DFO, Nanaimo	Fisheries Technician (North Coast)	(250) 756-7038 p	June 28, 2000	re: JA Taylor site locations
Joeseeph DeGisi	Consultant	Fisheries Biologist	(250) 847-3575 p	June 28, 2000	Reconnaissance Lake Inventory reports for project area
Chris Schell	Consultant	Fisheries Biologist	(250) 847-0180 p	Ongoing	- RIC Inventory expert - guidance throughout project
Dave Bustard	Consultant	Fisheries Biologist	(250) 847-2963 p	June 28, 2000	familiar with fisheries resources throughout the study area
John Rustad	Western Geographic	GIS Coordinator	(250) 564-9191 p	Ongoing	requested Maps and flightline indices
Catherine Martel	DFO (Prince George)	Habitat Biologist	(250) 561-5396 p	June 23, 2000	requested fisheries information pertaining to study area
Lindsay	Maps BC (Victoria)	Mapping Technician	(250) 387-3022 f	June 23, 2000	flight lines/aerial photographs

List of Key Contacts and Information Sources for CanFor Stream Inventory Project

Jan	Nanaimo Maps and Charts		(250) 754-2313 p	June 23, 2000	• trim map request
Garth Taylor	Hatfield Consultants	Biologist	(604) 926-3261 p	June 23, 2000	• data search
Beth Rogers	British Columbia Data Conservation Center	Data Manager	(250) 356-0928 p	June 23, 2000	• data search
Jas Rehal or Sandy Vogt	DFO (Vancouver)		(604) 666-8614p (604) 666-7112f	June 26, 2000	• recieved info. regarding fish collection permits • requested a fish collection permit
Patti Neis	MELP (Smithers)	Program Secretary/ Librarian	(250) 847-7334p (250) 847-7556f	Ongoing	• requested relavent fisheries info. from the MELP library in Smithers
J. A. Taylor	J.A. Taylor & Associates	Consultant	(250) 656-0163 p	June 28, 2000	• requested info. 1994 and 1995 sample sites; referred to Barry Finnegan

Smithers Landing Sample Site Selection

SAMPLE_TYPE	WSHD_CODE	ILP	NID	NID_MAP	REACH	GRAD
B	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11067	20046	093M.008	2.0	3.75
B	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11300	20136	093L.099	3.0	13.33
B	480-568000-00000-00000-0000-0000-000-000-000-000-000-	0	20009	093M.008	2.0	10.92
B	480-581200-55500-00000-0000-0000-000-000-000-000-000-	0	20178	093I.099	2.0	8.21
B	480-627900-00000-00000-0000-0000-000-000-000-000-000-	0	20156	093I.099	2.0	14
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11005	20103	093I.098	1.0	7.12
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11005	20105	093I.098	3.0	1.6
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11008	20109	093I.098	2.0	4.69
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11013	20140	093I.099	2.0	8.18
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11014	20133	093I.099	2.0	7.14
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11017	20138	093L.099	1.0	7
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11021	20149	093I.099	1.0	19.04
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11036	20197	093I.099	1.0	14
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11048	20189	093I.099	1.0	24.47
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11053	20212	093I.099	1.0	4
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11056	20063	093M.009	1.0	7.98
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11057	20065	093M.009	2.0	5.9
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11058	20218	093M.009	1.0	17.73
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11060	20074	093M.009	1.0	1.28
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11061	20077	093M.009	1.0	9.42
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11062	20080	093M.009	2.0	4.16
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11063	20073	093M.009	1.0	9.18
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11069	20006	093M.008	1.0	4.29
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11079	20049	093M.008	1.0	21.68
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11082	20086	093I.098	2.0	5.71
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11082	20084	093I.098	3.0	11.59
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11083	20053	093M.008	1.0	6.71
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11300	20141	093I.099	6.0	10.15
R	480-558800-00000-00000-0000-0000-000-000-000-000-000-	0	20028	093M.008	2.0	5.17
R	480-558800-00000-00000-0000-0000-000-000-000-000-000-	0	20033	093M.008	7.0	1.82
R	480-558800-00000-00000-0000-0000-000-000-000-000-000-	0	20035	093M.008	9.0	3.87
R	480-559900-00000-00000-0000-0000-000-000-000-000-000-	0	20036	093M.008	1.0	10
R	480-559900-00000-00000-0000-0000-000-000-000-000-000-	0	20039	093M.008	4.0	1.39
R	480-568000-00000-00000-0000-0000-000-000-000-000-000-	0	20125	093I.098	8.0	14.41
R	480-575000-00000-00000-0000-0000-000-000-000-000-000-	0	20001	093M.008	3.0	3.16
R	480-575000-00000-00000-0000-0000-000-000-000-000-000-	0	20118	093I.098	5.0	8.09
R	480-575000-00000-00000-0000-0000-000-000-000-000-000-	0	20101	093I.098	8.0	3
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-		20068	093M.009	1.0	8.78
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-		20069	093M.009	2.0	0.08
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-		20070	093M.009	3.0	4.66
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-	0	20215	093I.099	4.0	4.05
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-	0	20171	093I.099	5.0	3.33
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-	0	20202	093I.099	7.0	6.98
R	480-581200-00000-00000-0000-0000-000-000-000-000-000-	0	20204	093I.099	9.0	1
R	480-581200-55500-00000-0000-0000-000-000-000-000-000-	0	20220	093I.099	5.0	0
R	480-581200-83000-00000-0000-0000-000-000-000-000-000-	0	20206	093I.099	2.0	9.85
R	480-595100-00000-00000-0000-0000-000-000-000-000-000-		20061	093M.009	1.0	8.38
R	480-598100-00000-00000-0000-0000-000-000-000-000-000-	0	20058	093M.009	2.0	4.18
R	480-598100-00000-00000-0000-0000-000-000-000-000-000-	0	20059	093M.009	3.0	3.44
R	480-627900-00000-00000-0000-0000-000-000-000-000-000-		20155	093I.099	1.0	6.3
R	480-627900-02800-00000-0000-0000-000-000-000-000-000-	0	20163	093I.099	1.0	11.11
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-	11000	20083	093I.098	1.0	7.26

W. THRES LANDING

		SIZE								
		SMALL			MEDIUM			LARGE		
GRADIEN	FORM	Total	Sample	Actual	Total	Sampl	Actual	Total	Sample	Actual
1 ≤4	ST/SI	20	5	5	23	5	6	2	2	2
	IM/ME	1	1	1	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
2 >4 and ≤8	ST/SI	38	9	9	25	6	6	2	2	2
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
3 >8 and ≤20	ST/SI	74	11	11	14	3	7	1	1	1
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
4 >20 and ≤30	ST/SI	13	2	2	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
5 >30	ST/SI	2	0	0	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
Reach Total:		215	Sample Total: 47		Sample % 21.9		Actual Total: 52		Actual %: 24.2	
Group 1	Group 2	Group 3	Group 4							

Tanglechain Sample Site Selection

SAMPLE	WSHD_CODE	ILP	NID	NID_MAP	REACH	GRAD
B	80-697200-36700-00000-0000-0000-000-000-000-000-00		1080	93L.097	12.0	2.92
B	80-697200-65700-00000-0000-0000-000-000-000-000-00		1201	93M.007	9.0	0.36
B	80-697200-65700-11200-0000-0000-000-000-000-000-00		1160	93M.007	5.0	0.82
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10000	1013	93L.098	2.0	2.39
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10005	1011	93L.098	3.0	0.89
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10005	1018	93L.098	6.0	1.08
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10006	1002	93L.088	1.0	4.99
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10007	1007	93L.098	2.0	3.92
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10009	1029	93L.097	2.0	11.77
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10011	1045	93L.097	1.0	7.28
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10011	1047	93L.097	3.0	4.78
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10011	1050	93L.097	6.0	4.19
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10012	1044	93L.097	1.0	10.89
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10013	1059	93L.097	1.0	8.05
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10013	1061	93L.097	2.0	11.23
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10013	1062	93L.097	3.0	5.14
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10017	1066	93L.097	1.0	7.96
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10019	1075	93L.097	1.0	25.27
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10025	1099	93L.097	2.0	9.59
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10026	1101	93L.097	2.0	5.92
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10028	1103	93L.097	1.0	0.7
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10028	1105	93L.097	3.0	2.31
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10030	1131	93M.007	2.0	0.94
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10031	1118	93L.097	2.0	1.67
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10031	1121	93L.097	5.0	0
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10032	1122	93L.097	1.0	4.13
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10040	1136	93M.007	1.0	3.64
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10043	1140	93M.007	1.0	10.07
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10049	1188	93M.007	1.0	1.89
R	00-000000-00000-00000-0000-0000-000-000-000-000-00	10051	1195	93M.007	1.0	0.66
R	80-697200-36700-00000-0000-0000-000-000-000-000-00		1022	93L.098	2.0	0.84
R	80-697200-36700-00000-0000-0000-000-000-000-000-00		1024	93L.098	4.0	0.22
R	80-697200-36700-00000-0000-0000-000-000-000-000-00		1071	93L.097	7.0	2.25
R	80-697200-38600-00000-0000-0000-000-000-000-000-00		1056	93L.097	8.0	1.98
R	80-697200-38600-00000-0000-0000-000-000-000-000-00		1057	93L.097	9.0	4.68
R	80-697200-38600-21300-0000-0000-000-000-000-000-00		1042	93L.097	2.0	4.11
R	80-697200-44600-00000-0000-0000-000-000-000-000-00		1037	93L.097	2.0	15.87
R	80-697200-47600-00000-0000-0000-000-000-000-000-00		1087	93L.097	1.0	5.28
R	80-697200-47600-00000-0000-0000-000-000-000-000-00		1090	93L.097	3.0	1.56
R	80-697200-55100-00000-0000-0000-000-000-000-000-00		1109	93L.097	1.0	4.25
R	80-697200-61300-00000-0000-0000-000-000-000-000-00		1142	93M.007	1.0	0.71
R	80-697200-61300-00000-0000-0000-000-000-000-000-00		1145	93M.007	4.0	2.09
R	80-697200-65700-11200-0000-0000-000-000-000-000-00		1162	93M.007	7.0	3.26
R	80-697200-65700-18300-0000-0000-000-000-000-000-00		1154	93M.007	4.0	0
R	80-697200-65700-18300-0000-0000-000-000-000-000-00		1155	93M.007	5.0	6.91
R	80-697200-65700-36200-0000-0000-000-000-000-000-00		1184	93M.007	1.0	1.88

TANGUR CHAN

GRADIEN	FORM	SIZE								
		SMALL			MEDIUM			LARGE		
		Total	Sample	Actual	Total	Sample	Actual	Total	Sample	Actual
1 ≤4	ST/SI	58	11	13	45	10	10	0	0	0
	IM/ME	0	0	0	2	2	2	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
2 >4 and ≤8	ST/SI	44	10	10	12	3	3	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
3 >8 and ≤20	ST/SI	17	4	4	3	2	2	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	1	1	1	0	0	0
4 >20 and ≤30	ST/SI	1	1	1	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
5 >30	ST/SI	1	0	0	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0

Reach Total: 184 Sample Total: 44 Sample % 23.9 Actual Total: 46 Actual %: 25.0

Group 1 Group 2 Group 3 Group 4



Guess Creek Sample Site Selection

SAMPLE	WSHD CODE	ILP	NID	NID_MAP	REACH	GRAD
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10042	51234	093L 088	3	1.12
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10042	51237	093L 088	6	8.36
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10418	50464	093L 079	22	2.92
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11062	51113	093L 077	2	16.11
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11092	51154	093L 077	2	13.26
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11133	51003	093L 077	7	12.87
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11133	51004	093L 077	8	11.16
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11146	50791	093L 078	2	3.59
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11161	50881	093L 078	2	14.22
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11181	50860	093L 078	1	3.12
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11198	50557	093L 079	3	8.05
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11221	50500	093L 079	4	1.46
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11221	50502	093L 079	6	4.06
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11239	50596	093L 079	1	1.28
B	480-697200-12300-00000-0000-0000-000-000-000-000-000		50380	093L 069	35	0.26
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12010	50028	093L 067	1	7.82
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12013	50013	093L 067	2	4.88
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12052	50183	093L 068	4	0.23
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12064	50224	093L 068	2	2.24
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12107	50142	093L 068	4	8
B	000-000000-00000-00000-0000-000-000-000-000-000-000	12121	50137	093L 068	1	11.43
B	480-697200-06500-00000-0000-0000-000-000-000-000-000		50616	093L 079	2	2.51
B	480-697200-06500-00000-0000-0000-000-000-000-000-000		50618	093L 079	4	4.91
B	480-697200-07700-00000-0000-0000-000-000-000-000-000		50582	093L 079	8	1.76
B	480-697200-09400-00000-0000-0000-000-000-000-000-000		50569	093L 079	2	4.42
B	480-697200-11600-60400-0000-0000-000-000-000-000-000		50489	093L 079	3	1.43
B	480-697200-11600-60400-0000-0000-000-000-000-000-000		50492	093L 079	6	3.41
B	480-697200-12300-16900-0000-0000-000-000-000-000-000		50550	093L 079	1	0.5
B	480-697200-12300-17800-0000-0000-000-000-000-000-000		50432	093L 079	1	1.37
B	480-697200-12300-32700-0000-0000-000-000-000-000-000		50640	093L 079	1	1.79
B	480-697200-12300-32700-0000-0000-000-000-000-000-000		50649	093L 079	10	1.14
B	480-697200-12300-71000-0000-0000-000-000-000-000-000		50322	093L 068	8	1.09
B	480-697200-12300-79800-0000-0000-000-000-000-000-000		50361	093L 069	3	0.37
B	480-697200-16400-00000-0000-0000-000-000-000-000-000		50828	093L 078	8	2.37
B	480-697200-23400-00000-0000-0000-000-000-000-000-000		51250	093L 088	3	2.37
B	480-697200-23400-00000-0000-0000-000-000-000-000-000		51252	093L 088	5	1.35
B	480-697200-25400-24500-0000-0000-000-000-000-000-000		50665	093L 078	4	1.96
B	480-697200-25400-24500-0380-0000-000-000-000-000-000		50913	093L 077	5	12.7
B	480-697200-25400-34100-0000-0000-000-000-000-000-000		50679	093L 078	4	4.3
B	480-697200-25400-53700-0000-0000-000-000-000-000-000		50285	093L 068	15	0.38
B	480-697200-25400-70700-0000-0000-000-000-000-000-000		50056	093L 067	7	4.96
B	480-697200-25400-70700-4970-0000-000-000-000-000-000		50073	093L 067	2	5.08
B	480-697200-25400-70700-7060-0000-000-000-000-000-000		50095	093L 067	2	2.89
B	480-697200-25400-78000-0000-0000-000-000-000-000-000		50038	093L 067	2	14
B	480-697200-25400-78000-0000-0000-000-000-000-000-000		50041	093L 067	5	3.66
B	480-697200-25400-78000-0000-0000-000-000-000-000-000		50045	093L 067	9	10
B	480-697200-25400-84100-0000-0000-000-000-000-000-000		51099	093L 077	3	16.05
B	480-697200-27500-00000-0000-0000-000-000-000-000-000		51305	093L 088	6	3.87
B	480-697200-27500-00000-0000-0000-000-000-000-000-000		51309	093L 088	10	1.41
B	480-697200-30400-00000-0000-0000-000-000-000-000-000		51279	093L 088	3	0.51
B	480-697200-30400-00000-0000-0000-000-000-000-000-000		51283	093L 088	7	0.63
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10011	51241	093L 088	1	9.51
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10022	51287	093L 088	1	9.69
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10023	51275	093L 088	2	1.22
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	15555	50567	093L 079	2	2.47
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10026	51322	093L 088	2	1
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10035	51221	093L 088	1	5
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10406	51343	093L 089	1	9.06
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10410	50559	093L 079	1	4.58
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10418	50458	093L 079	16	0
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10501	51358	093L 090	2	3.83
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	10502	51399	093L 090	1	5
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	11004	50926	093L 077	2	19.23
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	11007	51195	093L 087	2	8
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	11008	51196	093L 087	1	16.19
R	000-000000-00000-00000-0000-0000-000-000-000-000-000	11012	50929	093L 077	3	2

Guess Creek Sample Site Selection

SAMPLE	WSHD CODE	ILP	NID	NID MAP	REACH	GRAD
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11024	50981	093L.077	1	11.67
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11030	50955	093L.077	1	14.62
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11030	50956	093L.077	2	6.04
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11037	50999	093L.077	2	6.67
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11044	51010	093L.077	1	17.62
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11056	51126	093L.077	1	17.18
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11058	51117	093L.077	2	21.92
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11067	51108	093L.077	2	26.58
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11080	51069	093L.077	1	3.8
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11084	51065	093L.077	1	3.91
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11085	51057	093L.077	2	10.15
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11088	51048	093L.077	2	7.5
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11090	51139	093L.077	1	5.71
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11090	50121	093L.067	6	12
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11103	50129	093L.067	3	11.67
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11120	50722	093L.078	1	2.19
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11126	50714	093L.078	1	1.62
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11129	50712	093L.078	1	5.21
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11133	51179	093L.077	6	6.98
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11133	51006	093L.077	10	19.14
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11142	50772	093L.078	2	3.14
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11156	50869	093L.078	3	1.15
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11158	50875	093L.078	3	1.19
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11184	50710	093L.078	1	6.54
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11186	50417	093L.079	1	6.84
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11188	50441	093L.079	1	7.46
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11222	50510	093L.079	5	5.81
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11242	50599	093L.079	1	4.26
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	11263	50516	093L.079	3	0
R	480-697200-12300-00000-0000-0000-000-000-000-000-000-000		50369	093L.069	24	0.3
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12034	50085	093L.067	3	12.99
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12043	50110	093L.067	1	28.81
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12053	50201	093L.068	4	1.39
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12062	50899	093L.078	3	2
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12065	50230	093L.068	8	12.44
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12072	50248	093L.068	2	6.33
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12086	50277	093L.068	1	3.99
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12091	50300	093L.068	3	1.8
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12109	50151	093L.068	1	2.73
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12116	50169	093L.068	1	2.61
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12119	50118	093L.067	2	12.37
R	000-000000-00000-00000-0000-0000-000-000-000-000-000-000	12120	50115	093L.067	1	4.09
R	480-697200-02900-00000-0000-0000-000-000-000-000-000-000		50416	093L.080	3	0.79
R	480-697200-06500-00000-0000-0000-000-000-000-000-000-000		50615	093L.079	1	6.12
R	480-697200-12300-79800-0000-0000-000-000-000-000-000-000		50359	093L.069	1	0.86
R	480-697200-12300-79800-0000-0000-000-000-000-000-000-000		50364	093L.069	6	2.43
R	480-697200-14600-00000-0000-0000-000-000-000-000-000-000		51337	093L.089	2	3.75
R	480-697200-16400-46600-0000-0000-000-000-000-000-000-000		50845	093L.078	1	1.82
R	480-697200-20300-00000-0000-0000-000-000-000-000-000-000		51231	093L.088	2	5.26
R	480-697200-25400-00000-0000-0000-000-000-000-000-000-000		51037	093L.077	31	0
R	480-697200-25400-00000-0000-0000-000-000-000-000-000-000		51039	093L.077	33	7.23
R	480-697200-25400-00000-0000-0000-000-000-000-000-000-000		51040	093L.077	34	10.4
R	480-697200-25400-00000-0000-0000-000-000-000-000-000-000		51043	093L.077	37	21.32
R	480-697200-25400-12800-0000-0000-000-000-000-000-000-000		51324	093L.088	1	9.68
R	480-697200-25400-12800-0000-0000-000-000-000-000-000-000		50801	093L.078	9	0.18
R	480-697200-25400-24500-0000-0000-000-000-000-000-000-000		50942	093L.077	6	9.42
R	480-697200-25400-24500-0000-0000-000-000-000-000-000-000		50943	093L.077	7	5.1
R	480-697200-25400-24500-0000-0000-000-000-000-000-000-000		50946	093L.077	10	4.46
R	480-697200-25400-24500-1280-0000-000-000-000-000-000-000		50670	093L.078	2	3.24
R	480-697200-25400-24500-1910-0000-000-000-000-000-000-000		50986	093L.077	3	10.33
R	480-697200-25400-24500-1910-0000-000-000-000-000-000-000		50988	093L.077	5	12.89
R	480-697200-25400-24500-1910-7680-000-000-000-000-000-000		50993	093L.077	1	21.63
R	480-697200-25400-24500-7100-0000-000-000-000-000-000-000		50968	093L.077	1	9.43
R	480-697200-25400-50500-0000-0000-000-000-000-000-000-000		50742	093L.078	6	1.3
R	480-697200-25400-50500-0000-0000-000-000-000-000-000-000		51023	093L.077	9	1.09
R	480-697200-25400-53700-0000-0000-000-000-000-000-000-000		50179	093L.068	7	0.36

Guess Creek Sample Site Selection

SAMPLE	WSHD CODE	ILP	NID	NID_MAP	REACH	GRAD
R	480-697200-25400-70700-4970-0000-000-000-000-000-000-000		50076	093L.067	5	11.67
R	480-697200-25400-78600-0000-0000-000-000-000-000-000-000		51135	093L.077	1	3.84
R	480-697200-25400-84100-0000-0000-000-000-000-000-000-000		51098	093L.077	2	5.77
R	480-697200-25400-87600-0000-0000-000-000-000-000-000-000		51078	093L.077	3	9.18
R	480-697200-27500-00000-0000-0000-000-000-000-000-000-000		50919	093L.077	14	5.43
R	480-697200-27500-00000-0000-0000-000-000-000-000-000-000		50923	093L.077	18	4.24
R	480-697200-27500-00000-0000-0000-000-000-000-000-000-000		50933	093L.077	19	9.31
R	480-697200-27500-58600-0000-0000-000-000-000-000-000-000		51188	093L.087	1	4.41

— GURSS CREEK —

		SIZE								
		SMALL			MEDIUM			LARGE		
GRADIENT	FORM	Total	Sample	Actual	Total	Sample	Actual	Total	Sample	Actual
1 ≤4	ST/SI	343	16	23	310	15	35	24	2	1
	IM/ME	2	2	2	11	2	1	13	2	0
	AN/BR	0	0	0	1	1	1	1	1	0
2 >4 and ≤8	ST/SI	180	14	18	76	11	15	2	2	2
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
3 >8 and ≤20	ST/SI	212	14	16	59	11	20	1	1	1
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
4 >20 and ≤30	ST/SI	33	3	3	5	2	2	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
5 >30	ST/SI	8	0	0	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
Reach Total:		1281	Sample Total:	99	Sample %	7.7	Actual Total:	140	Actual %:	10.9
Group 1		Group 2		Group 3		Group 4				

South Fulton Sample Site Selection

SAMPLE	WSHD CODE	ILP	NID	NID MAP	REACH	GRAD
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10034	50249	093L 080	2	4.81
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10043	50179	093L 080	3	7.3
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10052	50185	093L 080	1	4.78
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10059	50187	093L 080	1	4.29
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10081	50143	093L 080	2	12.46
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10085	50069	093L 080	1	13.03
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10099	50156	093L 080	1	2
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10099	50158	093L 080	3	5.91
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10107	50284	093L 080	3	8.27
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10128	50064	093L 080	1	2.55
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10133	50078	093L 080	4	4.03
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10133	50080	093L 080	6	10.48
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10141	50153	093L 080	5	8.6
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10198	50403	093L 069	1	9.46
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10201	50401	093L 069	1	11.65
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10220	50128	093L 080	1	17.24
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10227	50319	093L 080	3	8.57
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10244	50579	093L 070	1	6.91
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10244	50581	093L 070	3	7.97
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10262	50551	093L 070	2	11.71
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10269	50540	093L 070	2	8.83
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10285	50629	093L 070	1	4.07
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10310	50752	093L 070	2	7.54
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10315	50742	093L 070	1	14.62
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10315	50745	093L 070	4	8.35
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10325	50786	093L 070	2	5.89
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10331	50775	093L 070	1	9.21
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10348	50493	093L 070	1	8.38
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10348	50494	093L 070	2	12.23
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10379	50854	093K 061	1	9.23
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10383	50765	093L 070	3	8.33
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10388	50869	093K 061	1	6.43
B	000-000000-00000-00000-0000-000-000-000-000-000-000	10397	50437	093L 069	7	8.94
B	000-000000-00000-00000-0000-000-000-000-000-000-000	11500	50529	093L 070	1	11.39
B	480-705800-00000-00000-0000-000-000-000-000-000-000		50067	093L 080	8	1.35
B	480-718600-00000-00000-0000-000-000-000-000-000-000		50111	093L 080	3	3.22
B	480-718600-00000-00000-0000-000-000-000-000-000-000		50115	093L 080	7	3.46
B	480-742900-00000-00000-0000-000-000-000-000-000-000		50514	093L 070	8	6.38
B	480-742900-00000-00000-0000-000-000-000-000-000-000		50516	093L 070	10	4.96
B	480-760400-61400-00000-0000-000-000-000-000-000-000		50616	093L 070	5	6.94
B	480-764900-00000-00000-0000-000-000-000-000-000-000		50824	093K 061	2	4.55
B	480-764900-00000-00000-0000-000-000-000-000-000-000		50694	093L 070	3	7.7
B	480-768300-00000-00000-0000-000-000-000-000-000-000		50827	093K 061	3	6.06
B	480-770700-00000-00000-0000-000-000-000-000-000-000		50834	093K 061	2	6.75
B	480-770700-00000-00000-0000-000-000-000-000-000-000		50716	093L 070	5	1.71
B	480-770700-00000-00000-0000-000-000-000-000-000-000		50718	093L 070	7	5.9
B	480-770700-00000-00000-0000-000-000-000-000-000-000		50721	093L 070	10	9.14
B	480-776600-00000-00000-0000-000-000-000-000-000-000		50844	093K 061	3	4.39
B	480-776600-00000-00000-0000-000-000-000-000-000-000		50793	093L 070	10	9.39
B	480-776600-00000-00000-0000-000-000-000-000-000-000		50795	093L 070	12	8.7
B	480-776600-10300-00000-0000-000-000-000-000-000-000		50846	093K 061	1	9.43
B	480-776600-25000-00000-0000-000-000-000-000-000-000		50859	093K 061	1	4.46
B	480-776600-25000-00000-0000-000-000-000-000-000-000		50860	093K 061	2	6.75
B	480-760400-36400-00000-0000-000-000-000-000-000-000		50659	093L 070	2	5.88
B	480-776600-87197-00000-0000-000-000-000-000-000-000		50802	093L 070	1	7.59
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10002	50007	093L 079	1	2.82
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10015	50024	093L 079	1	1.67
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10022	50448	093L 069	1	8
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10023	50657	093L 070	6	3.33
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10023	50206	093L 080	3	5.29
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10023	50208	093L 080	5	4.64
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10024	50215	093L 080	1	2.18
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10039	50221	093L 080	1	17.65
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10054	50656	093L 070	2	3.56
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10055	50172	093L 080	1	9.81
R	000-000000-00000-00000-0000-000-000-000-000-000-000	10063	50306	093L 080	1	29.02

South Fulton Sample Site Selection

R	000-000000-00000-00000-0000-000-000-000-000-000	10068	50644	093L 070	1	10.15
R	000-000000-00000-00000-0000-000-000-000-000-000	10071	50638	093L 070	1	6
R	000-000000-00000-00000-0000-000-000-000-000-000	10072	50636	093L 070	2	2.5
R	000-000000-00000-00000-0000-000-000-000-000-000	10079	50311	093L 080	7	0.18
R	000-000000-00000-00000-0000-000-000-000-000-000	10093	50102	093L 080	1	1.27
R	000-000000-00000-00000-0000-000-000-000-000-000	10094	50103	093L 080	1	6.49
R	000-000000-00000-00000-0000-000-000-000-000-000	10109	50280	093L 080	1	4.86
R	000-000000-00000-00000-0000-000-000-000-000-000	10114	50260	093L 080	1	23.47
R	000-000000-00000-00000-0000-000-000-000-000-000	10114	50264	093L 080	5	9.64
R	000-000000-00000-00000-0000-000-000-000-000-000	10123	50287	093L 080	1	11.54
R	000-000000-00000-00000-0000-000-000-000-000-000	10127	50100	093L 080	5	2.6
R	000-000000-00000-00000-0000-000-000-000-000-000	10128	50065	093L 080	2	3.27
R	000-000000-00000-00000-0000-000-000-000-000-000	10129	50062	093L 080	1	5.54
R	000-000000-00000-00000-0000-000-000-000-000-000	10133	50076	093L 080	2	2.29
R	000-000000-00000-00000-0000-000-000-000-000-000	10137	50002	093L 079	2	1.29
R	000-000000-00000-00000-0000-000-000-000-000-000	10138	50003	093L 079	1	8.13
R	000-000000-00000-00000-0000-000-000-000-000-000	10139	50073	093L 080	2	22.19
R	000-000000-00000-00000-0000-000-000-000-000-000	10141	50150	093L 080	2	5.05
R	000-000000-00000-00000-0000-000-000-000-000-000	10152	50237	093L 080	2	4.32
R	000-000000-00000-00000-0000-000-000-000-000-000	10152	50239	093L 080	4	8.82
R	000-000000-00000-00000-0000-000-000-000-000-000	10164	50380	093L 069	1	2.9
R	000-000000-00000-00000-0000-000-000-000-000-000	10179	50359	093L 069	2	6.3
R	000-000000-00000-00000-0000-000-000-000-000-000	10185	50429	093L 069	1	1.52
R	000-000000-00000-00000-0000-000-000-000-000-000	10186	50428	093L 069	1	2.44
F	000-000000-00000-00000-0000-000-000-000-000-000	10187	50424	093L 069	2	3.33
R	000-000000-00000-00000-0000-000-000-000-000-000	10193	50410	093L 069	2	9.59
R	000-000000-00000-00000-0000-000-000-000-000-000	10197	50406	093L 069	2	8.18
R	000-000000-00000-00000-0000-000-000-000-000-000	10203	50480	093L 070	2	12
R	000-000000-00000-00000-0000-000-000-000-000-000	10206	50443	093L 069	2	2.66
R	000-000000-00000-00000-0000-000-000-000-000-000	10220	50130	093L 080	3	2.14
R	000-000000-00000-00000-0000-000-000-000-000-000	10220	50135	093L 080	8	3.45
R	000-000000-00000-00000-0000-000-000-000-000-000	10220	50139	093L 080	12	2.46
R	000-000000-00000-00000-0000-000-000-000-000-000	10232	50471	093L 070	1	6.78
R	000-000000-00000-00000-0000-000-000-000-000-000	10252	50586	093L 070	1	9.5
R	000-000000-00000-00000-0000-000-000-000-000-000	10256	50572	093L 070	1	14.47
R	000-000000-00000-00000-0000-000-000-000-000-000	10257	50573	093L 070	1	19.21
R	000-000000-00000-00000-0000-000-000-000-000-000	10258	50570	093L 070	1	15.1
R	000-000000-00000-00000-0000-000-000-000-000-000	10262	50554	093L 070	5	20.36
R	000-000000-00000-00000-0000-000-000-000-000-000	10268	50533	093L 070	1	7.67
R	000-000000-00000-00000-0000-000-000-000-000-000	10275	50546	093L 070	2	11.29
R	000-000000-00000-00000-0000-000-000-000-000-000	10278	50525	093L 070	1	12.44
R	000-000000-00000-00000-0000-000-000-000-000-000	10300	50689	093L 070	1	3.15
R	000-000000-00000-00000-0000-000-000-000-000-000	10305	50683	093L 070	2	6.17
R	000-000000-00000-00000-0000-000-000-000-000-000	10313	50755	093L 070	1	11.81
R	000-000000-00000-00000-0000-000-000-000-000-000	10314	50750	093L 070	1	7.79
R	000-000000-00000-00000-0000-000-000-000-000-000	10316	50748	093L 070	2	2.35
R	000-000000-00000-00000-0000-000-000-000-000-000	10317	50736	093L 070	2	5.82
R	000-000000-00000-00000-0000-000-000-000-000-000	10318	50733	093L 070	3	11.47
R	000-000000-00000-00000-0000-000-000-000-000-000	10320	50728	093L 070	1	9.43
R	000-000000-00000-00000-0000-000-000-000-000-000	10326	50782	093L 070	1	4.61
R	000-000000-00000-00000-0000-000-000-000-000-000	10329	50776	093L 070	1	5.27
R	000-000000-00000-00000-0000-000-000-000-000-000	10332	50773	093L 070	1	8.86
R	000-000000-00000-00000-0000-000-000-000-000-000	10340	50804	093L 070	1	2.31
R	000-000000-00000-00000-0000-000-000-000-000-000	10344	50812	093L 070	1	0.49
R	000-000000-00000-00000-0000-000-000-000-000-000	10351	50499	093L 070	1	7.44
R	000-000000-00000-00000-0000-000-000-000-000-000	10351	50500	093L 070	2	4.94
R	000-000000-00000-00000-0000-000-000-000-000-000	10357	50491	093L 070	1	1.61
R	000-000000-00000-00000-0000-000-000-000-000-000	10361	50763	093L 070	1	6
R	000-000000-00000-00000-0000-000-000-000-000-000	10370	50697	093L 070	2	7.33
R	000-000000-00000-00000-0000-000-000-000-000-000	10386	50863	093K 061	1	1.5
R	000-000000-00000-00000-0000-000-000-000-000-000	10390	50871	093K 061	1	5.92
R	480-705800-00000-00000-0000-000-000-000-000-000		50056	093L 080	2	0.39
R	480-705800-00000-00000-0000-000-000-000-000-000		50332	093L 069	17	1.49
R	480-705800-00000-00000-0000-000-000-000-000-000		50336	093L 069	21	0.56
R	480-705800-00000-00000-0000-000-000-000-000-000		50344	093L 069	29	4.65
R	480-705800-00000-00000-0000-000-000-000-000-000		50350	093L 069	35	12.22
R	480-705800-57200-22500-0000-0000-000-000-000-000		50417	093L 069	2	1.49

South Fulton Sample Site Selection

R	480-705800-57200-22500-0000-0000-000-000-000-000-000-000	50419	093L.069	4	0.78
R	480-742900-00000-00000-0000-0000-000-000-000-000-000-000	50198	093L.080	2	5.05
R	480-742900-00000-00000-0000-0000-000-000-000-000-000-000	50199	093L.080	3	2.86
R	480-742900-67600-00000-0000-0000-000-000-000-000-000-000	50574	093L.070	1	12.24
R	480-760400-61400-00000-0000-0000-000-000-000-000-000-000	50620	093L.070	9	5.61
R	480-768300-00000-00000-0000-0000-000-000-000-000-000-000	50677	093L.070	8	5.3
R	480-776600-00000-00000-0000-0000-000-000-000-000-000-000	50792	093L.070	9	4.76
R	480-776600-20300-00000-0000-0000-000-000-000-000-000-000	50850	093K.061	2	1.9
R	480-776600-20300-00000-0000-0000-000-000-000-000-000-000	50851	093K.061	3	5.27
R	480-742900-67600-46593-0000-0000-000-000-000-000-000-000	50564	093L.070	1	8.97
R	480-742900-67600-46593-0000-0000-000-000-000-000-000-000	50565	093L.070	2	12.47

South Fulton

GRADIENT	FORM	SIZE								
		SMALL			MEDIUM			LARGE		
		Total	Sample	Actual	Total	Sample	Actual	Total	Sample	Actual
1 ≤4	ST/SI	142	13	14	90	12	16	29	2	3
	IM/ME	11	2	2	11	2	2	12	2	2
	AN/BR	0	0	0	0	0	0	0	0	0
2 >4 and ≤8	ST/SI	167	13	18	84	12	31	10	2	3
	IM/ME	0	0	0	1	1	1	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
3 >8 and ≤20	ST/SI	189	14	22	44	10	26	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
4 >20 and ≤30	ST/SI	23	2	2	2	2	2	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
5 >30	ST/SI	5	0	0	0	0	0	0	0	0
	IM/ME	0	0	0	0	0	0	0	0	0
	AN/BR	0	0	0	0	0	0	0	0	0
Reach Total:		820	Sample Total:	89	Sample %	10.9	Actual Total:	144	Actual %:	17.6

Group 1

Group 2

Group 3

Group 4